**Schedule of Sessions**

**SYMP:** Symposia should consist of focused, integrated presentations assessing current understanding regarding a particular research problem, concept, application, or educational theme. Generally, symposia should have broad appeal within the ecological community or involve integration across sub-disciplines. Symposia focused within particular areas of ecology may be considered if these are areas of particularly active research, or if the symposia offer important new insights. Symposia may integrate historical perspectives explicitly, but this should generally be in the context of understanding current research and research questions. Presentations should offer new results and syntheses; speakers should not simply review previous work and results. No more than 24 symposia can be accepted for an Annual Meeting.

**OOS:** Organized oral sessions allow a wider range of thematic and conceptual options than symposia. Presentations included in an OOS must be topically coherent, but explicit synthetic overview is not required, and sessions need not have broad disciplinary or cross-disciplinary appeal. OOS’s are particularly well suited for sets of related case studies, for specialized themes, or for presenting new work that does not yet admit of the synthesis called for in a symposium. Sessions may focus, for example, on a particular conceptual question, management problem, ecological process, or other unifying theme. A strong OOS proposal will provide a broad sampling of research in the topical area. OOS’s may generate ideas for subsequent symposia. Up to (but no more than) eight speakers should be invited by session organizers and listed in the proposal; at least two speakers will be added subsequently by the Program Chair from the contributed abstracts. There is no limit on the number of OOS’s that may be accepted each year.

**OPS:** Organized poster sessions are thematically and conceptually equivalent to organized oral sessions. Each OPS consists of a set of posters in multiples of 5. A strong OPS proposal will provide a broad sampling of research in the topical area. OPS’s may generate ideas for subsequent symposia. There is no limit on the number of OPS’s that may be accepted each year. Organized poster sessions are scheduled concurrently with the regular poster sessions on specially marked boards.

**COS:** Contributed oral sessions are collections of submitted abstracts each organized around a common study taxon, ecosystem, subdiscipline, concept/process, or tool/application. Contributed abstracts are reviewed and organized by the Program Chairs and Program Coordinator.

**WK:** Workshops are intended to convey specific knowledge or skills; they are not intended for the presentation of research papers. Workshops are frequently more interactive and informal than sessions within the formal scientific program, and are not scheduled concurrently with symposia, organized oral, contributed oral, or poster sessions. Workshops may involve one or several teachers/presenters, and may include computer-based or other ‘hands-on’ training. Weekend workshops may be linked with a scientific field trip. Workshop proposals should make clear what participants might expect to gain. Limits of space and time may make it impossible to accommodate all worthy submissions.

**SS:** The ESA Annual Meetings include a wide range of events that do not conform to the criteria for the scientific sessions, workshops, or field trips. These ‘special sessions’ have included, for example, panel discussions, open discussions, lectures, and film screenings. Special sessions can permit extended dialogue, and may be vehicles for planning future events or organizations. Whatever its format, a special session should have some bearing on ecological science or education, broadly construed. Special sessions are open to all meeting registrants, although a ticket may be required for food or beverages.

**PS:** Poster sessions are collections of submitted abstracts each organized around a common study taxon, ecosystem, subdiscipline, concept/process, or tool/application. Contributed abstracts are reviewed and organized by the Program Chairs and Program Coordinator.

### Thursday, August 4

<table>
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<th>1 pm-5 pm</th>
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**CANCELED** FT 1 - Big Bend National Park - Chihuahuan Desert Diversity (4 days 3 overnights)
Trinity Street Lobby Field Trip Pick Up, Austin Convention Center
Organized by: DJ Leavitt (dlea886@tamu.edu)

### Saturday, August 6

<table>
<thead>
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<th>6:30 am-5:30 pm</th>
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**CANCELED** FT 2 - The Balcones Canyonlands Preserve: Managing for Multiple Endangered Species in an Urban Preserve System
Trinity Street Lobby Field Trip Pick Up, Austin Convention Center
Organized by: L. O’Donnell, L. Laack

**7 am-6 pm**

**CANCELED** FT 3 - Endangered Species and the Military: Management of Sensitive Natural Resources on Fort Hood, Texas
Trinity Street Lobby Field Trip Pick Up, Austin Convention Center
Organized by: G Eckrich (gil.eckrich@us.army.mil), TJ Hayden (timothy.j.hayden@usace.army.mil)

**8 am-1 pm**

**FT 5 - A Day on the Blackland Prairie: Changes Wrought by Rising Atmospheric CO2 Concentration, the Proliferation of Exotic Plants, and Land Use Changes**
Trinity Street Lobby Field Trip Pick Up, Austin Convention Center
Organized by: HW Polley, PA Fay (Philip.Fay@ars.usda.gov), BJ Wilsey (bwilsey@iastate.edu)
8 am-7 pm

8 am-4 pm

CANCELED FT 4 - Arid Mesquite Savanna of South Texas: Comparing Native and Modified Landscapes (OVERNIGHT)
Trinity Street Lobby Field Trip Pick Up, Austin Convention Center
Organized by: L Gilbert (lawrencegilbert0@gmail.com)

8 am-5 pm

Governing Board Meeting
Austin Suite, Austin Convention Center

8 am-9 pm

FT 6 - Landscape, ecosystem, and species diversity and conservation ranching in the Texas Hill Country
Trinity Street Lobby Field Trip Pick Up, Austin Convention Center
Organized by: WE Rogers, FE Smeins

8:30 am-4:30 pm

WK 1 - Analysis of Multivariate Time-Series Data Using State-Space Models
14, Austin Convention Center
Organized by: EE Holmes (eli.holmes@noaa.gov), M Scheuerell, EJ Ward
This workshop covers the use of multivariate state-space models for analysis of ecological time-series data under situations where there are known and unknown measurement errors, unobserved states, multiple data sources or sites, and missing values.

8:30 am-6 pm

CANCELED FT 7 - Endangered Landscapes: Fire, Restoration, and Avian Ecology of the Balcones Canyonlands National Wildlife Refuge
Trinity Street Lobby Field Trip Pick Up, Austin Convention Center
Organized by: JD White

9 am-12 pm

WK 2 - Finding, Accessing and Using NASA Data and Tools for Ecology Research
12B, Austin Convention Center
Organized by: J Brennan (Jennifer.L.Brennan@nasa.gov), T Beaty
This workshop will provide the attendee with information regarding how to find, access and use NASA Earth science data that can be useful to the ecological research community. Spatial analysis, subsetting, visualization, and online data ordering tools will be featured.
Speakers:
J Brennan, NASA
T Maiersperger, NASA Land Processes Distributed Active Archive Center (DAAC)
SS Vanaan, Oak Ridge National Laboratory

9 am-4:30 pm

CANCELED FT 8 - Action Ecology for All: Discovering the Oak Springs and Other Urban Socioecological Projects In Austin while Planting Ecological Knowledge with Poder
Trinity Street Lobby Field Trip Pick Up, Austin Convention Center
Organized by: AE Pérez-Quintero (anaelisa@comunidadesgaia.org), I Lastra-Díaz (luelastra@gmail.com), B Otero, LM Moreno (lorna.moreno@gmail.com)

9 am-6 pm

FT 9 - The National Vegetation Classification: Exploring the Unique Vegetation of the Edwards Plateau
Trinity Street Lobby Field Trip Pick Up, Austin Convention Center
Organized by: A McKerrow (amckerrow@usgs.gov), D Diamond (diamonddd@missouri.edu), J Singhurst (Jason.Singhurst@tpwd.state.tx.us)

4 pm-7 pm

ESA SEEDS Student Orientation
Skyline, Radisson Hotel
Sunday, August 7

7 am-3 pm

**FT 10 - Ecology, Hydrology and Management of Live oak-Juniper Savannas on the Edwards Plateau**
Trinity Street Lobby Field Trip Pick Up, Austin Convention Center
Organized by: PW Barnes (pwbarnes@loyno.edu), S Schwinning (schwinn@txstate.edu), GW Moore (gwmoore@tamu.edu)

7 am-5 pm

**FT 11 - Karst, Caves and Quercus: Where in the Soil-Rock System Do Trees Roots Fit In?**
Trinity Street Lobby Field Trip Pick Up, Austin Convention Center
Organized by: BF Schwartz

8 am-12 pm

**ESA Governing Board Meeting**
Austin Suite, Austin Convention Center

**WK 3 - Analysing biodiversity experiments using Diversity-Interaction models**
14, Austin Convention Center
Organized by: J Connolly (john.connolly@ucd.ie), C Brophy
Biodiversity experiments are central to understanding the effect of species loss on ecosystem functioning. This workshop will cover the fundamentals of Diversity-Interaction modeling of Biodiversity-Ecosystem-Function relationships. The workshop programme will comprise a mixture of lectures, discussion and hands-on experience using R or SAS to analyse real datasets.
Speakers:
J Connolly, University College Dublin
C Brophy, National University of Ireland Maynooth

8 am-1:30 pm

**CANCELED FT 12 - Community engagement and watershed management in the Cypress Creek**
Trinity Street Lobby Field Trip Pick Up, Austin Convention Center
Organized by: VL Lopes (vlopes@txstate.edu), AL Vogl (avogl@txstate.edu)

8 am-4 pm

**FT 13 - Canoe Trip: Ecology and Restoration of the Upper San Marcos River**
Trinity Street Lobby Field Trip Pick Up, Austin Convention Center
Organized by: WH Nowlin, CF Best (chris_best@fws.gov)

8 am-4:30 pm

**FT 14 - Urban Bioblitz: Ecologists Contributing to and Learning from a Progressive Austin Community Restoration Effort**
Trinity Street Lobby Field Trip Pick Up, Austin Convention Center
Organized by: G Bowser, CT Lee, H Balbach, M Armstrong (melissa@esa.org)

8 am-5 pm

**WK 4 - A Brief Introduction to Bayesian and Hierarchical Bayesian Modeling in Ecology**
16A, Austin Convention Center
Organized by: K Ogle (Kiona.Ogle@asu.edu), I Ibanez, M Dietze
This workshop provides a brief introduction to Bayesian and hierarchical Bayesian modeling. It includes presentation and discussion of basic concepts, including important elements of Bayesian statistics and hierarchical Bayesian modeling. Participants will have the opportunity to develop and implement a Bayesian model in OpenBUGS.

**WK 5 - Photography for Ecologists: Part 1. Capturing Powerful Images**
13, Austin Convention Center
Organized by: MG Mehling (mollymehling@gmail.com), N Losin, NB Dappen, NE Osborne
Intended for ecologists interested in using photography as a communication medium, this workshop will enhance participants photographic skills, while deepening their understanding of visual communication and its application in ecological research and education.

8:30 am-12 pm

**WK 6 - New Approaches to Sensitivity Analysis of Population Models and Markov Chains**
12A, Austin Convention Center
Organized by: H Caswell (hcaswell@whoi.edu)
An introduction to new methods for sensitivity analysis of population models. This is an update of a workshop successfully presented in 2008 and 2009.

8:30 am-4:30 pm

**WK 7 - Vegetation Analysis in Support of the National Vegetation Classification**
Trinity Street Lobby Field Trip Pick Up, Austin Convention Center
Organized by: D Roberts (droberts@montana.edu)
Workshop participants will gain working knowledge of a broad range of multivariate analyses critical to the development of the National Vegetation Classification as well as for community ecology more broadly through hands-on computer-based analysis of representative datasets.
9 am-12 pm

WK 8 - Using Qualitative Information to Improve Your Teaching and In Your Research: An Introduction to Conducting and Analyzing Interviews
19B, Austin Convention Center
Organized by: AC Maskiewicz (aprilmaskiewicz@pointloma.edu), JW Schramm, C D’Avanzo, J Doherty

Interactive hands-on workshop to introduce participants to the practice of collecting and analyzing interview data. Participants will conduct a mock interview with a colleague as well as learn some techniques for the inductive analysis of qualitative data.

WK 9 - MODIS and SAR Remote-Sensing Data Acquisition and Analysis Tools for Ecology Research
19A, Austin Convention Center
Organized by: T Beaty, SS Vannan, V Wolf

This workshop will provide training in the use of five tools which will allow ecologists to extract and manipulate MODIS and SAR remote sensing products without special knowledge or software packages. Participants are encouraged to bring their laptops and follow along with interactively with presentations.

Speakers:
R Cook, Oak Ridge National Laboratory

9:30 am-4:30 pm

WK 11 - Introduction to Non-parametric Multiplicative Regression (NPMR) Using Examples of Species’ Change Detection
18A, Austin Convention Center
Organized by: A Yost

We will introduce two nonparametric regression techniques, Nonparametric Multiplicative Regression (NPMR) and Random Forest. We will use example data sets that examine current change detection for species distributions. Lap-tops are required. The workshop should attract people doing species-habitat modeling or anyone dealing with statistical relationships showing nonlinearity and interacting factors.
1 pm-4:15 pm

WK 15 - Instreamflow Methods and Models by the Numbers
19B, Austin Convention Center
Organized by: P Harrison (csunc99@peoplepc.com)

It is designed to acquaint agency biologists, researchers and students to the realm of instreamflow. Thirty models and methods will be briefly reviewed. Primary emphasis will be on Instream Flow Incremental Methodology (IFIM). More contemporary models will be briefly discussed such as 2D flow models, IBM models, and others.

Speakers: P Harrison

1 pm-5 pm

WK 16 - Hypothesis-Driven Habitat Modeling: Workshop and Web Tutorial
19A, Austin Convention Center
Organized by: GN Ervin (GErvin@biology.msstate.edu), CP Brooks

We will use common habitat modeling methodologies to direct discussion on the utility of environmental niche modeling as a tool for exploring species distribution hypotheses. Aspects of the modeling process to be discussed include: niche concepts, hypothesis formulation and environmental variable selection, and insight to be gained from model “failure.”

1:30 pm-5 pm

WK 20 - Making Your Science Usable For Decision Makers
18D, Austin Convention Center
Organized by: LA Hidinger (lori.hidinger@asu.edu), JE Herrick, DSarewitz, MFarooque, C Duke

The workshop will explore the concept of “usable science.” It will include a discussion with representatives of federal agencies on making science usable for their agencies followed by small working groups in which participants will discuss how they can incorporate the concept of usable science into their work.

Speakers: ABartuska, USDA Research, Education and Economics
LBenaka, NOAA Marine Fisheries Service
GChavarria, Natural Resources Defense Council
JDHerrick, USEnvironmental Protection Agency

1 pm-9 pm

PL 1 - ESA Opening Plenary Session
Ballroom D, Austin Convention Center
A Panel Discussion of Earth Stewardship

Humanity faces a growing need for food, freshwater, energy, and many other resources drawn from Earth’s life support systems. Ensuring that these life support systems remain resilient under increasing human demands, requires stewardship on multiple scales and in multiple communities. Moderated by ESA Vice President for Public Affairs Laura Huenneke, the ESA Opening Plenary panel discussion will explore dimensions beyond ecology, including religious and moral, psychological, and management aspects of Earth stewardship.

6:30 pm-7:15 pm

ESA Opening Reception
Ballroom D Lobby, Austin Convention Center

7 pm-9 pm

ESA SEEDS Welcome Dinner
Travis III, Radisson Hotel

Earth Stewardship: Preserving and enhancing earth’s life support systems
Monday, August 8
Field Trips, Business Meetings, Receptions

7 am-8 am
ESA SEEDS Breakfast
18D, Austin Convention Center

7 am-9 am
ESA Ecology Editorial Board Meeting
Austin Suite, Austin Convention Center

ESA Issues in Ecology Editorial Board Meeting
1, Austin Convention Center

7:30 am-7:30 pm
ESA Educator Day
10B, Austin Convention Center

8 am-10 am
PL 2 - ESA Scientific Plenary and ESA Awards Session
Ballroom D, Austin Convention Center
Keynote: Stephen W. Pacala, ESA MacArthur Lecturer, Director, Princeton Environmental Institute

11:30 am-12 pm
ESA Presider/AV Training
8, Austin Convention Center

11:30 am-1:15 pm
ESA Board of Professional Certification Meeting
ML 13-level 2, Austin Convention Center

7 am-8 am
ESA Joint Editorial Board Luncheon (by invitation only)
18B, Austin Convention Center

7 am-9 am
ESA Opening of Exhibits
Exhibit Hall 3, Austin Convention Center

7 am-9 am
ESA Past Presidents’ Forum Luncheon
1, Austin Convention Center

7:30 am-7:30 pm
ESA Science Committee Business Meeting
Austin Suite, Austin Convention Center

7:30 am-7:30 pm
ESA Student Orientation
7, Austin Convention Center

11:45 am-1 pm
ESA Rangeland Ecology Section Business Meeting
16B, Austin Convention Center

5 pm-6:30 pm
Musicians Central
Registration Lobby, Austin Convention Center

6:30 pm-8 pm
Christian Ecologists Social
19A, Austin Convention Center

11:30 am-1:15 pm
ESA Board of Professional Certification Meeting
ML 13-level 2, Austin Convention Center

12 pm-1 pm
ESA Long-term Studies Section Business Meeting
6B, Austin Convention Center

12 pm-1 pm
ESA Soil Ecology Section and Microbial Ecology Joint Mixer
19B, Austin Convention Center

11:45 am-1 pm
ESA Student Mixer
Ballroom C, Austin Convention Center

11:45 am-1 pm
ESA Theoretical Ecology Section Mixer
18D, Austin Convention Center

4:30 pm-6:30 pm
Ecology and Evolution, A Wiley Open Access Journal Launch Drinks Reception (Booth 303-305)
Exhibit Hall 3, Austin Convention Center

5 pm-5:45 pm
ESA Award Recipients’ Reception (by invitation only)
13, Austin Convention Center

5 pm-6:30 pm
ESA Aquatic Section Mixer
Austin III, Radisson Hotel

5 pm-6:30 pm
ESA Public Affairs Committee and the Inaugural Business Meeting of the NEW ESA Policy Section
1, Austin Convention Center

5 pm-6:30 pm
Utah State University Ecologists Mixer
Austin I, Radisson Hotel

5 pm-6:30 pm
Yale University Press Screening of ‘Journey of the Universe’
14, Austin Convention Center
Monday Sessions

7 am-8 am
ESA SEEDS Breakfast
18D, Austin Convention Center

7 am-9 am
ESA Ecology Editorial Board Meeting
Austin Suite, Austin Convention Center

ESA Issues in Ecology Editorial Board Meeting
1, Austin Convention Center

7:30 am-7:30 pm
ESA Educator Day
10B, Austin Convention Center

8 am-10 am
PL 2 - ESA Scientific Plenary and ESA Awards Session
Ballroom D, Austin Convention Center

10 am-11:30 am
SS 1 - Resources for Ecology Education: Fair and Share (REEFS)
18A, Austin Convention Center
Organized by: JA Reynolds (julie.a.reynolds@duke.edu), T Mourad, KL Shea
Share your favorite classroom activity with your colleagues and learn about what they are doing to engage their undergraduate students in small group settings. Groups will offer general feedback and suggestions.

SS 2 - Ecology and Human Rights: Defining the Relationship, Identifying the Opportunities
12A, Austin Convention Center
Organized by: C Duke (csduke@esa.org), G Middendorf, J Wyndham
This session will explore the relevance of human rights for ecology and the value of the human rights framework as a tool by which to pursue development programs and address ecological concerns. Speakers: J Wyndham, American Association for the Advancement of Science

SS 3 - Creating Effective Data Management Plans for Ecological Research
12B, Austin Convention Center
Organized by: W Michener (wmichener@lternet.edu), R Cook, A Budden, S Hampton, V Hutchison, C Strasser
Moderator: W Michener
Learn how to create a data management plan that is tailored to your specific proposal or project, see examples of good data management plans, and discuss best practices with your colleagues.

SS 4 - ‘Earth Stewardship’: Workshop and Roundtable Discussion for a Potential Issues in Ecology
13, Austin Convention Center
Organized by: RA Dyball (rob.dyball@anu.edu.au), E Ellis
A round table workshop to gain critical input in developing a potential ‘Issues in Ecology’ manuscript, entitled ‘Earth Stewardship and Human Ecology’. Ecologists and ESA have much to offer in developing Practical Earth Stewardship strategies for complex socio-environmental problems. Come be a part of the solution!

SS 5 - Outreach as Burden or Benefit? Scientists Reflect and Describe their Experiences as Research Ambassador Fellows
4, Austin Convention Center
Organized by: N Nadkarni (nadkarnn@evergreen.edu), AE Stasch
Moderator: N Nadkarni
Public engagement by scientists is urgently needed, but is not well rewarded in academic systems. We recruited ten “Research Ambassador Fellows” to communicate their research to non-traditional public audiences. They will describe their experiences and identify emerging patterns to help make outreach a benefit rather than a burden to ecologists.
Speakers:
MD Hurteau, Northern Arizona University
MG Mehling, Miami University
R Trueman, Concordia University Chicago
D Bruesewitz, University of Texas at Austin
AE Wilson, Auburn University
K Renwick, Colorado State University
A Macrae-Crerrar, University of Pennsylvania
D Uma, University of Maryland
DJ Levey, University of Florida
AR Desai, University of Wisconsin

SS 6 - Scale, Heterogeneity, and Resilience: Grounding Abstract Concepts in Rangelands
16B, Austin Convention Center
Organized by: N Sayre, B Bestelmeyer
This Special Session will contribute to a general understanding of Earth Stewardship by synthesizing perspectives from rangeland ecology that illuminate the practical and management implications of key concepts in ecological theory: scale, heterogeneity, and resilience.

SS 7 - “Doing History” for the 2015 Centennial: How Every Ecologist Can Help Locate Primary Records for Research
17A, Austin Convention Center
Organized by: JC Mulroy (mulroy@denison.edu), KM Blue, SL White, NR Chiariello, JH Langenheim, H Balbach, TW Mulroy
The Historical Records Committee seeks ecologists willing to use their local and personal knowledge to locate primary resource material in preparation for ESA’s 2015 Centennial. Session leaders will present examples of how small efforts by many ecologists can provide data valuable for understanding our past and guiding our future.

Speakers:
C Strasser, National Center for Ecological Analysis and Synthesis
V Hutchison, US Geological Survey
S Hampton, National Center for Ecological Analysis and Synthesis
A Budden, DataONE, University of New Mexico
R Cook, Oak Ridge National Laboratory
W Michener, University of New Mexico
10 am-11:30 am; 11:30 am-1:15 pm
SS 8 - Industry and the Environment
17B, Austin Convention Center
Organized by: ZH Leggett (zakiya.leggett@weyerhaeuser.com)
Moderator: ZH Leggett
This session examines industry activities and management practices that affect the environment. The session will present research and/or case studies that exemplify some of industry’s innovative solutions to complicated environmental problems, sustainable management of environmental resources, and applied research.
Speakers:
ZH Leggett, Weyerhaeuser Company
G Ice, NCASI
PR Krause, ARCADIS US, Inc.
M Reiter, Weyerhaeuser Company
G Ice1, A Lucier2, TB Wigley3, L Irwin1, JG Cook4, C Flinders2 and P Wiegand2, (1)NCASI, (2)National Council for Air and Stream Improvement, Inc. (NCASI), (3)National Council for Air and Stream Improvement (NCASI), (4)National Council for Air and Stream Improvement, Forestry and Range Sciences Laboratory–Ecological Research by the National Council for Air and Stream Improvement, Inc
M Hartley1, M Evans2, S Hills2 and J Ellis3, (1)Chevron, (2)Chevron Energy Technology Company, (3)Ellis-Geospatial–Remote sensing in support of environmental stewardship
PR Krause1, WR Gala2, M Hartley3 and R Hill4, (1)ARCADIS US, Inc., (2)Chevron Energy Technology Company, (3)Chevron, (4)Chevron Environmental Management Company–Determining the ecological value of shell mound reef habitats following decommissioning of offshore platform sites
M Reiter, Weyerhaeuser Company–The Trask Watershed Study: Examining the effects of contemporary forest practices on aquatic ecosystems at multiple scales
ZH Leggett1, J Nettles1, EB Sucre1, D Miller1 and JA Homyack2, (1)Weyerhaeuser Company, (2)Weyerhaeuser NR Company–Evaluating the effects of biomass production in managed pine forests on water quality and quantity, soil productivity, and wildlife

SS 9 - Sharing a Sense of Place, Responsibility, and Stewardship in Texas
5, Austin Convention Center
Organized by: ME Lam (mimibethlam@gmail.com), J Hook, AK Poole
The session panel, consisting of a diverse cross-section of Indigenous Texans, will utilize a question and answer format to explore personal histories, identities, cultures, and how being Indigenous in Texas today contributes to their sense of place, responsibility, and stewardship.
Speakers:
EG Ortega, Mexican Apache and Carrizo
A Gonzalez, Kickapoo Traditional Tribe of Texas
J Hooke, Cherokee Nation and University of North Texas

SS 10 - A Survey of Stewardship: The Science, Processes, and Products of the 3rd National Climate Assessment
8, Austin Convention Center
Organized by: ET Cloyd
In this special session, the National Climate Assessment (NCA) scientific and coordination teams will be presenting the science and processes of the NCA and soliciting feedback about methods for engaging the scientific community and developing a sustained assessment process.

11:30 am-12 pm
ESA Presider/AV Training
8, Austin Convention Center

11:30 am-1:15 pm
ESA Board of Professional Certification Meeting
ML 13-level 2, Austin Convention Center
ESA Joint Editorial Board Luncheon (by invitation only)
18B, Austin Convention Center
ESA Opening of Exhibits
Exhibit Hall 3, Austin Convention Center
ESA Past Presidents’ Forum Luncheon
1, Austin Convention Center
ESA Science Committee Business Meeting
Austin Suite, Austin Convention Center
ESA Student Orientation
7, Austin Convention Center

WK 22 - Understanding and Implementing Team-Based Learning in Large Lecture Courses–FREE
19B, Austin Convention Center
Organized by: DJ Grisé (david.grise@tamucc.edu), CT Lee, CM Bailey, M Rivera
This workshop will inform participants about and engage them in team-based learning, as well as show them how to implement such activities into large lecture courses using a community ecology exercise as an example.

WK 23 - New and Continuing National Science Foundation Funding Opportunities for Students, Teachers, Postdocs, and Researchers–FREE
18D, Austin Convention Center
Organized by: DW Inouye (inouye@umd.edu), NB Grimm
This brown-bag lunch session is an opportunity to learn about NSF programs that can fund your graduate studies, participation by undergraduates or teachers in your research, postdocs, individual or collaborative research, workshops, or book writing project.

WK 24 - Writing a ‘Teaching Philosophy’ Statement: Models and Suggestions--FREE
18A, Austin Convention Center
Organized by: C D’Avanzo (cdavanzo@hampshire.edu), JC Moore
This workshop is designed to help graduate students and others write an effective teaching philosophy statement when they apply for academic positions.

WK 25 - ARKive.org: Using Audiovisuals to Promote Endangered Species Protection, Conservation and Education–FREE
14, Austin Convention Center
Organized by: L Vitali (liana.vitali@wildscreenusa.org)
After an introduction to ARKive’s 70,000+ films and photos of endangered species freely available to formal educators and students, participants will enjoy clips of wildlife films illustrating examples of earth stewardship. The session will close with an
exploration of ARKive lesson plans and activities for the classroom and beyond.
Speakers:
L Vitali, ARKive (Wildscreen USA)

**WK 26 - Driving Student Learning with Assessment--FREE**
19A, Austin Convention Center
Organized by: D Ebert-May (ebertmay@msu.edu)
This education workshop focuses on driving instructional changes with assessment data. Participants will use backward design to examine and design course goals and objectives, create and use appropriate assessments, and design active learning instructional strategies to improve learning by all students.

**WK 27 - Ecologists and Religious Organizations – Partnering for Earth Stewardship--FREE**
18C, Austin Convention Center
Organized by: LM Jablonski (jablonski@udayton.edu), JR Miesel, MM Gregory, CH Nilon, GE Hitzhusen
Presentations by representatives from religious organizations engaged in environmental justice and earth stewardship. Discussion on curriculum resources, current trends, opportunities, challenges, training needs and best practices in forming partnerships. Ecologists and community organizations are invited to share ideas as we envision effective ecology education in faith-communities to achieve earth stewardship.

**11:45 am-1 pm**

**ESA Rangeland Ecology Section Business Meeting**
16B, Austin Convention Center

**12 pm-1 pm**

**ESA Long-term Studies Section Business Meeting**
6B, Austin Convention Center

**1:30 pm-5 pm**

**SYMP 1 - Domestication, Feral Species and the Importance of Agriculture to the Future of Plant Diversity**
Ballroom E, Austin Convention Center
Organized by: CL Sagers, PK Van de Water
Endorsed by: Plant Population Biology
Moderator: S Travers
Study of the evolutionary ecology of food species is timely given the growing concerns of burgeoning human populations, changing land use and the challenges of industrial agriculture. This symposium will address the effects of crop escape, crop-weed hybrids and the preservation of diversity in wild areas that border managed landscapes.
1:30 PM Introductory Remarks
1:40 PM SYMP 1-1 Ellstrand, N, University of California, Riverside. *Crops gone wild: Evolution of weeds and invasives from domesticated ancestors.*
2:05 PM SYMP 1-2 O’Hara, N1, JS Rest2 and SJ Franks3, (1)SUNY Stony Brook, (2)Stony Brook University, (3)Fordham University. *Infectious disease in natural plant populations under climate change.*

**11: am-1:15 pm; 1:30 pm-5 pm**

**SYMP 2 - Earth Stewardship: Defining the Scientific Challenges and Opportunities**
Ballroom C, Austin Convention Center
Organized by: RB Jackson
Endorsed by: Physiological Ecology, Science, Environmental Justice, Human Ecology Section
Moderator: RB Jackson
This symposium addresses the scientific foundation and key challenges of earth stewardship for reversing unsustainable trends in global resource use, biodiversity loss, population growth, and other important factors.
1:30 PM SYMP 2-1 Athens, L, City of Austin. *Operating Principles for a Sustainable Future.*
2:00 PM SYMP 2-2 Matecko, L, Whole Foods Markets. *Whole Foods’ sustainability efforts: Environment as a stakeholder.*
3:00 PM SYMP 2-4 Carpenter, SR, University of Wisconsin Madison. *Extreme changes in social-ecological systems.*
3:30 PM Break
3:40 PM SYMP 2-5 Matson, P, Stanford University. *Transitions to sustainability: The role of science in stewardship actions.*
4:10 PM SYMP 2-6 Pickett, ST1, C Boone2 and BP McGrath3, (1)Cary Institute of Ecosystem Studies, (2)Arizona State University, (3)Parsons The New School of Design. *Urbanization and demographic transitions: A unique opportunity for sustainable transformation.*
4:40 PM Discussion

**SYMP 3 - What is Natural? A Long-Term View of the Ecosystems of the Americas**
Ballroom G, Austin Convention Center
Organized by: MB Bush
Endorsed by: Paleoecology, Human Ecology
Moderator: MB Bush
Paleoecological and archaeological views of the pre-Columbian impact of indigenous peoples on the ecosystems of the Americas.

1:30 PM  Introductory Remarks

1:45 PM  SYMP 3-1  Power, M1, F Mayle2 and PJ Bartlein3, (1)University of Utah, (2)University of Edinburgh, (3)University of Oregon. 16th Century burning decline in the Americas: Population collapse or climate change?

2:00 PM  SYMP 3-2  Góes Neves, E, Universidade de São Paulo. Cultural diversity and biological diversity in ancient amazonia: Resource abundance and alternative paths to landscape domestication.

2:15 PM  SYMP 3-3  Gill, JL1, JW Williams2, ST Jackson3, GS Robinson4, KB Lininger5 and GC Schellinger2, (1)University of Wisconsin-Madison, (2)University of Wisconsin, Madison, (3)University of Wyoming, (4)Fordham College at Lincoln Center, (5)Union of Concerned Scientists. If a mastodon falls in the forest, what happens to the trees? Conservation implications of the end-Pleistocene megafaunal extinctions.

2:30 PM  SYMP 3-4  Oswald, WW1, DR Foster2 and BN Shuman3, (1)Emerson College, (2)Harvard University, (3)University of Wyoming. How natural was New England?

2:45 PM  Break

2:55 PM  SYMP 3-5  McMichael, CN1, MB Bush1 and D Piperno2, (1)Florida Institute of Technology, (2)Smithsonian National Museum of Natural History and Smithsonian Tropical Research Institute. The history of fire and human landscape modifications in Amazonia.


3:25 PM  SYMP 3-7  Heckenberger, M and C Russell, University of Florida. What's so human about amazonian nature? Complex societies in the early anthropocene, ca. 1000-500 BP.

3:40 PM  SYMP 3-8  Hecht, S, UCLA. The rubber boom and bust: ecological consequences.

3:55 PM  SYMP 3-9  Barlow, J, Lancaster University. How natural are Amazonian forests? Fire as a transformative process.

OOS 1 - Community Engagement for Sustainability: Linking Research, Policy, and Education

16B, Austin Convention Center

Organized by: VL Lopes (vlopes@txstate.edu), AL Vogl

Moderator: VL Lopes

This session will showcase research and case studies that focus on community learning efforts to engage local stakeholders in solving pressing environmental problems. These studies exemplify how community engagement and education can improve decision making and policy approaches that fit the community needs and preferred developmental approaches.

1:30 PM  OOS 1-1  Roberts, S and MB Miller, Texas State University, San Marcos. Community outreach for sustainable management of Texas Hill Country aquifers.


2:10 PM  OOS 1-3  Stroup, LJ1 and S Luther2, (1)Texas State University, San Marcos, (2)Texas State University. Engaging communities in effective decision-making for more sustainable water resources and ecosystem management.

2:30 PM  OOS 1-4  Burgess, TL and S Sunico, Texas Christian University. Fostering environmental awareness in a metropolis.

2:50 PM  OOS 1-5  Pierce, SA1, J Guillaume2, AJ Jakeman2, S El Sawah2, (1)Jackson School of Geosciences, The University of Texas at Austin, (2)Fenner School of Environment and Society, Australian National University. Community-driven decision support for groundwater management: Explicitly addressing uncertainty and social learning through dialectical intervention.
Earth Stewardship: Preserving and enhancing earth’s life support systems

4:40 PM OOS 3-10 McCluney, KE1, NL Poff1, GC Poole2, JH Thorp3 and M Palmer4, (1)Colorado State University, (2)

OOS 4 - Understanding Threats to Wildland Stewardship
14, Austin Convention Center
Organized by: NE Grulke (ngrulke@fs.fed.us)
Moderator: NE Grulke
This organized oral session will highlight current understanding of interactive abiotic and biotic threats, innovative approaches to detecting change, and insights for long term stewardship of wildlands.

1:30 PM OOS 4-1 Bentz, B1, JA Powell2, J Régnière3, JA Hicke4 and S Seybold5, (1)USDA Forest Service, (2)Utah State University, (3)Canadian Forest Service, (4)USDA Forest Service and University of Idaho, (5)Pacific Southwest Research Station. Direct and indirect effects of climate change on bark beetle outbreaks.

1:50 PM OOS 4-2 Frankel, SJ1 and RN Sturrock2, (1)USDA Forest Service, (2)Natural Resources Canada, Canadian Forest Service. Climate change and forest diseases: Patterns of action.

2:10 PM OOS 4-3 Potter, K1 and B Crane2, (1)North Carolina State University, (2)USDA Forest Service. Toward gene conservation triage: A framework for assessing the relative risk of genetic degradation to forest trees affected by multiple threats.

2:30 PM OOS 4-4 Harry, DE1 and R Cronn2, (1)Oregon State University, (2)USDA Forest Service. GM organisms and wildlands: Genes will flow, so what should managers know?


3:10 PM OOS 4-6 Hargrove, W1, K Potter2 and F Koch1, (1)USDA Forest Service, Eastern Forest Environmental Threat Assessment Center, (2)North Carolina State University. Forest tree species range shifts under two alternative GCM/scenario climate change forecasts.

3:40 PM OOS 4-7 Campbell, J1, AA Ager2 and ME Harmon1, (1)Oregon State University, (2)USDA Forest Service. Maximizing wildfire mitigation with fuel reduction treatments while minimizing forest carbon losses.

4:00 PM OOS 4-8 Preislcr, HK1, JA Hicke2, AA Ager3 and JL Hayes3, (1)US Forest Service, (2)USDA Forest Service and University of Idaho, (3)USDA Forest Service. Influence of climate and weather on observed spatiotemporal patterns of mountain pine beetle outbreaks in Washington and Oregon.

4:20 PM OOS 4-9 Balbach, H, US Army ERDC. Developing agency guidelines for relocation of species.

4:40 PM OOS 4-10 Andriamanarina, E1 and BJ Sewall2, (1)Université Nord Madagascar, (2)Temple University. Impacts of tropical forest conversion and regeneration on lemurs and birds in Madagascar.
MONDAY

1:30 pm-5 pm
OOS 5 - Mechanisms Underlying Biodiversity-Ecosystem Functioning Relationships
15, Austin Convention Center
Organized by: WW Weisser (wolfgang.weisser@uni-jena.de), N Buchmann
Moderator: WW Weisser
Recent research has unraveled a multitude of biodiversity effects on ecosystem functioning, but the underlying mechanisms have rarely been described. This session reviews the state of knowledge of mechanisms underlying biodiversity – ecosystem functioning relationships, in particular mechanisms underlying species complementarity.

1:30 PM OOS 5-1 Diehl, S1, M Striebel2, S Behl3, M Stockenreiter3 and H Stibor4, (1) Umea University, (2) WasserKluster Lunz, (3) University of Munich, (4) Europole Mer. Spectral niche complementarity and the diversity-productivity relationship in phytoplankton.

1:50 PM OOS 5-2 Stachowicz, J, University of California, Davis. Comparing lab, field, and mesocosm experiments with intertidal seaweeds to examine the biological basis of species complementarity and diversity effects.

2:10 PM OOS 5-3 Tilman, D and PB Reich, University of Minnesota. How important is biodiversity? Comparing biodiversity with other factors that influence ecosystem functioning.

2:30 PM OOS 5-4 Gessner, MO, Leibniz Institute of Freshwater Ecology & Inland Fisheries (IGB). How litter decomposition is (or isn’t) affected by species diversity.

2:50 PM OOS 5-5 Eisenhauer, N, University of Minnesota. Aboveground - belowground interactions as a source of complementarity effects in biodiversity experiments.

3:10 PM Break

3:20 PM OOS 5-6 Meyer, ST, Friedrich Schiller University. Mechanisms by which biodiversity causes complementarity in ecosystem functioning: Insights from a current review.

3:40 PM OOS 5-7 Schmid, B1, E Allan2 and D Flynn1, (1) University of Zurich, (2) University of Bern. Mechanisms underlying plant community assembly in biodiversity experiments.

4:00 PM OOS 5-8 Enquist, B1, J Norberg2, S Bonser3, C Violle4, CT Webb5 and VM Savage6, (1) University of Arizona and The Santa Fe Institute, (2) Stockholm University, (3) University of New South Wales, (4) University of Arizona, (5) Colorado State University, (6) UCLA. Trait Driver Theory: Predicting organisational, community, and ecosystem responses to environmental changes.


4:40 PM OOS 5-10 Isbell, FI, V Calcagno1, A Hector2, J Connolly3, WS Harpole4, PB Reich5, M Scherer-Lorenzen6, B Schmid2, D Tilman5, J Van Ruijven1, A Weigel8, BJ Wilsey4, E Zavaleta9 and M Loreau1, (1) McGill University, (2) University of Zurich, (3) University College Dublin, (4) Iowa State University, (5) University of Minnesota, (6) University of Freiburg, (7) Wageningen University, (8) Friedrich-Schiller University, Jena, (9) University of California. How many species are needed to maintain ecosystem functioning and services?

OOS 6 - Integration of DNA Barcodes into Ecological Forensics and Community Phylogenetics
16A, Austin Convention Center
Organized by: DL Erickson (ericksond@si.edu)
Moderator: DL Erickson
This session will highlight the emerging integration between the global initiative to assemble DNA reference barcode libraries, and the application of this data to investigate ecological hypotheses, particularly in the contexts.

1:30 PM OOS 6-1 Kress, WJ and DL Erickson, Smithsonian Institution. Plant DNA barcodes: Species identification and community phylogenies.

1:50 PM OOS 6-2 Swenson, N, Michigan State University. Comparative phylogenetic and functional turnover among temperate versus tropical forest sites.

2:10 PM OOS 6-3 Kuzmina, ML1, DH Janzen2, W Hallwachs3 and PDN Hebert4, (1) University of Guelph, (2) University of Pennsylvania, (3) Biodiversity Institute of Ontario. Comparative community phylogenetic diversity derived from two-locus DNA barcodes for angiosperm components of Costa Rican ecosystems.


2:50 PM OOS 6-5 Adamowicz, S1, EE Boyle1 and X Zhou2, (1) University of Guelph, (2) Beijing Genomics Institute. Local and regional community structure of sub-Arctic invertebrates.

3:10 PM Break

3:20 PM OOS 6-6 Meyer, C1, M Leray2, JT Boehm3 and Al Dell4, (1) Smithsonian Institution, (2) University of Paris 6 Pierre & Marie Curie, (3) Queens College, CUNY, (4) University of California Los Angeles. Determining trophic relationships in complex food webs using DNA barcoding of gut contents.

3:40 PM OOS 6-7 Weiblen, G, University of Minnesota. Population genetics of ecological communities with DNA barcodes: An example from New Guinea Lepidoptera.

4:00 PM OOS 6-8 Garcia-Robledo, C, WJ Kress, DL Erickson, TL Erwin and CL Staines, Smithsonian Institution. Reconstructing plant-herbivore interactions to test hypotheses of cascades of extinction due to global climate change.

Reconstructing tropical biodiversity with DNA data and its implications for conservation.

**COS 1 - Urban Ecology**

**Ballroom B, Austin Convention Center**

**1:30 PM** COS 1-1 Connor Barrie, BT and I Ibanez, University of Michigan. *Land use alters seedling recruitment patterns along an urban-rural gradient.*

**1:50 PM** COS 1-2 Faeth, SH1, S Saarri2 and C Bang3, (1) The University of North Carolina at Greensboro, (2) University of North Carolina at Greensboro, (3) Arizona State University. *The patterns of urban biodiversity of terrestrial animals.*

**2:10 PM** COS 1-3 Carter, T1, M Miss2 and J Steckel3, (1) Butler University, (2) Mary Miss Studio, (3) Williams Creek Consulting. *Raindrop: improving urban watershed awareness using mobile device technology.*

**2:30 PM** COS 1-4 Aloisio, JM1, KC Matteson2, MI Palmer3 and JD Lewis1, (1) Fordham University, (2) University of Illinois at Chicago, (3) Columbia University. *Biomass and plant diversity of naturally colonized green roof substrate in New York City.*

**2:50 PM** COS 1-5 Lindemann-Matthies, PI and T Marty2, (1) University of Education Karlsruhe, (2) University of Zürich. *Ecological gardening increases the aesthetic quality of gardens.*

**3:10 PM** Break

**3:20 PM** COS 1-6 Pavao-Zuckerman, M, University of Arizona. *Incorporating soil ecological knowledge into green infrastructure design: ecosystem services and rain gardens in a semi-arid city.*

**3:40 PM** COS 1-7 Hochuli, DF, The University of Sydney. *Rapid assessment of biodiversity and ecosystem function in urban remnants reveals ecological integrity and resilience in novel ecosystems.*

**4:00 PM** COS 1-8 Michalak, JL, University of Washington. *Effects of urban development and forest cover patterns on Garry oak (Quercus garryana) acorn dispersal processes.*

**4:20 PM** COS 1-9 Bigsky, K1, MR McHale1, G Hess2 and JM Grove3, (1) North Carolina State University, (2) NC State University, (3) US Forest Service. *Lifestyles choices, socio-economic status, and vegetation dynamics in urban ecosystems: is Raleigh, NC on a path to becoming Baltimore, MD?*

**4:40 PM** COS 1-10 Schermaier, AF and BM Walton, Cleveland State University. *Estimation of biomass and diversity of earthworms within the Cleveland Metroparks and how they influence plant and soil invertebrate communities.*

**COS 2 - Phenology**

**Ballroom F, Austin Convention Center**

**1:30 PM** COS 2-1 Yang, X1, JF Mustard1 and J Tang2, (1) Brown University, (2) Marine Biological Laboratory. Regional scale budburst and senescence modeling based on meteorological records and remote sensing observations.


**2:10 PM** COS 2-3 Denny, EG1, JF Weltzin1, CA Feinquest2, AR Rosemaartin3, TM Crimmins1 and RL Marsh1, (1) USA National Phenology Network, (2) The Wildlife Society & USA National Phenology Network, (3) USA National Phenological Network & University of Arizona. *USA National Phenology Monitoring System: Enhancements for reporting phenophase intensity and abundance.*

**2:30 PM** COS 2-4 Polgar, C1, RB Primack1 and JS Dukes2, (1) Boston University, (2) Purdue University. *The effect of climate change on leaf-out phenology in Concord, MA from 1852-2010.*

**2:50 PM** COS 2-5 Rasmussen, NL and VHW Rudolf, Rice University. *Phenology of species interactions: Size-mediated priority effects and the dynamics of predator-prey systems in seasonal communities.*

**3:10 PM** Break

**3:20 PM** COS 2-6 Allen, JM1, JA Silander Jr1, RB Primack2, H Kobori3, T Katsuki4 and K Iwamoto5, (1) University of Connecticut, (2) Boston University, (3) Tokyo City University, (4) Forest and Forestry Products Research Institute. *Springtime phenological responses in a survival analysis framework.*

**3:40 PM** COS 2-7 Browning, DM1, JP Anderson2 and DC Peters3, (1) USDA Agriculture Research Service, (2) New Mexico State University, (3) USDA Agricultural Research Service. *Patterns in reproductive phenology for dryland grasses and shrubs from 1993 to 2010 in the Chihuahuan Desert.*

**4:00 PM** COS 2-8 Tuff, T1 and BA Melbourne2, (1) University of Colorado, (2) University of Colorado at Boulder. *The relativity of biological space-time: Macrocology, phenology, and migration.*

**COS 3 - Competition I**

**4, Austin Convention Center**

**1:30 PM** COS 3-1 Song, Z1, A Vail2, MJ Sadowsky1 and J Schilling1, (1) University of Minnesota, (2) University of Minnesota. *Stochastic processes facilitating coexistence of wood-degrading fungi in microcosms.*

**1:50 PM** COS 3-2 Anderson, TL and HH Whitman, Murray State University. *Asymmetric responses of two larval salamanders to varying competitor density in a response surface design.*

**2:10 PM** COS 3-3 Nathan, J1, J Von Hardenberg2 and E Meron1, (1) Ben Gurion University, (2) ISAC-CNRI. *Coexistence of competing vegetation species due to self organized patchiness.*

**2:30 PM** COS 3-4 Balzer, CH, University of California Santa Barbara. *Does relative nonlinearity of competition stabilize coexistence under current or future rainfall patterns in California grasslands?*

**2:50 PM** COS 3-5 Jennings, DE and JR Rohr, University of South Florida. *The importance of phylogeny in dictating the strength of competition.*

**3:10 PM** Break

**3:20 PM** COS 3-6 Lamphere, BA, D Biederman and JF Gilliam, North Carolina State University. *Alternate pathways leading to the coexistence of intraguild predators—lessons from a field introduction.*

**3:40 PM** COS 3-7 Ashcheoug, ET and RM Callaway, University of Montana. *Competition in multispecies native communities promotes coexistence with and without invasion.*

**4:00 PM** COS 3-8 Larsen, AE1 and AJ MacDonald2, (1) University of California, (2) University of California, Santa Barbara. *Non-consumptive effects maintain coexistence of a weaker competitor on a shared resource.*

**4:20 PM** COS 3-9 Allesina, S1 and JM Levine2, (1) University of Chicago, (2) University of California, Santa Barbara. *A competitive network theory of species diversity.*

**4:40 PM** COS 3-10 Hart, SP and DJ Marshall, University of Queensland. *The importance of species interactions in harsh environments determined using formal links between theory and experimental data.*
1:30 PM - COS 4 - Species Interactions I
5, Austin Convention Center

1:30 PM COS 4-1 Dargent, F.1, J Torres-Dowdall2, ME Scott1, C Ghalambor1, I Ramnanrne13 and GF Fussmann1, (1)McGill University, (2)Colorado State University at Fort Collins, (3)The University of the West Indies. Forming mixed-species shoals reduces parasite loads in Poecilia reticulata and its sister species Poecilia picta.

1:50 PM COS 4-2 Gonthier, DJ, University of Michigan. Ant semiochemicals alter herbivore choice and reduce herbivory.

2:10 PM COS 4-3 Orrock, JL1, EL Preissner2, JH Grabowski3 and GC Trussell4, (1)University of Wisconsin - Madison, (2)University of Rhode Island, (3)Gulf of Maine Research Institute, (4)Northeastern University. The hidden cost of safety: Prey refugia increase the negative effect of predation risk in aquatic systems.

2:30 PM COS 4-4 Rehage, J, Florida International University. Seasonal wetland hydrology drives predator and prey co-occurrence in a subtropical estuary: Implications for predator-prey interactions and trophic dynamics.

2:50 PM COS 4-5 Persson, L. University of California - Berkeley, (2)University of Florida.

3:10 PM Break

3:30 PM COS 4-6 McFrederick, QS, UT Austin. The microbiota of halictid bee nests: Do wild bees use probiotics?

3:40 PM COS 4-7 Gouhier, TC and BA Menge, Oregon State University. Regional processes mediate the relative importance of facilitation and keystone predation for the maintenance of coexistence in intertidal communities.

4:00 PM COS 4-8 Shaner, PL1, L Ke2 and SH Wu2, (1)National Taiwan Normal University, (2)National Chung Hsing University. Inter- and intra-specific niche differences among small mammals in an evergreen forest in Taiwan: A stable isotope approach.

4:20 PM COS 4-9 Correa, SB and KO Winemiller, Texas A&M University. Using stomach contents, stable isotopes and morphometrics to quantify resource partitioning among fruit-eating fishes in Amazon floodplain habitats.

4:40 PM COS 4-10 Larimer, A1, K Clay1 and JD Bever2, (1)Indiana University, (2)University of Indiana. Abiotic and biotic environmental context dependency of plant-microbial interactions.

COS 5 - Biogeochemistry: C and N Cycling in Response to Global Change I
6A, Austin Convention Center

1:30 PM COS 5-1 Templar, PH, N Phillips and M Friedl, Boston University. Effects of winter climate change on water and carbon dynamics in a northern hardwood forest.

1:50 PM COS 5-2 Sistla, SA and JP Schimel, University of California, Santa Barbara. The effects of long-term warming on tundra soil enzyme dynamics.

2:10 PM COS 5-3 Xia, L and K Szlavecz, Johns Hopkins University. Soil respiration responses to temperature are affected by substrate supply and earthworm activities.

2:30 PM COS 5-4 Natali, SM, EAG Schuur and R Rubin, University of Florida. Increased plant productivity in Alaskan tundra with experimental warming of deep soil and permafrost.

2:50 PM COS 5-5 Wood, TE1, W Silver2 and M Detto3, (1) University of California - Berkeley, (2)University of California, (3)Smithsonian Tropical Research Institute. Temperature and moisture controls on soil respiration of a humid tropical forest, Puerto Rico.

3:10 PM Break

3:20 PM COS 5-6 Simpson, RT1, JC Moore1 and J Six2, (1) Colorado State University, (2)University of California-Davis. Free and occluded soil microaggregate dynamics in a low arctic moist acidic tundra ecosystem.

3:40 PM COS 5-7 Fernandez, JS and GL Vourlitis, California State University. The effects of C and N availability on soil microbial activity and biomass.

4:00 PM COS 5-8 Tang, MH1, S Porder1, GM Lovett2 and JM Melillo3, (1)Brown University, (2)Cary Institute of Ecosystem Studies, (3)Marine Biological Laboratory. Phylogeny constrains nitrate reductase activity in northeastern forests even under nitrogen enrichment.

4:20 PM COS 5-9 Black, CK1, SC Davies1, CJ Bernacchi2 and EH DeLucia3, (1)University of Illinois at Urbana-Champaign, (2)University of Illinois/USDA-ARS, (3)University of Illinois. Heterotrophic respiration from soil increases with atmospheric carbon dioxide and temperature.

4:40 PM COS 5-10 Cusack, DF, UC - Los Angeles. Soil carbon and nitrogen cycling along an urban-to-rural gradient in humid tropical forests.

COS 6 - Climate Change: Communities I
6B, Austin Convention Center

1:30 PM COS 6-1 Docherty, K, R Gallery, K Blevins, P Travers and RH Kao, National Ecological Observatory Network (NEON). Continental scaling of bacterial, archaenal and fungal communities: Preliminary results from the NEON soil microbe prototype.

1:50 PM COS 6-2 Calder, WJ1, A Rog2, A Knoll2 and BN Shuman1, (1)University of Wyoming, (2)University of Minnesota. The role of fire in the vegetation response to Little Ice Age climate change in the Big Woods of Minnesota.

2:10 PM COS 6-3 Urban, MC, University of Connecticut. On a collision course: Competition and climate change generate non-analogue communities and extinction.

2:30 PM COS 6-4 Canham, CD, Cary Institute of Ecosystem Studies. Demographic controls of tree species distributions along climate gradients in eastern North America.

2:50 PM COS 6-5 Neumann, SM and I Ibanez, University of Michigan. Inclusion of plant-soil feedbacks in assessing Great Lakes tree expansion in response to global warming.

3:10 PM Break

3:20 PM COS 6-6 Nakazawa, T1 and H Doi2, (1)Kyoto University, (2)University of Oldenburg. Toward understanding the community consequences of species-specific phenological shifts under climate change.

3:40 PM COS 6-7 Cleveland, E1, JM Allen2, TM Crimmins3, S Pau4, SE Travers2 and EM Wolakovich6, (1)University of California - San Diego, (2)University of Connecticut, (3)USA National Phenology Network, (4)National Center for Ecological Analysis and Synthesis, (5)North Dakota State University, (6)University of California. Species performance in a warming climate relates to phenological tracking.

4:00 PM COS 6-8 Wirtanen, TM, J Belnap, SL Phillips and SC Reed, USGS. The potential effects of changing climate on biocrusts.

4:20 PM COS 6-9 Savage, VM1, Al Del2 and S Pawar1, (1)UCCLA, (2)University of California Los Angeles, (3)University of California, Los Angeles. The temperature dependence of consumer-resource interactions.

4:40 PM COS 6-10 Sorte, CJB1 and JW White2, (1)University of Massachusetts - Boston, (2)University of North Carolina Wilmington. Climate change and context-dependent competitive outcomes drive alterations in community composition.
Earth Stewardship: Preserving and enhancing earth's life support systems

**COS 7 - Community Assembly and Neutral Theory I**
8, Austin Convention Center

1:30 PM  COS 7-1  Helmus, MR1 and AR Ives2, (1)University of Chicago, (2)University of Wisconsin. Phylogenetic species-area curves.

1:50 PM  COS 7-2  Ostling, AM, RC Rael and R D’Andrea, University of Michigan. How can we test neutral theory robustly in ecology?

2:10 PM  COS 7-3  Gray, SM, Stony Brook University. Community succession patterns - a function of trophic position, sampling method, and depth of sampling?

2:30 PM  COS 7-4  Tello, JS, L Patrick and N Reid, Louisiana State University. Evaluating the effects of poorly inferred trees on phylogenetic community structure.

2:50 PM  COS 7-5  Swan, CM1 and BL Brown2, (1)University of Maryland, Baltimore County, (2)Clemson University. The interaction between the effects of habitat heterogeneity and isolation on beta diversity suggest the nature of community assembly in river networks.

3:10 PM  Break

3:20 PM  COS 7-6  Germain, RM1, L Johnson1, AS MacDougall1, K Cottenie1 and E Gillis2, (1)University of Guelph, (2)Vancouver Island University. Spatial variability in granivory determines the strength of stochastic community assembly.


4:00 PM  COS 7-8  Pinney, TA and KJ Gutzwiller, Baylor University. Investigating niche and neutral processes in bird community assembly: Regression with spatial eigenvectors can be more informative than regression on distance matrices.

4:20 PM  COS 7-9  Kadokawa, K, BD Inouye and TE Miller, Florida State University. Assembly history dynamics of a pitcher-plant protozoan community in experimental microcosms.

4:40 PM  COS 7-10  Kelly, CK1, SJ Blundell1, MG Bowler1, GA Fox3, PH Harvey1, MR Lomas3 and FI Woodward3, (1)University of Oxford, (2)University of South Florida, (3)University of Sheffield. The statistical mechanics of community assembly and species distribution.

**COS 8 - Education: Pedagogy and Faculty Development**
9AB, Austin Convention Center

1:30 PM  COS 8-1  D’Avanzo, C1, CW Anderson2, LM Hartley3 and NJ Pelaez4, (1)Harvard College, (2)Michigan State University, (3)University of Colorado Denver, (4)Purdue University. A faculty development model for transforming introductory ecology and biology courses.

1:50 PM  COS 8-2  Jardeleza, SE, D Ebert-May and M Donahue, Michigan State University. Assessing scientific reasoning in a liberal learning curriculum.

2:10 PM  COS 8-3  Shannon, SM, RM Slough and BJ Winterman, Indiana University. A step-wise approach when introducing students to primary literature increases student comprehension.

2:30 PM  COS 8-4  Schutte, VGW1, P Brickman1, CL Gormally2, GM Francon1 and SE Jardeleza3, (1)University of Georgia, (2)Georgia Tech, (3)Plant Biology. Project-based Applied Learning (PAL): Integrating science literacy skills into general education undergraduate courses.

2:50 PM  COS 8-5  Dewsbury, BM. Florida International University. The Teaching Pentagon: A quantitative, integrative approach to teaching ecology.

3:10 PM  BREAK

3:20 PM  COS 8-6  Trueman, R, Concordia University Chicago. Effective ecology pedagogy through GC/MS analysis of EDCs and PPCPs in a local river.

3:40 PM  COS 8-7  Reynolds, JA1, R Thompson Jr.1 and C Thaiss2, (1)Duke University, (2)University of California, Davis. Writing-to-learn in undergraduate science education: A grassroots initiative to promote education reform.

4:00 PM  COS 8-8  Collins, RJ, C Lassiter, D Poli, M Poore and M Ramesh, Roanoke College. Useful pedagogical tool or distracting toy? The use of iPod Touch in the classroom.

4:20 PM  COS 8-9  Williams, KS1, BD Bush2, NJ Pelaez3, JA Rudd4, MT Stevens5 and KD Tanner6, (1)San Diego State University, (2)California Polytechnic State University, San Luis Obispo, (3)Purdue University, (4)California State University Los Angeles, (5)Utah Valley University, (6)San Francisco State University. Investigation of science faculty with education specialties (SFES) within the largest university system in the US.

4:40 PM  COS 8-10  Ebert-May, D1, TL Derting2, JL Monsen3 and T Long1, (1)Michigan State University, (2)Murray State University, (3)North Dakota State University. What we say is not what we do: Effective evaluation of faculty professional development programs.

**COS 9 - Pollination I**
9C, Austin Convention Center

1:30 PM  COS 9-1  Roccaforte, K1, SE Russo1 and D Pilson2, (1)University of Nebraska, (2)University of Nebraska-Lincoln. Evaluating ecological mechanisms of reproductive isolation between diploid Erythronium mesochoreum (Liliaceae) and its tetraploid congener E. albidum.

1:50 PM  COS 9-2  Spigler, RB1, DW Vogler2 and S Kalisz3, (1)University of Pittsburgh, (2)SUNY College at Oneonta. Correlates of autonomous self-fertilization in the annual Collinsia verna: Implications for the evolution of reproductive assurance and mixed mating.

2:10 PM  COS 9-3  Cruz Maysonet, S1 and TH Roulston2, (1)University of Puerto Rico in Bayamón, (2)University of Virginia. Does a shift to small flowers in annual groundcherries leave specialist pollinators behind?

2:30 PM  COS 9-4  Essenberg, CJ, University of California-Riverside. Scale-dependence of pollinator responses to floral resource density.

2:50 PM  COS 9-5  Schaeffer, RN, JS Manson and RE Irwin, Dartmouth College. Effects of nectarivorous yeasts on pollinator foraging behavior and male plant fitness.

3:10 PM  Break

3:20 PM  COS 9-6  Quinn, CF, CN Prins and EAH Pilon-Smits, Colorado State University. Selenium accumulation in flowers and the associated implications for ecology, evolution and fortified foods.

3:40 PM  COS 9-7  Park, MG, J Losey and B Danforth, Cornell University. Importance of wild bees in apple pollination.

4:00 PM  COS 9-8  Rafferty, NE and AR Ives, University of Wisconsin. Pollinator effectiveness and composition vary with experimental shifts in flowering time.

4:20 PM  COS 9-9  Baum, KA and KE Wallen, Oklahoma State University. The effects of rangeland management strategies on pollinators.

4:40 PM  COS 9-10  Tartaglia, ES and SN Handel, Rutgers University.
University. Flower foraging behavior in the nectar feeding moth Hemaris (Lepidoptera: Sphingidae), a mimic of Bombus (Hymenoptera: Apidae).

**COS 10 - Herbivory I**

10A, Austin Convention Center

1:30 PM COS 10-1 Le Gall, M and ST Behmer, Texas A&M University. Nutrient-allelochemical interactions: metabolic effects on a generalist insect herbivore.


2:10 PM COS 10-3 Marquis, RJ1, S Powell2, F Camarota3, GV Priest1 and HL Vasconcelos3, (1)University of Missouri - St. Louis, (2)University of Arizona, (3)Universidade Federal de Uberlândia. Distribution of beetle-generated stem cavities and their occupancy by canopy ants in six species of Brazilian cerrado trees.

2:30 PM COS 10-4 Cogger, BJ1, MA Thomsen1 and NR De Jager2, (1)University of Wisconsin - La Crosse, (2)United States Geological Survey. Interactive effects of flooding and white-tailed deer herbivory on tree seedling recruitment in floodplain forests of the Upper Mississippi River.

2:50 PM COS 10-5 Poveda, K1, M Gomez Jimenez2, R Halitschke1 and A Kessler1, (1)Cornell University, (2)Universidad Nacional de Colombia. Overcompensating plants: their expression of resistance traits and effects on herbivore preference & performance.

3:10 PM Break

3:20 PM COS 10-6 Kim, TN and N Underwood, Florida State University. The multi-scale effects of neighborhood composition on patterns of associational resistance and susceptibility.

3:40 PM COS 10-7 Utsumi, S1, Y Ando2, T Ohgushi3 and H Roininen4, (1)University of Tokyo, (2)Center for Ecological Research, Kyoto University, (3)Kyoto University, (4)University of Eastern Finland. Biodiversity drives evolution of a community member through ecological functioning in indirect interaction webs.

4:00 PM COS 10-8 Johnson, DR1, M Lara1, S Villarreal1, PJ Webber2 and CE Tweedie1, (1)University of Texas at El Paso, (2)Michigan State University. Lemmings drive short- and long-term vegetation and carbon dynamics in coastal tundra: resampling historic herbivore exclosures at Barrow, Alaska.

4:20 PM COS 10-9 Dittler, MJ1 and RH Jones2, (1)Virginia Tech, (2)West Virginia University. Fine root consumption patterns of immature insect assemblages in a longleaf pine-wiregrass system.

**COS 11 - Invasion I**

12B, Austin Convention Center

1:30 PM COS 11-1 Poulette, MM, MA Arthur, RL McCulley and JA Nelson, University of Kentucky. Associations between the invasive shrub Lonicera maackii and native tree species influence the soil microbial community.

1:50 PM COS 11-2 Cobb, RC1, VT Eviner2 and DM Rizzo1, (1)University of California Davis, (2)University of California Davis. Sudden oak death impacts on soil and litterfall N dynamics.

2:10 PM COS 11-3 Lekberg, Y, SM Gibbons, DL Mumney and PW Ramsey, MPG Ranch. Legacies of plant invasion on ecosystem processes and microbial community structures.


2:50 PM COS 11-5 Finch, H1, SE Meyer2 and PS Allen1, (1) Brigham Young University, (2)USDA Forest Service, Rocky Mountain Research Station. How the seed bank pathogen Pyrenophora semeniperda kills non-dormant cheatgrass seeds.

3:10 PM Break

3:20 PM COS 11-6 Zamor, RM1, KL Glenn2 and KD Hambright1, (1)University of Oklahoma, (2)University of Oklahoma Biological Station. Dispersal alone is not enough: Environmental conditions predict presence of an invasive harmful alga.

3:40 PM COS 11-7 Cano, L1, M Tens2, T Fuertes-Mendiabazal2, MB Gonzalez-Moro2 and M Herrera3, (1)University of California Davis, (2)University of the Basque Country. The role of plasticity, genetic variation and maternal effects in the tolerance to salinity in the invasive plant Baccharis halimifolia.

4:00 PM COS 11-8 Godoy, O1 and JM Levine2, (1)University of California, (2)University of California, Santa Barbara. Phenology as a niche mechanism of community resistance to invasion.

4:20 PM COS 11-9 Bois, ST1, JM Allen1, MA Kaproth2, J Molofsky2, KE Holsinger1 and JA Slender Jr1, (1)University of Connecticut, (2)University of Vermont. Phenotypic variation and local site adaptation in native and introduced ranges: Varying responses of two woody ornamentals with similar invasion histories.

4:40 PM COS 11-10 Knochel, DG and TR Seastedt, University of Colorado at Boulder. Spotted knapweed growth, reproduction, and seed banks: A synthesis of the constraints imposed by resource limitation, competition, and biological control.

**COS 12 - Disease and Epidemiology I**

17B, Austin Convention Center

1:30 PM COS 12-1 Dalziel, BD and SP Ellner, Cornell University. The influence of host movement on epidemic dynamics: Commuting patterns in cities and their consequences for the spread of influenza.

1:50 PM COS 12-2 Bowden, SE1, JM Drake2, K Magori2 and W Bajwa1, (1)Oдум School of Ecology, The University of Georgia, (2)University of Georgia, (3)New York Department of Health. Statistical prediction of West Nile Virus transmission intensity in New York City.

2:10 PM COS 12-3 Reiner, Jr, RC1, AA King1, M Emch2, M Yunus3, ASG Faruque4 and P MASCAL5, (1)University of Michigan, (2)University of North Carolina-Chapel Hill, USA, (3)ICDDR,B: Centre for Health and Population Research, Dhaka, Bangladesh, (4)International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B), (5)University of Michigan AND Howard Hughes Medical Institute. A probabilistic model of spatio-temporal disease dynamics: Urban cholera in Dhaka.

2:30 PM COS 12-4 Ferrari, MJ1 and RF Grais2, (1)The Pennsylvania State University, (2)Epicentre. Age-specific measles transmission in sub-Saharan Africa: implications for reactive vaccination.

2:50 PM COS 12-5 Klepac, P1, R Laxminarayan2 and BT Grenfell1, (1)Princeton University, (2)Center for Disease Dynamics, Economics & Policy. Synthesizing epidemiological and economic optima for control of immunizing infections.

3:10 PM Break

3:20 PM COS 12-6 Cortez, M and JS Weitz, Georgia Institute of Technology. Comparing the effects direct and indirect
pathogen transmission have on epidemic time series.


4:20 PM COS 12-9 Groner, ML and RA Relyea, University of Pittsburgh. Healthy herds and peaked packs: How infection alters inducible defenses against predators.

4:40 PM COS 12-10 Eakin, L and G Dwyer, University of Chicago. The effect of gypsy moth larval feeding behavior on the transmission of LdNPV.

COS 13 - Modeling
18A, Austin Convention Center

1:30 PM COS 13-1 Lira-Noriega, A1, J Soberon1 and AT Peterson2, (1)University of Kansas, (2)University of Kansas. A comparison of mechanistic and correlative modeling approaches to understand species distributions at different spatial scales.

1:50 PM COS 13-2 Milanovich, JR1, WE Peterman2, K Barrett3 and ME Hopton1, (1)United States Environmental Protection Agency, (2)University of Missouri, (3)University of Georgia. Validating species distribution models in urban and non-urban green spaces: A case study using amphibian species richness.

2:10 PM COS 13-3 Kou, X1, Q Li1, S Liu2 and J Ge1, (1)Beijing Normal University, (2)Chinese Academy of Forestry. How unreliable can a species distribution model be in projecting species ranges to future climates?

2:30 PM COS 13-4 Hayes, DJ1, DP Turner2, G Stinson3, Y Wei1, TO West4, B deJong5, AD McGuire6, R Cook7 and WM Post III1, (1)Oak Ridge National Laboratory, (2)Oregon State University; (3)Canadian Forest Service, (4)Joint Global Change Research Institute, (5)ECOSUR, (6)University of Alaska Fairbanks. Towards better-constrained assessments of the carbon balance of North America in the 21st Century: A comparison of recent model and inventory-based estimates.


3:10 PM Break

3:20 PM COS 13-6 Pathikonda, S and K Ogle, Arizona State University. The differential importance of environmental heterogeneity and evolutionary history for specific leaf area and wood density.

3:40 PM COS 13-7 Wang, D, D LeBauer and M Dietze, University of Illinois. Modelling the growth of poplar (Populus spp.) using ecosystem demography 2 (ED2) model.

4:00 PM COS 13-8 Stump, SM1, DL Venable1, BJ Enquist2, J Horst3 and TE Huxman1, (1)University of Arizona, (2)University of Arizona and the Santa Fe Institute, (3)University of Arizona. Scaling laws for biomass allocation in desert annual plants.


COS 14 - Dispersal and Colonization
18C, Austin Convention Center

1:30 PM COS 14-1 Hirsch, BT1, PA Jansen2 and RW Kays1, (1)New York State Museum, (2)Center for Tropical Forest Science-Smithsonian Institution Global Earth Observatory. Extreme cache theft and re-caching leads to long term seed dispersal by Central American agoutis.

1:50 PM COS 14-2 Boynton, PJ1, C Peterson2 and A Pringle1, (1)Harvard University, (2)Massachusetts Institute of Technology. Spatial scale and pitcher plant yeast community diversity.

2:10 PM COS 14-3 Parker, AD1, JC Trexler1, DE Gawlik2 and BB Botson2, (1)Florida International University, (2)Florida Atlantic University. Environmental filters of wet-season aquatic communities into dry-season pools of the Florida Everglades.

2:30 PM COS 14-4 Wallace, RL1, T Schroeder2, T Gill2 and EJ Walsh3, (1)Ripon College, (2)University of Texas at El Paso, (3)The University of Texas at El Paso. Determinants of species richness and community composition in aridland aquatic systems.

2:50 PM COS 14-5 Gade, KJ, Arizona State University. Plant migration along freeways: Results from seed bank and seed trapping studies in Phoenix, Arizona.

3:10 PM COS 14-6 Lesser, MR and ST Jackson, University of Wyoming. Contribution and timing of long-distance dispersal in the growth of disjunct ponderosa pine populations.

3:40 PM COS 14-7 Barnes, MA1, CL Jerde1, D Keller2, WL Chadderton3 and DM Lodge1, (1)University of Notre Dame, (2)Indiana Department of Natural Resources, (3)The Nature Conservancy c/o Center for Aquatic Conservation. Built to last: The influence of plant structure on desiccation rate of aquatic plants and implications for dispersal.

4:00 PM COS 14-8 Bellemare, J1 and MA Geber2, (1)Smith College, (2)Cornell University. Seed dispersal limits the local distribution and geographic range of an ant-dispersed forest herb, Jeffersonia Diphylla (Berberidaceae).

4:20 PM COS 14-9 Spasojevic, MJ1, El Damschen2 and SP Harrison3, (1)University of California Davis, (2)University of Wisconsin-Madison, (3)University of California, Davis. Dispersal syndromes are more influenced by habitat quality then habitat patchiness in serpentine communities.

4:40 PM COS 14-10 Patrick, CJ and MJ Cooper, University of Notre Dame. Invertebrate community organization across spatial scales in a wetland complex.

COS 15 - Detritus and Decomposition
18D, Austin Convention Center

1:30 PM COS 15-1 Berbeco, MR1, JM Melillo2 and CM Orians3, (1)University of California, Davis, (2)Marine Biological Laboratory, (3)Tufts University. Soil warming differentially accelerates decomposition of woody debris.

1:50 PM COS 15-2 Talbot, JM1 and KK Treseder2, (1)University of California Irvine, (2)University of California, Irvine. Interactions between lignin, cellulose, and N are major controls over litter chemistry-decay relationships.

2:10 PM COS 15-3 Mobley, ML, PR Heine and DD Richter, Duke University. Earth Stewardship: Preserving and enhancing earth’s life support systems.
1:30 pm - 5 pm; 4:30 pm - 6:30 pm

University. Carbon and nitrogen storage and decomposition in decaying taproots at the Calhoun Experimental Forest, SC.

2:30 PM COS 15-4 Fanin, N1, S Barantal1, N Fromin1, H Schimann2 and S Hattenschwiler1, (1)CNRS national center of scientific research, (2)INRA-UMR ECOFOG. Microbial resource limitation in tropical forest litter of variable C:N:P stoichiometry.

2:50 PM COS 15-5 Pechal, JL1, ME Benbow2, AM Tarone1, TL Crippen3 and JK Tomberlin1, (1)Texas A&M University, (2)University of Dayton, (3)USDA-ARS. Microbial community function on decomposing vertebrate carrion.

3:10 PM Break

3:20 PM COS 15-6 Keiser, AD1, JD Knoepp2 and MA Bradford1, (1)Yale University, (2)USDA Forest Service Southern Research Station. Implications of familiarity: Non-random tree species change, litter decomposition, and the soil microbial community.

3:40 PM COS 15-7 Feinstein, LM1, L Wu2, OJ Valverde1, LG Left1, MW Kershner1 and CB Blackwood1, (1)Kent State University, (2)Nanchang University. The influence of individual leaf species, litter diversity, and habitat on litter decomposition processes.

4:00 PM COS 15-8 Birge, H, R Conant, MD Wallenstein and EA Paul, Colorado State University. The effects of long-term incubation on biological controls of soil organic matter (SOM) decomposition.

4:20 PM COS 15-9 Montemarano, JJ1, M Sasa-Marin2 and MW Kershner1, (1)Kent State University, (2)Instituto Clodomiro Picado. Cattail eradication effects on plant colonization in a seasonally dry tropical wetland.


4:30 pm-6:30 pm

Ecology and Evolution, A Wiley Open Access Journal
Launch Drinks Reception (booth303-305)
Exhibit Hall 3, Austin Convention Center

OPS 1 - Development of the National Ecological Observatory Network (NEON): Long-Term, Continental Scale Data and Information to Enable Ecological Understanding and Forecasting
Organized by: T Kampe (tkampe@neoninc.org), WK Gram

The session focuses on the design and prototype activities of the National Ecological Observatory Network (NEON), a new facility supported by the NSF to provide data and information to scientists, educators, and the public on how land use, climate change and invasive species affect biodiversity, disease ecology, and ecosystem processes.

OPS 1-1 Joos, A, L Lye-B-Newton and HW Loescher, NEON Inc. Managing the calibration uncertainty and traceability for a large-scale ecological observatory.

OPS 1-2 Aulenbach, SM1, BR Johnson1 and MA Kuester2, (1)NEON, Inc., (2)NEON Inc.. NEON geographic products designed to enable continental-scale analysis and forecasting.

OPS 1-3 Fox, AM1, WS Sacks2, DJ P Moore3, DM Ricciuto4, SB Berukoff1 and DS Schimel1, (1)National Ecological Observatory Network, (2)National Center for Atmospheric Research, (3)King’s College London, (4)Oak Ridge National Lab. Assimilation of flux measurements into the NEON-NCAR land surface model.

OPS 1-4 Young, N, Colorado State University. Scaling NEON plant species distribution data.


OPS 1-7 Powell, H1, S Parker1, K Goodman1, A Price2, T Cliffe3 and C Seeger3, (1)NEON Inc., (2)NEON Inc., (3)National Ecological Observatory Network (NEON). The NEON approach to constructing an aquatic site.

OPS 1-8 Parker, S, H Powell, K Goodman and A Price, NEON Inc. Strategies for measuring the biological community at NEON aquatic sites.
OPS 1-9 Ayres, E, HW Loescher and H Luo, National Ecological Observatory Network. Continental representativeness of NEON's design for sensor-based measurements of soil properties.

OPS 1-10 Cilke, T, HW Loescher, E Ayres and H Luo, National Ecological Observatory Network (NEON). Measuring the below ground environment: Prototyping borehole measurements.


OPS 1-12 Vaughn, B, HW Loescher, L Newton and H Luo, (1)University of Colorado, (2)National Ecological Observatory Network. How isotopes in water and carbon dioxide are used in the National Ecological Observatory Network sensor design.


OPS 1-15 Kampe, TU, BR Johnson, J McCorkel and M Kuester, NEON Inc.. Development of airborne remote sensing instrumentation for NEON.


OPS 1-17 Blevins, K, R Gallery, D Kochert, G King, P Travers and RH Kao, (1)National Ecological Observatory Network (NEON), (2)Louisiana State University. NEON: Directions and resources for long-term monitoring in soil microbial ecology.

OPS 1-18 Gibson, C, K Blevins, P Travers and RH Kao, National Ecological Observatory Network (NEON). Integrative taxonomy for NEON’s continental-scale terrestrial insect observations.


PS 1 - Education: Community-Based Learning
Exhibit Hall 3, Austin Convention Center

PS 1-21 Krasny, ME, Cornell University. Applying social innovation and resilience theory to building educational capacity in a national environmental education training project.

PS 1-22 Kish, GR, U.S. Geological Survey. Engaging the public in observing changes in the environment.


PS 1-24 Sewald, J and KV Root, Bowling Green State University. Evaluating the relationship between knowledge of and attitudes towards bats.

PS 1-25 Barlow, B, Auburn University. From eyesore to outreach: Using service learning and writing models to link students, communities, and the land.


PS 1-27 Armstrong, M and CA Cooley, Ecological Society of America. Preparing diverse students in our Nation’s west to lead sustainable communities.

PS 2 - Education: Pedagogy and Faculty Development
Exhibit Hall 3, Austin Convention Center

PS 2-28 Watkins, MHM, The University of Southern Mississippi. GK-12 graduate fellowship experience: Learning to communicate ecological research by teaching longleaf pine fire ecology to minority high school students.

PS 2-29 Welch, NT, C D’Avanzo, CW Anderson and NJ Pelaiz, (1)Mississippi University for Women, (2)Hampshire College, (3)Michigan State University, (4)Purdue University. I did it! – Faculty experiences using diagnostic assessment and active teaching to transform ecology courses.

PS 2-30 Kendall, KD and EE Schussler, University of Tennessee - Knoxville. Does instructor title matter? Undergraduate perception of biology graduate teaching assistants.


PS 2-32 Barrett, CM, HZG Lauren, B Hug, J Planey and FS Hu, (1)University of Illinois at Urbana-Champaign, (2)University of Illinois. Education and ecology: Assessing the quality of a graduate student driven workshop for teachers.

PS 2-33 Grisé, DJ, CM Bailey and M Rivera, Texas A&M- Corpus Christi. Student performance relates to mentoring session attendance, math level, and student motivation in large-lecture introductory biology course.

PS 2-34 Cecala, KK and AD Rosemond, University of Georgia. Efficacy of peer-review to improve student performance in scientific writing.

PS 2-35 Ivey, CT and KA Blee, California State University, Chico. Integrated lab curricula as a research training tool in a comprehensive institution.

PS 2-36 Garcia, YY, University of Northern Colorado. Sci*Five: A promising model to enhance ecology research in the elementary science classroom.

PS 2-37 Cromtite, WJ, Richard Stockton College. Long term ecology research in an introductory lab: Do students learn from previous results?

PS 2-38 Gammon, DE, JM Platania, S Manning and D Munoz, Elon University. Interdisciplinary lunch discussions on the interface between economics and environmental issues.

PS 3 - Education: Research and Assessment
Exhibit Hall 3, Austin Convention Center


PS 3-40 Beck, C and L Blumer, (1)Emory University, (2)
4:30 pm-6:30 pm

**PS 4 - Education: Tools and Technology**  
Exhibit Hall 3, Austin Convention Center

**PS 4-43** McLean, JE and AA Leff, Kent State University. *Utilization of a computer tutorial to compare science majors and non-science majors in their use and knowledge of the scientific process, problem solving and critical thinking skills.*

**PS 4-44** Opdyke, MR, Point Park University. *GigaPan Technology: A web-based platform for ecological research and outreach.*

**PS 4-45** Schultz, RE, E Dibble and D Irby, Mississippi State University. *Taking the plunge without a wetsuit: Using 3-D visualization models of underwater landscapes to educate broad audiences about the impact of invasive macrophytes on aquatic communities.*

**PS 4-46** Guinn, SM1, AJ Elmore1, T Mourad2, B Wee3, A Collins4, D Kirschte1 and W Dennison1, (1)University of Maryland Center for Environmental Science, (2)Ecological Society of America, (3)National Ecological Observatory Network (NEON), Inc, (4)West Virginia University, (5)Bentley University. *The Potomac River Basin as a landscape-scale classroom for exploring the future of environmental decisions.*


**PS 4-48** Kiemow, KM1, P Allen2, D Kirschte1, KL Shea1, A Herrera2 and T Mourad2, (1)Wilkes University, (2)Cornell University, (3)Bentley University, (4)St. Olaf College, (5)Ecological Society of America. *Using data discovery to promote ecological understanding in undergraduate ecology courses: The EcoEd DL and sience pipes collaboration.*

**PS 4-49** Malin, R1, SA Pierce2 and R Rich3, (1)The University of Texas at Austin, (2)Jackson School of Geosciences, The University of Texas at Austin, (3)University of Minnesota. *Data Flow Infrastructure Initiative (DFII): Coupling inventory practices and data collection technology to enhance research productivity and information access.*

**PS 4-50** Heinz, CA, Benedictine University. *iPads and ecology education.*

**PS 4-51** Fernandez, DS and RL Tremblay, University of Puerto Rico at Humacao. *Experiences in quantitative conservation biology and critical thinking for undergraduate students.*

**PS 4-52** Alva, JS, UTEP. *Using motion sensor cameras to examine wildlife use of water bodies in the northern Chihuahuan Desert.*

**PS 5 - Stewardship**  
Exhibit Hall 3, Austin Convention Center

**PS 5-53** Hung, J, CB Zou, DJ Turton, RE Will, DM Engle and SD Fuhlendorf, Oklahoma State University. *Interactive effects of vegetation and soil types on soil water dynamics in woody-encroached grasslands.*


**PS 5-55** Philipp, D, M Savin, K Coffey and B Briggs, University of Arkansas. *Utilization of legumes in cattle grazing systems to minimize synthetic N input.*

**PS 5-56** Rodstrom, RA1, A Del Pozo1, B Carlson1, N Kittelson2, E Hannom2 and JJ Brown1, (1)Washington State University, (2)Idaho Department of Lands, (3)Fresno Department of Agriculture. *Environmentally friendly pest control: Natural enemies and alternative chemistry.*

**PS 5-57** Miesel, JR, MD Raudenbush, MJ Renz and RD Jackson, University of Wisconsin-Madison. *Nitrogen dynamics, soil respiration, and microbial exoenzyme activity in contrasting perennial bioenergy systems in southwestern Wisconsin.*

**PS 5-58** Lovell, ST, AB Bennett, R Ferguson and JR Taylor, University of Illinois. *Multifunctional urban agriculture - Supporting earth stewardship in human-dominated ecosystems.*

**PS 5-59** Jaber, F and S Mohan, Texas A&M University. *Evaluating best management practices for flood mitigation and stormwater contaminant removal in urban environments.*

**PS 5-60** Gibson, K, Stanford University. *Environmental Rhetoric and Communication Strategies.*

**PS 5-61** Kummerow, DMP2 and VJ Watson2, (1)Curtin University, (2)University of Montana. *Institutions to reduce fertility rates.*

**PS 6 - Community Assembly and Neutral Theory**  
Exhibit Hall 3, Austin Convention Center

**PS 6-62** Razafrandatsima, OH, S Mehtani and AE Dunham, Rice University. *Extinction of large Malagasy primate species altered their community assemblage trait structure.*


**PS 6-64** Moore, JE1 and S Franklin2, (1)The University of Memphis, (2)University of Memphis. *Understanding the relative role of disturbance and species interactions in shaping Mississippi River island plant communities.*

**PS 6-65** Henderson, AN1, BW Blonder2, CA Lamanna2, LL Sloat2, AJ Kerkhoff1 and BJ Enquist1, (1)Kenyon College, (2)University of Arizona, (3)University of Arizona and The Santa Fe Institute. *Plant community assembly and the role of intraspecific functional trait variability in alpine meadows.*

**PS 6-66** Stokes, KH and P Stiling, University of South Florida. *The effect of scale on associational resistance and a test of the mechanism in the Asphondylia-Borrichia-Iva system.*

**PS 7 - Community Disturbance and Recovery**  
Exhibit Hall 3, Austin Convention Center

**PS 7-67** Johnson, J1, E Muta1, A West1, S Sabaratnam1 and RE Emanuel2, (1)Livingstone College, (2)North Carolina State University. *Assessing secondary ecosystem succession in Livingstone Forest, NC.*

PS 7-69 Holzmuehler, EJ, DJ Gibson and PF Suchecki, Southern Illinois University. Central hardwood forest composition following a super derecho storm event.

PS 7-70 Michaletz, ST and EA Johnson, University of Calgary. P. glauca seed survival during wildfire: Post-fire recruitment depends on the timing of fire occurrence relative to seed development.

PS 7-71 Gilland, KE and BC McCarthy, Ohio University. Microsite effects on natural regeneration of anthropogenically disturbed habitats in eastern Ohio.


PS 7-73 Levy, MA and JR Cumming, West Virginia University. Development of soil, biodiversity, and arbuscular mycorrhizae on pasture-reclaimed surface mines in Appalachia.

PS 8 - Community Pattern and Dynamics

Exhibit Hall 3, Austin Convention Center

PS 8-74 Shen, G1, F He1, R Waagmeesters2, ZS Chen3, P Ding1, Z Hao1, IF Sun1 and M Yu4, (1)Sun Yat-sen University, (2)Aalborg University, (3)National Taiwan University, (4)Zhejiang University, (5)Institute of Applied Ecology, Chinese Academy of Sciences, (6)Tunghai University. Separating the effects of dispersal limitation and habitat heterogeneity on spatial distributions of species in tree communities.

PS 8-75 King, C and RM Muzika, University of Missouri. A 400 year history of canopy disturbance in pine-oak forests of the Ozark Highlands, Missouri, USA.

PS 8-76 Sue, R1, JL Fail Jr1, J Jackson1, M Talley1, M Jackson1, C Grimslay1 and RE Emanuel2, (1)Johnson C. Smith University, (2)Appalachian State University. Ground truthing LIDAR data within a successively diverse piedmont forest.

PS 8-77 Gilbert, JC, JS Kush and RJ Barlow, Auburn University. Are the longleaf pine ecosystem restoration and conservation practices of today sustainable?

PS 8-78 Massi, KG1 and MA Batalha2, (1)Universidade de Brasilia, (2)Universidade Federal de Sao Carlos. The short and unseasonal fruiting of plants: Competition escape.

PS 8-79 Cook, JE, University of Wisconsin at Stevens Point. Understory turnover and species disappearance in second growth forests - patterns across three spatial scales.

PS 8-80 Gutiérrez del Arroyo Santiago, O and C Nytch, University of Puerto Rico. The effects of microhabitat variability on intra-annual tree seedling mortality in a montane tropical forest.

PS 8-81 Bittel, AT, BL Foster and SE Himan, University of Kansas. Community assembly history influences primary productivity in a developing tallgrass prairie.

PS 8-82 DeWalt, SJ1, K Ickes1 and BN Taylor2, (1)Clemson University, (2)College of Charleston. Determinants of seedling survival in tropical rainforest on the island of Dominica. Lesser Antilles.

PS 8-83 Pec, GJ and GC Carlton, California State Polytechnic University, Pomona. Impacts of non-native grasses in a coastal sage scrub-chaparral transition zone.

PS 8-84 Zokan, MA and JM Drake, University of Georgia. Patterns of species diversity in a hyper-rich zooplankton community.

PS 8-85 Barthel, ZE1, DA Smith1, CJ Sutton1, RE Emanuel2 and LS Jernigan1, (1)University of North Carolina at Pembroke, (2)North Carolina State University. Assessment of secondary ecosystem succession in Hoke County, North Carolina.

PS 8-86 Elliott, KJ1 and J Vose2, (1)USDA Forest Service Southern Research Station, (2)USDA Forest Service. Age and distribution of an evergreen clonal shrub in the Coweta Basin: Rhododendron maximum L.

PS 8-87 Pesek, MF, University of Kansas. Seed availability and soil fertility interact to govern the successional dynamics of plant diversity in a grassland ecosystem.

PS 8-88 Ikeda, H1, K Kubota2, A Kagawa1 and T Sota2, (1)Forestry and Forest Products Research Institute, (2)University of Tokyo. Diverse diet compositions among harpaline ground beetle species revealed by mixing model analyses of stable isotope ratios.


PS 8-90 Pastore, AI, CM Prather, RD Ellis, ES Gornish and TE Miller, Florida State University. Testing mechanisms of the intermediate disturbance hypothesis using long-term data of saxicolous lichens.

PS 8-91 Woods, NN1 and MN Miriti2, (1)The Ohio State University, (2)The Ohio State University. The relative importance of abiotic and biotic factors for seedling establishment in the Colorado Desert.


PS 8-93 Collier, JL, Y Liu and SL Bell, Stony Brook University. The plankton community context of blooms of the harmful alga Aureococcus anophagefferens on the south shore of Long Island, NY, USA.

PS 8-94 Roswell, ME1 and J Harte2, (1)Swarthmore College, (2)University of California, Berkeley. Spatial patterns suggest warming-driven dominance shift reflects changes in competition in Rocky Mountain meadow community.

PS 8-95 Murphy, SJ and BC McCarthy, Ohio University. The effects of slope aspect on the spatial patterning of a mixed mesophytic old-growth forest.

PS 8-96 Pillsbury, FC1, DPC Peters1, J Yao1 and GS Okin2, (1)USDA Agricultural Research Service, (2)UCLA. Multiscale drivers of spatially variable grass production and loss in the Chihuahuan Desert.

PS 8-97 Edgerton, JM, MW Kershner and CB Blackwood, Kent State University. Detrital Foundations of Microbial, Invertebrate, and Amphibian Community Structure in Upland and Riparian Forested Vernal Pools.

PS 8-98 Philpott, SM1, CJ Murnen1, DJ Gontier2 and GH Dominguez3, (1)University of Toledo, (2)University of Michigan, (3)Finca Irlanda Research Station. Food webs in the litter: Effects of food addition on decomposition and ant communities in coffee agroecosystems.

PS 8-99 Sides, MA, DB Murray and JD White, Baylor University. Effects of disturbance on woodland composition inertia determined by analysis of historical landcover data.

PS 8-100 Bangle, DN1, DJ Merker2 and JC Brinda3, (1)USBR-Multi-Species Conservation Program, (2)USDA-NRCS, (3)University of Nevada Las Vegas. Soil properties and their effect on within site patchiness of the rare plant Arctomecon californica in the Mojave Desert.

PS 8-101 Ennis, KK1 and DJ Gontier2, (1)University of Toledo, (2)University of Michigan. BIOTIC and temporal influences on spatial distribution of dominant and subdominant ground-foraging ants in a tropical agroecosystem.
PS 9 - Trophic Dynamics and Interactions
Exhibit Hall 3, Austin Convention Center

PS 9-105 Ralston, CR1, SA Peterson2 and NV Ralston1, (1) University of North Dakota, (2) Oregon State University. Influence of environmental selenium on mercury bioaccumulation in stream fish of the western US.


PS 9-107 Missink, JE1, AJ Meier1, B Kessler1, SR Borrett2 and M Bartley1, (1) Western Kentucky University, (2) University of North Carolina Wilmington. Influences of microbial loops on connectivity of food web networks.

PS 9-108 Schulzitz, SE1, MM Chumchal2, J Burnham3, K Burnham4 and JA Johnson1, (1) University of North Texas, (2) Texas Christian University, (3) Augustana College, (4) High Arctic Institute. Comparison of mercury in birds at temperate, sub-Antarctic and Arctic locations.

PS 9-109 Ellison, AM1 and NJ Gotelli2, (1) Harvard University, (2) University of Vermont. Moths, ants, and pitcher-plants: Small and large-scale biogeography of a tri-trophic interaction.

PS 9-110 Klass, JR1, JM Trojan1, SH Thomas2 and D Peters1, (1) New Mexico State University, (2) New Mexico State University, (3) USDA Agricultural Research Service. Nematode diversity in arid grasslands as indicators of change in soil biotic communities associated with desertification.


PS 9-112 LeVan, KE and DA Holway, University of California, San Diego. Do mutualisms between the Argentine ant and cotton aphids structure arthropod food webs in cotton?

PS 10 - Conservation Management
Exhibit Hall 3, Austin Convention Center


PS 10-114 Thomas, SM and KA Moloney, Iowa State University. Species distribution model for an invasive wetland plant – a hierarchical approach.

PS 10-115 Geary, B1, MC Green1, D Reed2, BM Ballard2 and B Howe3, (1) Texas State University - San Marcos, (2) Texas A&M University - Kingsville, (3) U.S. Fish & Wildlife Service. Movements and survival of juvenile Reddish Egrets along the Gulf Coast: The first year of life.


PS 10-117 Wei, X, The Ohio State University. Identification and removal of microbial contaminants in Upper Sugar Creek, Ohio watershed.

PS 10-118 Nunes, LF, ESACB. Biomimicry functional model for sustainability inspired by Cork Oak Forests in Portugal.

PS 10-119 Lewis, JD, Western Oregon University. Bedding habits of male deer (Odocoileus hemionus hemionus) on high-elevation summer range.

PS 10-120 Griffin, L and WJ Platt, Louisiana State University. Patch dynamics of longleaf pine (Pinus palustris): Regeneration in second-growth stands reinforces and expands concepts developed based on old-growth stands.


PS 10-124 Ruiz-González, SP1, J Golovuh2, MDC Mandujano Sánchez1 and M Rójas-Aréchiga3, (1) Instituto de Ecología, UNAM, (2) UAM-X, (3) Instituto de Ecología UNAM. Morphological description and germination of a rare cactus seed.

PS 10-125 Domic, A and G Camilo, Saint Louis University. Effects of habitat degradation on the regeneration of an Andean tree species (Polyplepis tomentella, Rosaceae).

PS 10-126 Catelli, C and EG Lamb, University of Saskatchewan. Ecological and management-related factors influencing the susceptibility of a rare Saskatchewan species (Dalea villosa var. villosa) to herbivory.

PS 11 - Restoration Ecology
Exhibit Hall 3, Austin Convention Center


PS 11-128 Leitchy, ER and WJ Platt, Louisiana State University. Long and short-term effects of fire on pine savanna groundcover vegetation.

PS 11-129 Kinsey, JC1, JT Baccus1, R Perez2 and DM Small1, (1) Texas State University, (2) Texas Parks and Wildlife. Dispersal and survival of Bobwhite quail released from surrogate.

PS 11-130 Lyons, KG, Trinity University. Applying the diversity-invasion hypothesis to test restoration as biocontrol.


PS 11-133 Henn, JH1, CR Herron-Sweet1, AE Kendig2, TK Reslind1 and KL Shea3, (1) St. Olaf College, (2) Georgia Institute of Technology. Tree growth, mortality, and reproduction in a 20-year old maple-basswood forest restoration.
Kendig, AE\textsuperscript{1}, TK Relfsand\textsuperscript{2}, JH Henn\textsuperscript{2}, CR Herron-Sweet\textsuperscript{2} and KL Shea\textsuperscript{2}. (1)Georgia Institute of Technology, (2)St. Olaf College.\textit{Productivity and soil characteristics as indices of tallgrass prairie restoration success.}

Potinos, TD\textsuperscript{1}, S Namoff\textsuperscript{2}, C Lewis\textsuperscript{3}, MP Griffith\textsuperscript{4}, J Francisco-Ortega\textsuperscript{1}, J Maschinski\textsuperscript{5} and EJ von Wettberg\textsuperscript{1}. (1)Florida International University & Fairchild Tropical Botanic Garden, (2)Claremont Graduate University & Rancho Santa Ana Botanic Garden, (3)Center for Tropical Plant Conservation, Fairchild Tropical Botanic Garden, Miami, FL, (4)Montgomery Botanical Center, (5)Fairchild Tropical Botanic Garden.\textit{Conservation genetics of the endangered Sargent’s Cherry Palm, Pseudophoenix sargentii.}

Han, HS, U Song and EJ Lee. Seoul National University.\textit{Selecting suitable macrophytes for remediation and restoration of leachate channel in a sanitary landfill.}

Foster, B, PJ Meiman, B Wolk and MW Paschke. Colorado State University.\textit{Effects of crested wheatgrass soil on native plant production.}

Cole, RJ\textsuperscript{1} and CM Litton\textsuperscript{2}. (1)University of Colorado, (2)University of Hawaii at Manoa.\textit{Changes in understory vegetation in Hawaiian wet forest 15 years after removal of nomnative feral pigs.}

Stephens, EL, PF Quintana-Ascencio and LM Castro-Morales. University of Central Florida.\textit{Seed germination and seedling survival of five endemic Florida Scrub species in intact and degraded habitats.}

Fry, JE, J Chakravarty, TD Phillips, SK Gleeson and A Reloj. University of Kentucky.\textit{Clipping response strategies of nine bunchgrasses native to the blue ash-oak savannah of the inner bluegrass region of Kentucky.}

Willey, KT\textsuperscript{1}, CM Swan\textsuperscript{1} and BL Brown\textsuperscript{2}. (1)University of Maryland, Baltimore County, (2)Clemson University.\textit{Local resource control versus regional constraints on species coexistence in restored stream reaches.}

Cox, RD and YF Chou. Texas Tech University.\textit{Smoke-stimulated germination of Native Seeds: A management option.}

Summerhayes, JR, EW Schupp and AD Reinwald. Utah State University.\textit{Changes to nutrient availabilities and cheatgrass (Bromus tectorum L.) metrics following non-surface disturbing restoration treatments in a sagebrush-steppe ecosystem.}

Schulz, KE, J Wright and S Ashbaker. Southern Illinois University Edwardsville.\textit{Is cutting and regrowth spraying more effective than cutting and stump painting to kill Asiatic bush honeysuckle (Lonicera spp.)?}

Crandall, RM\textsuperscript{1} and RE Masters\textsuperscript{2}. (1)Washington University, (2)Oklahoma State University.\textit{Response of understory plant communities to timber and fire management in a mixed-pine hardwood forest.}

Eyheralde, P, EJ Artz and WS Fairbanks. Iowa State University.\textit{Bison-mediated seed dispersal in a tallgrass prairie reconstruction.}

Andruk, CM and NL Fowler. University of Texas at Austin.\textit{The effects of initial vegetation composition, seed availability, fire and competition on herbaceous species recruitment in savannas and savanna restoration.}

Ganan, G\textsuperscript{1}, MN Miriti\textsuperscript{2}, GG Mazzochini\textsuperscript{1} and CP Paz\textsuperscript{3}. (1)Universidade Federal do Rio Grande do Norte, (2)The Ohio State University, (3)Universidade do Vale do Rio dos Sinos - UNISINOS.\textit{Pioneer effects on exotic and native tree colonizers: Insights for Araucaria forest restoration.}

Cordell, S\textsuperscript{1}, EJ Questad\textsuperscript{1}, KM Kinney\textsuperscript{2}, JR Kellner\textsuperscript{2}, JM Thaxton\textsuperscript{3} and GP Asner\textsuperscript{4}. (1)USDA Forest Service, (2)University of Maryland, (3)University of Puerto Rico, (4)Carnegie Institution.\textit{Guiding ecological restoration in invaded landscapes.}

Statz, AE, PA Seiweert and CK Meyer. Simpson College.\textit{Regional evaluation of recovery following restoration in Platte River wetlands.}

Chen, L\textsuperscript{1}, S Peng\textsuperscript{2} and E Siemann\textsuperscript{3}. (1)SunYat-Sen (Zhongshan) University & Rice University, (2)Sun Yat-Sen University, (3)Rice University.\textit{Competitive control of an exotic mangrove: Restoration of native mangrove forests by altering light availability.}

Scoles-Sciulli, SJ and LA DeFalco. US Geological Survey, Westen Ecological Science Center.\textit{Contrasting seedling survival of an early- and late-colonizing species transplanted to burned shrublands in the northeast Mojave Desert.}

**Earth Stewardship: Preserving and enhancing life's support systems**

**PS 12 - Conservation Planning, Policy, and Theory**

**Exhibit Hall 3, Austin Convention Center**

**PS 12-153** Brackeimeyer, I\textsuperscript{1} and A Mitt\textsuperscript{2}. (1)University of North Carolina, Chapel Hill, (2)University of Tennessee, Knoxville.\textit{Connect: New GIS tools supporting management of landscape connectivity for wildlife.}

**PS 12-154** Dillenberg, S\textsuperscript{1} and CB Anderson\textsuperscript{2}. (1)University of North Texas, (2)University of North Texas and Universidad de Magallanes.\textit{The evolution of conservation: A global analysis in trends in the academic literature regarding how we perceive, study and protect biodiversity.}

**PS 12-155** Iacona, GD\textsuperscript{1}, FD Price\textsuperscript{2} and PR Armsworth\textsuperscript{1}. (1)University of Tennessee, (2)Florida Natural Areas Inventory.\textit{What determines the invasiveness of protected areas?}

**PS 12-156** Brecker, TA\textsuperscript{1}, JH Kennedy\textsuperscript{2}, R Rozzi\textsuperscript{3}, F Massardo\textsuperscript{1}, RA Molina\textsuperscript{2}, A Stambuk\textsuperscript{4}, CB Anderson\textsuperscript{7}, J Ojeda Villarroel\textsuperscript{1}, Y Medina\textsuperscript{8}, C Pizarro\textsuperscript{9}, KP Moses\textsuperscript{2}, FL Marticorena\textsuperscript{10}, F Olives\textsuperscript{11}, C Saaavedra\textsuperscript{11} and F Leyton\textsuperscript{11}. (1)University of North Texas, Sub-Antarctic Biocultural Conservation Program, Omora Ethnobotanical Park, Chile, (2)University of North Texas, (3)University of North Texas and University of Magallanes - Instituto de Ecología and Biodiversity, Chile, (4)University of Magallanes and Omora Ethnobotanical Park, (5)Omora Ethnobotanical Park, Institute of Ecology and Biodiversity, Chile, (6)Omora Ethnobotanical Park, Chile, (7)University of North Texas and Universidad de Magallanes, (8)Universidad de Magallanes Programa de Conservación Biocultural Subantártica - Parque Etnobotánico Omora, (9)Universidad de Magallanes & IEB Chile, (10)Museo Martin Gusinde, Puerto Williams, Chile, (11)Liceo Donald Mc.Intyre Griffits, Puerto Williams, Chile.\textit{Oquistephractae of the southernmost watersheds of the Americas: Field environmental philosophy at the Omora Ethnobotanical Park, Chile (55°S).}

**PS 13 - Ecosystem Services Assessment**

**Exhibit Hall 3, Austin Convention Center**

**PS 13-157** Koo, J and YC Youn. Seoul National University.\textit{Urban dweller’s willingness to pay for biodiversity improvement policy in south Korea.}

**PS 13-158** O’Connell, CS. University of Minnesota.\textit{Making things fit: Modeling a sustainable, well-fed world in 2050.}

**PS 13-159** Martin, LM and BJ Wilsey. Simpson College.\textit{Exotic-native dominated grasslands exhibit differences in productivity and soil characteristics as indices of tallgrass prairie restoration success.}

**PS 13-160** Dobbs, C\textsuperscript{1} and F Escobedo\textsuperscript{2}. (1)University of Melbourne, (2)University of Florida.\textit{Analyzing the ecosystem services, disservices, and tradeoffs in an urban forest.}

**PS 13-161** Mokondoko, P and RH Manson. Instituto de Ecología, A.C.\textit{Valuing the effects of changes in land cover on water...
quality and public health in central Veracruz, Mexico.

PS 13-162 Tanzi, SC1, N Urena2 and TV Dietsch2, (1)University of Vermont, (2)Earthwatch Institute. Aboce ground biomass and soil organic matter in coffee, pasture, and forest land uses in a montane tropical landscape of Costa Rica.

PS 13-163 Hayden, L1, VT Eviner1, KJ Rice1 and CM Malmstrom2, (1)University of California Davis, (2)Michigan State University. Impacts of California grassland species on multiple ecosystem services.


PS 14 - Agroecology
Exhibit Hall 3, Austin Convention Center

PS 14-165 Eviner, VT1, B Hoorens2, R Fitzhugh2, F Zhu1 and R Venterea3, (1)University of California Davis, (2)U of Illinois, (3)USDA ARS. The impacts of elevated atmospheric carbon dioxide and ozone on litter decomposition in corn-soybean rotations.

PS 14-166 Fernández-Lugo, S, LA Bermejo, L de Nascimento, J Méndez and JR Arévalo, University of La Laguna. Short-term effects of traditional grazing exclusion on protected pastures of the Canary Islands (Spain).


PS 14-169 Dugarjav, D and ST Gower, University of Wisconsin-Madison. Biomass equations for two poplar clones grown in Arlington, WI, USA.

PS 14-170 Smith, RG1, DA Mortensen2, ME Barbercheck2 and DJ Sandy2, (1)University of New Hampshire, (2)The Pennsylvania State University. Weed seed bank dynamics in four contrasting organic feed and forage production systems.

PS 14-171 Waltz, JM and DA Landis, Michigan State University. Landscape configuration as well as composition influences coccinellid abundances in agricultural landscapes.

PS 14-172 Skillman, JE, D Jackson, J Vandermeer and I Perfecto, University of Michigan. The relative effect of Lecanicillium lecanii on the prevalence of coffee rust infections compared to shade, precipitation and coffee variety.


5 pm-5:45 pm
ESA Award Recipients’ Reception (by invitation only)
13, Austin Convention Center

5 pm-6:30 pm
Musicians Central
Registration Lobby, Austin Convention Center

5:15 pm-9:30 pm
FT 16 - FT 16 Sense of Place Biocultural Event at Lady Bird Johnson Wildflower Center–Students and developing countries $42/Non-student $57
Trinity Street Lobby Field Trip Pick Up, Austin Convention Center

Organized by: ME Lam (m.lam@fisheries.ubc.ca), R Rozzi, J Hook (jonathan.hook@unt.edu), AK Poole (alexandria.poole@gmail.com), JJ Armesto, JJ Tewsbury

6:30 pm-8 pm
Christian Ecologists Social
19A, Austin Convention Center

ESA Aquatic Section Mixer
Austin III, Radisson Hotel

ESA Public Affairs Committee and the Inaugural Business Meeting of the NEW ESA Policy Section
1, Austin Convention Center

ESA Soil Ecology Section and Microbial Ecology Joint Mixer
19B, Austin Convention Center

ESA Student Mixer
Ballroom C, Austin Convention Center

ESA Theoretical Ecology Section Mixer
18D, Austin Convention Center

ESA Vegetation Section and IAVS-NA Business Meeting and Mixer
Austin Suite, Austin Convention Center

Utah State University Ecologists Mixer
Austin I, Radisson Hotel

Yale University Press Screening of ‘Journey of the Universe’
14, Austin Convention Center

7 pm-10 pm
SS 11 - An Evening of Music: Live Performance by ESA Musicians
17A, Austin Convention Center
Organized by: N Gotelli (Nicholas.Gotelli@uvm.edu)
An evening of live music and entertainment by the ESA membership.

8 pm-10 pm
18A, Austin Convention Center
Organized by: MG Mehling (mollymehling@gmail.com), N Losin, NB Dappen, NE Osborne
Intended for ecologists interested in using photography as a communication medium, this workshop will enhance participants’ ability to use their images in ecological education, outreach, engaging audiences and research.
Speakers:
K Kline, Ecological Society of America
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<th>Time</th>
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<td>7 am-8 am</td>
<td>ESA Graduate Students and Post Doc Roundtable with ESA Leadership</td>
<td>7, Austin Convention Center</td>
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<td>ESA Southwest Chapter Brown Bag Lunch</td>
<td>17B, Austin Convention Center</td>
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<td>ESA Traditional Ecological Knowledge Section Business Meeting</td>
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<td>ESA Past Presidents’ 2015 Committee Meeting</td>
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<td>ESA Student Section Business Meeting and Awards Ceremony</td>
<td>7, Austin Convention Center</td>
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<td>ESA Canada Chapter Business Meeting</td>
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<td>7 am-9 am</td>
<td>ESA Ecosphere Editor in Chief Meeting</td>
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<td>ESA SEEDS Advisory Board Meeting</td>
<td>Treaty Oak, Radisson Hotel</td>
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<td>ESA Rocky Mountain Chapter Business Meeting</td>
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<td>8 am-5 pm</td>
<td>ESA Vegetation Classification Panel</td>
<td>Lakeview, Radisson Hotel</td>
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<td>11:30 am-1:15 pm</td>
<td>ESA Past Presidents’ 2015 Committee Meeting</td>
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<td>Carleton College Alumni and Friends Brown Bag Lunch</td>
<td>Ballroom F, Austin Convention Center</td>
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<td>12 pm-1 pm</td>
<td>ESA Mexican Chapter Annual Business Meeting: Challenges for Ecology in Latin America</td>
<td>Skyline, Radisson Hotel</td>
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<td>ESA Paleocology Section Business Meeting</td>
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<td>Ecology Letters Editorial Board Meeting</td>
<td>Austin Suite, Austin Convention Center</td>
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<td>GLBT Ecologists Brown Bag Lunch</td>
<td>Old Pecan St, Radisson Hotel</td>
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<td>Penn State Ecology Luncheon</td>
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<td>Oecologia Editorial Board Reception (by invitation only)</td>
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<td>ESA Fund for the Future Reception (by invitation only)</td>
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<td>Michigan Ecology Mixer</td>
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<td>NEON Meet &amp; Greet</td>
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<td>6:30 pm-8 pm</td>
<td>All Tropical Biology Mixer Hosted by OTS</td>
<td>Lakeview, Radisson Hotel</td>
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<td>Ecology Letters Drinks Reception</td>
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<td>Oecologia Editorial Board Reception (by invitation only)</td>
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Tuesday Sessions

7 am-11:30 am

7 am-8 am

ESA Graduate Students and Post Doc Roundtable with ESA Leadership
7, Austin Convention Center

7 am-9 am

ESA Ecosphere Editor in Chief Meeting
Austin Suite, Austin Convention Center

ESA Frontiers Editorial Board Meeting
1, Austin Convention Center

ESA Meetings Committee Meeting
ML 13-level 2, Austin Convention Center

ESA SEEDS Advisory Board Meeting
Treaty Oak, Radisson Hotel

7:15 am-8 am

ESA Rocky Mountain Chapter Business Meeting
19B, Austin Convention Center

7:30 am-5 pm

ESA Leaf Teachers’ Meeting
10B, Austin Convention Center

8 am-9 am

ESA Centennial Committee Meeting
ML 12-level 2, Austin Convention Center

8 am-11:30 am

SYMP 4 - Building a Global Sense of Place, Responsibility, and Stewardship
Ballroom E, Austin Convention Center

Organized by: ME Lam (mimibethlam@gmail.com), AK Poole

Endorsed by: Human Ecology, Natural History, Traditional Ecological Knowledge

Moderator: ME Lam

This symposium introduces ecologists to sense of place, from the research perspectives of various sub-disciplines within ecology, the social sciences and the humanities, to integrate a firm scientific base from which to explore the knowledge and pathways needed to build a global sense of place, responsibility and stewardship.

8:00 AM Introductory Remarks

8:10 AM SYMP 4-1 Chapin, III, FS, University of Alaska Fairbanks. Strengthening sense of place at multiple scales as a foundation for Earth Stewardship.

8:30 AM SYMP 4-2 Williams, DR1, L Yung2 and ME Patterson2, (1)USDA Forest Service, (2)University of Montana. Sustaining local senses of place in a global world: Some critical reflections.

8:50 AM SYMP 4-3 Eyles, JD, McMaster University. Relating sense of place in urban environments to health and well-being.

9:10 AM SYMP 4-4 Poole, AK1, R Rozzi2, AE Pérez-Quintero3 and Y Medina4, (1)Center for Environmental Philosophy, Institute of Applied Science, University of North Texas, (2) University of North Texas and University of Magallanes - Instituto de Ecología y Biodiversidad, Chile, (3)University of Puerto Rico, (4)Universidad de Magallanes Programa de Conservación Biocultural Subantártica - Parque Etnobotánico Omora. Identifying drivers of biocultural homogenization and an urban sense of place.

9:30 AM Break

9:40 AM SYMP 4-5 Trosper, RL, University of British Columbia. Relationships among traditional ecological knowledge and the ecological sciences.

10:00 AM SYMP 4-6 Pitcher, TJ, University of British Columbia. Changing places: Local knowledge and shifting baselines in marine ecosystems.

10:20 AM SYMP 4-7 Figueroa, RM, University of North Texas. Science, policy, and justice in climate change mitigation and adaptation strategies: An argument for indigenous and local knowledge contributions.

10:40 AM SYMP 4-8 Berkes, F, University of Manitoba. Building stewardship by re-linking social-ecological systems through a sense of place.

11:00 AM Panel Discussion

SYMP 5 - Plugging Back in to Earth’s Life-support Systems: Advances in Ecosystem Service Science That Make a Difference
Ballroom C, Austin Convention Center

Organized by: H Tallis, T Ricketts

Moderator: T Ricketts

The study of earth's life-support systems has potential to integrate diverse fields of biological and social science, and influence every corner of society. This symposium highlights recent advances in modeling ecosystem services in diverse policy contexts and looks forward to the future of this science-policy interface.

8:00 AM SYMP 5-1 Kareiva, P and J Molnar, The Nature Conservancy. Delivering on our promises: Making ecosystem services work for businesses and governments.


8:30 AM SYMP 5-3 Arkema, KK1, M Ruckelshaus2, A Guerry3, CK Kim1, M Papenfus1, J Toft1, G Guannel, G Verutes2 and JR Bernhardt2, (1)Stanford University, (2)Natural Capital Project, (3)The Nature Conservancy, (2)The Natural Capital Project & Stanford University. Calming the waves in marine spatial planning: Modeling ecosystem services in a multi-stakeholder process on Vancouver Island, Canada.

8:45 AM SYMP 5-4 Tallis, H and S Wolny, Stanford University. Including people in the mitigation hierarchy: Mapping ecosystem service winners and losers in Colombia.

9:00 AM SYMP 5-5 Benitez, S1, A Calvache1, H Tallis2, S Wolny2, A Jarvis3, N Uribe3 and J Valencia3, (1)The Nature Conservancy, (2)Stanford University, (3)CIAT- Centro Internacional para la Agricultura Tropical. Targeting water fund investments based on biophysical efficiency, social preferences and climate vulnerability.

9:15 AM Panel discussion

9:40 AM Break
9:50 AM SYMP 5-6 Bennett, EM, A Gonzalez, MJ Lechowicz and JM Rhemtulla, McGill University. Ecosystem services and the future of production systems.

10:05 AM SYMP 5-7 Collins, S, USDA. Establishing new ecosystem service markets: The status of debate in the US federal government.


10:35 AM SYMP 5-9 Mooney, H, Stanford University. The emerging Global Biodiversity Observation Network: Status and trends of ecosystem services.

10:50 AM Panel discussion

**SYMP 6 - Towards Trait-Based Disease Ecology: Integrating Theory and Data across Kingdoms**

Ballroom G, Austin Convention Center
Organized by: JP Cronin (jpatrickcronin@gmail.com), F Keesing, CT Webb
Moderator: JP Cronin
This symposium addresses fundamental issues that limit the development of ecological theory and its application to conservation medicine by 1) identifying data gaps for relationships between the environment, functional traits, and epidemiological parameters and 2) identifying theoretical gaps that limit the integration of emerging trait-based models with traditional disease models.

8:00 AM Welcoming Remarks

8:05 AM SYMP 6-1 Keesing, F1 and RS Ostfeld2, (1)Bard College, (2)Cary Institute of Ecosystem Studies. Key challenges facing conservation medicine.

8:25 AM SYMP 6-2 Previtali, MA1, F Keesing2 and RS Ostfeld1, (1)Cary Institute of Ecosystem Studies, (2)Bard College. Mammalian host traits and species contributions to disease transmission.

8:45 AM SYMP 6-3 Welsh, ME, JP Cronin and C Mitchell, University of North Carolina at Chapel Hill. Plant host physiology and risk of infection with generalist, vector-borne pathogens.

9:25 AM Break

9:35 AM SYMP 6-4 Han, BA1, AW Park2 and S Altizer1, (1)University of Georgia, (2)Odum School of Ecology, University of Georgia. Body size scaling of host behavioral traits to predict infectious disease dynamics among mammals.

9:55 AM SYMP 6-5 Vredenburg, VT, San Francisco State University. Topic: Amphibian traits and fungal disease risk.

10:15 AM SYMP 6-6 Kilpatrick, AM, University of California, Santa Cruz. Topic: Host traits and their contribution to pathogen amplification.


10:55 AM SYMP 6-8 Webb, CT, Colorado State University. Using traits-based approaches to understand the dynamics of community composition.

11:15 AM Discussion

**OOS 7 - Earth Stewardship in Action: Examples and Milestones**

16B, Austin Convention Center
Organized by: ME Power, M Gleason
Moderator: ME Power
Speakers in the OOS will present examples of implementation of earth stewardship from a variety of working ecosystems, and will discuss how they are assessing, or will assess, whether their efforts are moving the system towards more resilience and sustainability.

8:00 AM OOS 7-1 Gleason, M, The Nature Conservancy. Transforming an ailing fishery: California’s central coast groundfish.

8:20 AM OOS 7-2 Reed, Sr., R1, FK Lake2 and B Tripp1, (1)Karuk Tribe, (2)U.S. Forest Service, Pacific SW. Earth stewardship and Karuk world renewal on the middle Klamath river.

8:40 AM OOS 7-3 Sisk, TD, Northern Arizona University. Ranching, local ecological knowledge, and the stewardship of public lands.

9:00 AM OOS 7-4 Hobbie, SE1, LA Baker2, C Fissore3, JY King2, JA McFadden3 and KC Nelson1, (1)University of Minnesota, (2)University of Minnesota, (3)University of California. Earth stewardship begins at home: Quantifying the biogeochemical impacts of household choices in the Minneapolis-Saint Paul, Minnesota, metropolitan area.


9:40 AM Break


10:10 AM OOS 7-7 Imhoff, ML, NASA’s Goddard Space Flight Center. Gray wave of the great transformation: A satellite view of urbanization, climate change, and biological productivity.

10:30 AM OOS 7-8 Sayre, N, University of California, Berkeley. Earth stewardship and the built environment: Climate change, scale, and devaluation.

10:50 AM OOS 7-9 Morais, TN, Environment Canada. Partnering with First Nations and other Aboriginal groups to promote stewardship and species at risk recovery in Ontario, Canada.

11:10 AM OOS 7-10 Boucher, DH, Union of Concerned Scientists. How much has reducing deforestation contributed to mitigating climate change?.

**OOS 8 - Biogeochemical Implications of Bioenergy Crop Production**

17A, Austin Convention Center
Organized by: I Gelfand (igelfand@msu.edu), SK Hamilton, GP Robertson
Moderator: SK Hamilton
As interest in renewable energy sources from agricultural crops increases it is critical to understand environmental consequences of biofuel production. In this session we will present a comparative biogeochemical analysis of proposed biomass production systems with emphasis on cellulosic feedstocks.

8:00 AM OOS 8-1 Gelfand, I1, SK Hamilton2 and GP Robertson3, (1)Michigan State University, (2)Department of Zoology, Michigan State University, East Lansing, MI 48824, (3)Department of Crop and Soil Sciences, Michigan State University, East Lansing, MI 48824. Carbon and energy balances for cellulosic biofuel crops converted from CRP lands.
8 am-11:30 am

8:20 AM OOS 8-2 Jackson, RD and H Kummel, University of Wisconsin-Madison. Linking biofuel plant communities and their management to potential C sequestration.

8:40 AM OOS 8-3 Bhardwaj, AK1, B Bass2, SK Hamilton3, P Jasrotia1 and GP Robertson3, (1)Michigan State University, (2)University of Basilicata, (3)Department of Zoology, Michigan State University, East Lansing, MI 48824. Water use and uptake limitations in alternative biofuel cropping systems.

9:00 AM OOS 8-4 Smith, CM, MB David, M Khanna, H Huang and EH DeLucia, University of Illinois. Biofuel crops and the nitrogen problem in the Mississippi River basin.


9:40 AM Break

9:50 AM OOS 8-6 Zenone, T1, J Chen1, MW Deal1, J Xu1, SK Hamilton2 and GP Robertson3, (1)University of Toledo, Toledo, OH 43606, (2)Department of Zoology, Michigan State University, East Lansing, MI 48824, (3)Department of Crop and Soil Sciences, Michigan State University, East Lansing, MI 48824. CO2 fluxes of transitional bioenergy crops: Effect of land conversion.

10:10 AM OOS 8-7 Kallenbach, C and AS Grandy, University of New Hampshire. Litter decomposition dynamics in biofuel cropping systems.

10:30 AM OOS 8-8 Jackson, CR1, KB Vache2, E Dull1, JI McDonnell1 and JL Blake3, (1)University of Georgia, (2)Oregon State University, (3)U.S. Forest Service—Savannah River. Modeling issues in up-scaling field and small watershed biogeochemistry data from biomass production experiments.

10:50 AM OOS 8-9 Palmer, MM1, DE Rothstein2, JA Forrester1 and DJ Mladenoff1, (1)University of Wisconsin-Madison, (2)Michigan State University. Nitrogen cycle impacts of short-rotation woody crop establishment across the Northern Lake States.

11:10 AM OOS 8-10 Miresmailli, S1, M Zer1, AR Zangerl1, CJ Bernacchi2, MR Berenbaum1 and EH DeLucia3, (1)University of Illinois, (2)University of Illinois/USDA-ARS. Impacts of biofuel feedstock crops on atmospheric volatile organic composition and potential consequences for global climate change.

OOS 9 - Heralding Change: How Can Plant Phenology be Used to Facilitate Sustainable Natural Resources Management?

17B, Austin Convention Center

Organized by: GW Chong (geneva_chong@usgs.gov), L Prihodko, H Steltzer, DT Barnett

Moderator: GW Chong

Plant phenology is an indicator of the condition of Earth’s life-support systems, and changes in phenology will affect other life-support systems and organisms, so we present new methods for collecting and analyzing plant phenology data and examples of how resource managers may use phenology information to facilitate sustainable resource management.

8:00 AM OOS 9-1 Enquist, CA1 and JF Weltzin2, (1)The Wildlife Society & USA National Phenology Network, (2)USA National Phenology Network. Using phenology as a tool for resource management and climate change adaptation.


8:40 AM OOS 9-3 Shory, R, Colorado State University. Data management to promote cross-site research on plant life history responses to environmental change.

9:00 AM OOS 9-4 Barnett, DT1, RH Kao2, TKampe1, JMCorkel1, M Kuester1, B Johnson3, K Krause1 and CL Meier1, (1)NEON Inc., (2)National Ecological Observatory Network (NEON), (3)NEON, Inc. Scaling from plants to landscapes: An example with invasive plants.


9:40 AM Break

9:50 AM OOS 9-6 Eaias, W2, J Nickeos2, B Tan2, PL Ma3, JM Nightingale2 and RE Wolfe1, (1)NASA Goddard Space Flight Center, (2)Sigma Space Corp at GSFC, (3)ERT Inc. at GSFC. Tracking climate effects on plant-pollinator interaction phenology with satellites and honey bee hives.

10:10 AM OOS 9-7 Gordon, WS, Texas Parks and Wildlife Department. Climate change, phenology and ecosystem management: A state manager’s perspective on assessing vulnerability and adaptive capacity.


10:50 AM OOS 9-9 Prevèy, JS, DG Knoechl and TR Seastedt, University of Colorado at Boulder. Effects of simulated grazing on grassland community composition in the Colorado Front Range.


OOS 10 - Science-Based Management Strategies and the Future of Grasslands, Shrublands, and Savannas in North America

12A, Austin Convention Center

Organized by: K Metzger, NM DeCrappeo, B Bestelmeyer, DA Pyke

Moderator: K Metzger

Science-based policy and management to adapt to global change will necessitate collaboration, unconventional partnerships, public support, and creative, engaged thinkers. We draw upon examples from grasslands, savannas and shrublands to highlight success stories in management and the general stewardship strategies underpinning them.

8:00 AM OOS 10-1 Herrick, JE1, JN Quinton2, G Baldi3 and DE Naugle4, (1)USDA Agricultural Research Service, (2)Lancaster University, (3)Universidad Nacional de San Luis, (4)University of Montana. Overview: Revolutionary land and land-use changes in grasslands, shrublands, and savannas.
OSS 11 - Multi-Factor Global Change Experiments: What Have We Learned about Terrestrial Carbon Storage and Exchange?

Organized by: PH Templer (ptempler@bu.edu)
Moderator: AB Reinmann

Our session brings together researchers focused on the effects of multiple aspects of climate change on terrestrial carbon storage among a variety of terrestrial ecosystems.

8:00 AM OSS 11-1 Finzi, AC and JE Drake, Boston University. Responses and feedbacks of coupled biogeochemical cycles to global change.

8:20 AM OSS 11-2 Hanson, PJ, SD Wullschleger, RJ Norby and C Gunderson, Oak Ridge National Laboratory. Impacts of environmental and atmospheric changes on carbon storage and exchange in upland deciduous forests: Current patterns and future possibilities.

8:40 AM OSS 11-3 Henry, HA and MK Kim, University of Western Ontario. Responses of net ecosystem CO₂ exchange and plant biomass to warming and nitrogen addition in a temperate grass-dominated system.

9:00 AM OSS 11-4 McCulley, RL, JA Nelson and EA Carlisle, University of Kentucky. Effects of elevated temperature and additional growing season precipitation on managed grassland carbon storage and flux.

9:20 AM OSS 11-5 Norby, R, JF Weltzin1, P Kardol1, CM Iversen, S Wan, C T Garten Jr. and AT Classen2, (1)Oak Ridge National Laboratory, (2)USA National Phenology Network, (3)Swedish University of Agricultural Sciences, (4)Henan University, (5)University of Tennessee. Carbon dynamics in an oldfield ecosystem: Was a multi-factor experiment the best approach for revealing responses to atmospheric and climatic change?

9:40 AM Break

9:50 AM OSS 11-6 Suseela, V and J Dukes, Purdue University. Linking the carbon cycle to climate change: Effects of warming and altered precipitation on organic matter decomposition in an old-field ecosystem.

10:10 AM OSS 11-7 Tang, J, T Sava1, S Hackley1, X Yang2, JM Melillo1, S Pelini3 and A Ellison4, (1)Marine Biological Laboratory, (2)Brown University, (3)Harvard University, (4)Harvard Forest (Harvard University). How do soil respiration and its sensitivity to temperature change with different warming experiments?

10:30 AM OSS 11-8 Hockaday, WC1, ME Gallagher2, CA Masiello3, HW Polley4, JA Baldo5 and LA Pyle6, (1)Baylor University, (2)Rice University, (3)Rice University, Houston, TX, (4)USDA, Agricultural Research Service, (5)CSIRO Land and Water, (6)University of Texas. Biochemical inventory as a tool to assay ecosystem carbon dynamics.

OSS 12 - Molecular Tools and Ecology: A Guide for Genomic-Phobic Ecologists

Organized by: A Szczepaniec (ada.s@tamu.edu), M Herde
Moderator: MD Eubanks

This symposium will feature research that successfully integrates molecular biology and ecology and will inform ecologists about the applicability and general methods involved in utilizing modern molecular tools in ecology.

8:00 AM OSS 12-1 Jones, C, University of North Carolina. High-throughput sequencing for measuring transcription: What it can and cannot tell an ecologist.

8:20 AM OSS 12-2 Verhoeven, KJ1, TOG Tytgat2, LM McIntyre3, A Biere1 and NM van Dam2, (1)Netherlands Institute of Ecology (NIOO-KNAW), (2)Radboud University, (3)University of Florida. Responses of feral Brassica to above- versus below-ground herbivores: From ecology to transcriptomics and back.

8:40 AM OSS 12-3 Willis, J, Duke University. Using genomic approaches to study environmental adaptation in Minimus.

9:00 AM OSS 12-4 Cresko, W, University of Oregon. Exposing evolution genome-wide in wild threespine stickleback.


9:40 AM Break

9:50 AM OSS 12-6 Walling, L, University of California, Riverside. Global analysis of plant and insect involvement in mutual adaptation strategies.

10:10 AM OSS 12-7 Girard, D1, W Kaiser1, M Body1, E Huguet1, A Lanoüe2, G Glevarec2 and J Casas1, (1)Centre National de la Recherche Scientifique - University of Tours, (2)University of Tours. Leafminer insects trigger the host plant physiology through an unexpected association with endosymbiotic bacteria.

10:30 AM OSS 12-8 Toth, A, Iowa State University. Evolutionary insights from behavioral genomics of natural populations of bees and wasps.

10:50 AM OSS 12-9 Anderson, JT, CR Lee and T Mitchell-Olks, Duke University. Local adaptation results from genetic...
8 am-11:30 am

tradeoffs at the QTL (Quantitative Trait Locus) level in Boechera stricta, a wild relative of Arabidopsis.

11:10 AM OOS 12-10 Hobbs, FC and K Clay, Indiana University. Disjunct eastern hemlock populations: Ancient relicts or recent long distance dispersal events?

11:30 AM OOS 12-11 Miner, BE and BB Kerr, University of Washington. Molecular mechanisms of divergent adaptation to a variable environmental stressor among neighboring Daphnia populations.

OOS 13 - Conserving Bats to Ensure a Healthy Planet
16A, Austin Convention Center
Organized by: EB Arnett, K Williams-Guillén
Moderator: EB Arnett
Bats are essential to the health of our planet and given their declining populations worldwide, conservation efforts are critical to avoid the loss of these unique mammals, whose loss would undoubtedly have negative consequences for ecosystems and human economies.

8:00 AM OOS 13-1 Kunz, TH, Boston University. *Keynote: Ecosystem services provided by bats and their roles in ecosystem health.*

8:20 AM OOS 13-2 K Williams-Guillén, University of Washington. Ecosystem services of neotropical insectivorous bats in a highly diverse tropical agroforestry system.

8:40 AM OOS 13-3 Geiselman, C¹, T Lobova² and S Mori³, (1) Columbia University, (2)Old Dominion University, (3) The New York Botanical Garden. Seed dispersal and reforestation by bats in South American rain forests.

9:00 AM OOS 13-4 Reichard, JD, LE Gonzalez, CM Casey, LC Allen and TH Kunz, Boston University. Foraging energetics and the redistribution of nutrients by Brazilian free-tailed bats.

9:20 AM OOS 13-5 Braun de Torres, EC¹, VA Brown², TH Kunz² and GF McCracken³, (1)Boston University, (2)The University of Tennessee, (3)University of Tennessee. Bats, bugs and pecans: The role of insectivorous bats in a pecan agroecosystem in central Texas.

9:40 AM Break


10:10 AM OOS 13-7 Medellin, R, Arizona-Sonora Desert Museum and Instituto de Ecologia, UNAM. Continent-wide conservation actions in the most bat speciose area in the world: The next 20 years.

10:30 AM OOS 13-8 Wallrichs, MA and K Vulinec, Delaware State University. *Golf courses: An innovative opportunity for bat conservation.*

COS 17 - Aquatic Ecology I
Ballroom B, Austin Convention Center
8:00 AM COS 17-1 Dewsbury, BM, Florida International University. The abundance, distribution and biogeochemistry of marine plants and algae in Biscayne Bay, Florida.

8:20 AM COS 17-2 Oliver, AA and RA Dahlgren, University of California, Davis. An upside-down river: Impoundments and eutrophication alter downstream predictions of water quality in the Klamath River, Oregon.

8:40 AM COS 17-3 Scoggins, M, City of Austin. Ecological effects of sewage overflows in small urban streams in Austin, TX.

9:00 AM COS 17-4 Hain, EF, BA Lamphere and JF Gilliam, North Carolina State University. *Understanding the relative influences of land use patterns and exotic species on the densities and demographic condition of Hawaii’s amphidromous fish species.*


9:40 AM Break

9:50 AM COS 17-6 Meier, O and C Johanson, Western Kentucky University. Modeling the impacts of riparian buffer restoration on water quality in the upper Green River watershed of Kentucky.

10:10 AM COS 17-7 Waletzko, EJ, The Ohio State University. Methane production from created freshwater flow-through wetlands.

10:30 AM COS 17-8 Powers, SM¹ and EH Stanley², (1)University of Wisconsin, (2)University of Wisconsin. Water chemistry responses to hydraulic manipulation of a flow-through wetland.

10:50 AM COS 17-9 Ghosh, S¹, M Moitra², EE Manis³, LT Johnson⁴, TV Royer² and LG Leff, (1)Kent State University, (2) Indiana University. Patterns of nitrogen utilization by bacteria isolated from streams with varying nitrate concentrations.

11:10 AM COS 17-10 Watson, VI¹, MW Supplee², WK Doodds³ and W McDowell⁴, (1)University of Montana, (2)Montana Department of Environmental Quality, (3)Kansas State University, (4)Clark Fork Coalition. 10 years of nutrient reductions on Montana’s Clark Fork River.
California, Davis. My neighbours drive me cannibalistic: New cannibalism mechanism reduces population growth.

11:10 AM COS 18-10 Berger-Tal, O1 and T Avgar2, (1)Ben-Gurion University, (2)University of Guelph. The glass half-full: Overestimating the quality of a novel environment is advantageous.

COS 19 - Competition II
4, Austin Convention Center

8:00 AM COS 19-1 Sigmon, E and JT Lill, George Washington University. Aggressive fighting behavior in shelter-building caterpillars.

8:20 AM COS 19-2 Smith, G1, MA Leibold1 and GA Wellborn2, (1)University of Texas at Austin, (2)The University of Oklahoma. Testing coexistence mechanisms with cryptic species of Hyalella amphipods.

8:40 AM COS 19-3 Allgood, DW and DA Yee, University of Southern Mississippi. Factors influencing the effects of larval interspecific resource competition on two species of tire-inhabiting mosquitoes (Diptera: Culicidae).

9:00 AM COS 19-4 Zeilinger, AR1, DM Olson2 and DA Andow1, (1)University of Minnesota, (2)USDA-ARS. Stink bug pests are released from competition with Helicoverpa zea larvae in transgenic Bt cotton.

9:20 AM COS 19-5 Tsao, T, SH Li and P.JL Shiner, National Taiwan Normal University. Competitive exclusion between two sister avian species (Paradoxornis webbianus and P. alphonsianus)? A test using ecological niche modeling.

9:40 AM Break

9:50 AM COS 19-6 Kramer, AM and JM Drake, University of Georgia. Population variance and extinction of two competitors consuming a common resource.

10:10 AM COS 19-7 Chang, C and MD Smith, Yale University. Resource availability differentially drives above and belowground competitive interactions between genotypes of a dominant C4 grass.

10:30 AM COS 19-8 Wright, JP and BM McGill, Duke University. Effect of biotic neighborhood on traits is more constrained for leaf-level relative to plant-level traits.


11:10 AM COS 19-10 Farrior, CE1, D Tilman2, PB Reich2, R Dybzinski1 and SW Pacala1, (1)Princeton University, (2)University of Minnesota. Evolutionarily stable strategies explain complex plant responses to simple resource addition experiments.

COS 20 - Species Interactions II
5, Austin Convention Center

8:00 AM COS 20-1 Werner, PA, Australian National University. Growth and survival of termite-hollowed trees decrease with degree of piping, contrary to commonly-held belief that termites benefit host trees.

8:20 AM COS 20-2 Martinez-Bauer, AE and M Burd, Monash University. Are ants good to an Acacia in Australia?.

8:40 AM COS 20-3 Spiesman, BJ and BD Inouye, Florida State University. The effect of landscape context on quantitative plant-pollinator networks.

9:00 AM COS 20-4 Lesmeister, DB1, EM Schauer1, CK Nielsen2 and EC Hellgren1, (1)Southern Illinois University, (2)Southern Illinois University Carbondale. Factors influencing occupancy dynamics of a carnivore guild.

9:20 AM COS 20-5 Bricker, M1 and Jl Maron2, (1)Pacific University, (2)The University of Montana. Post-dispersal seed predation limits the abundance of a long-lived perennial forb (Lithospermum ruderale). Break

9:40 AM COS 20-6 Epps, MJ and AE Arnold, University of Arizona. Specialization, generalization, and community structure in Appalachian beetle-fungus associations.

10:10 AM COS 20-7 Long, EY and DL Finke, University of Missouri. Predator identity not diversity determines the top-down suppression of an insect vector of a plant pathogen.

10:30 AM COS 20-8 O’Dwyer, J, Santa Fe Institute. Niche vs neutral and top-down vs bottom up: Bridging the gaps between theories of community assembly.

10:50 AM COS 20-9 de Roos, AM1 and L Persson2, (1)University of Amsterdam, (2)Umeå university. Effects of ontogenetic niche shifts on the structure of small communities.

11:10 AM COS 20-10 Marshall, KN, DJ Cooper and NT Hobbs, Colorado State University. Wolves, elk, and willows: Spatial variation in landscape configuration on Yellowstone’s Northern Range.

COS 21 - Biogeochemistry: C and N Cycling in Response to Global Change II
6A, Austin Convention Center

8:00 AM COS 21-1 Rodibaugh, KJ, WH Nowlin and JC Becker, Texas State University. Bacterially mediated carbon and nutrient dynamics in a highly impacted river system.

8:20 AM COS 21-2 Wissinger, BD1, MD Bell2 and BA Newingham1, (1)University of Idaho, (2)University of California, Riverside. Harvester ant responses to atmospheric nitrogen deposition in southern California deserts.

8:40 AM COS 21-3 Berdanier, AB1 and RT Conant1, (1)Colorado State University, (2)Queensland University of Technology. Regionally-differentiated estimates of cropland N2O emissions reduce uncertainty in global calculations.

9:00 AM COS 21-4 Keville, MP, CC Cleveland and JA Aylward, University of Montana. Effects of mountain pine beetle outbreak on biogeochemical cycling in whitebark pine ecosystems.

9:20 AM COS 21-5 Gerber, S1, LO Hedin2, SG Keel2 and E Shevliakova2, (1)University of Florida IFAS, (2)Princeton University. Mechanisms and pathways of N accumulation in the terrestrial biosphere and consequences for its CO2 response.

9:40 AM Break


10:10 AM COS 21-7 Ruan, L and GP Robertson, Michigan State University. The impact of N fertilizer management on nitrous oxide and methane fluxes in switchgrass.


10:50 AM COS 21-9 McCarthy, HR1 and R Oren1, (1)University of California, (2)Duke University. Stand development patterns at the Duke free air CO2 enrichment site.

11:10 AM COS 21-10 Chen, M and Q Zhuang, Purdue University. Temperature acclimation effects on carbon dynamics of the conterminous UnitedStates forest in the 21st century.
8 am-11:30 am

**COS 22 - Climate Change: Communities II**
8, Austin Convention Center

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speakers</th>
<th>Institutions</th>
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<tbody>
<tr>
<td>8:00 AM</td>
<td>COS 22-1 Evans, SE, MD Wallenstein and IC Burke</td>
<td>University of Colorado State, University of Wyoming.</td>
<td>Should long-term alter the response of soil microbial communities to moisture?</td>
</tr>
<tr>
<td>8:20 AM</td>
<td>COS 22-2 Warren, RJ, V Bahn and MA Bradford</td>
<td>Yale University, Wright State University.</td>
<td>Temperature cues phenological synchrony in ant-mediated seed dispersal.</td>
</tr>
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<td>8:40 AM</td>
<td>COS 22-3 Pelini, SL, SE Diamond and AM Ellison</td>
<td>University of Hawaii, DJ Gotelli, SJ Sanders, and RR Dunn.</td>
<td>Warmed ants: Ant responses to warming across northeastern US forests.</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>COS 22-4 Robinson, EA, GD Ryan and JA Newman</td>
<td>University of Guelph.</td>
<td>A meta-analysis of the effects of elevated CO2 on plant-arthropod interactions highlights the importance of interacting environmental and biological variables.</td>
</tr>
<tr>
<td>9:20 AM</td>
<td>COS 22-5 Barton, BT, University of Wisconsin-Madison.</td>
<td>University of Guelph, University of Wisconsin, University of California.</td>
<td>Reduced precipitation dissolves apparent competition in a bioclimatic system.</td>
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<tr>
<td>9:40 AM</td>
<td>Break</td>
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<tr>
<td>9:50 AM</td>
<td>COS 22-6 Vu, HD, J Buck, K Wieski and SC Pennings</td>
<td>University of Houston.</td>
<td>Crab driven tidal creek formation in sinking salt marshes.</td>
</tr>
<tr>
<td>10:10 AM</td>
<td>COS 22-7 Tunney, TD, KS McCann and BJ Shuter</td>
<td>University of Guelph, University of Toronto.</td>
<td>Climate change and the structure of lake food web.</td>
</tr>
<tr>
<td>10:30 AM</td>
<td>COS 22-8 Going, BM, BL Anacker and S Harrison</td>
<td>University of California, Davis, University of California - Davis.</td>
<td>Temporal stability in California grasslands.</td>
</tr>
<tr>
<td>10:50 AM</td>
<td>COS 22-9 Kopp, C, and E Cleland</td>
<td>University of California, San Diego, University of California - San Diego</td>
<td>Shrub invasion of alpine areas. An uphill battle?</td>
</tr>
<tr>
<td>11:10 AM</td>
<td>COS 22-10 Khan, S, F Lehman and J Mohan</td>
<td>University of Georgia.</td>
<td>Survival and growth of tropical tree seedlings to simulated changes in climate along an elevation-climate gradient.</td>
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**COS 23 - Community Assembly and Neutral Theory II**
9AB, Austin Convention Center

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<tr>
<td>8:00 AM</td>
<td>COS 23-1 Bewick, SA, RA Chisholm, E Akçay and W Godsoe</td>
<td>University of Tennessee, Smithsonian Tropical Research Institute.</td>
<td>Neutral Models with Overlapping Niches.</td>
</tr>
<tr>
<td>8:20 AM</td>
<td>COS 23-2 Jiang, L, and L Brady</td>
<td>Georgia Institute of Technology, Kenyon College.</td>
<td>Species diversity, invasibility, and alternative community states in sequentially assembled communities.</td>
</tr>
<tr>
<td>8:40 AM</td>
<td>COS 23-3 Valverde, OJ, KA Smemo, LM Feinstein, MW Kershner, CB Blackwood</td>
<td>Kent State University, The Holden Arboretum.</td>
<td>Evidence of beloglou community structuring and niche divergence among coexisting species in a temperate forest.</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>COS 23-4 Hulshof, CM, C Violele, BJ McGill, El Damschen, SP Harrison, BJ Enquist</td>
<td>University of Arizona, University of Maine, University of Wisconsin-Madison, University of California, Davis, University of Arizona and The Santa Fe Institute.</td>
<td>The relative importance of intra- and interspecific trait variation in the maintenance of plant species diversity.</td>
</tr>
<tr>
<td>9:20 AM</td>
<td>COS 23-5 Wang, S, A Chen, SW Pacala, and J Fang</td>
<td>Peking University, Princeton University.</td>
<td>Variation in per capital speciation rate and diversity patterns in neutral and niche-structured communities.</td>
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<th>Time</th>
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<tr>
<td>9:40 AM</td>
<td>Break</td>
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<tr>
<td>10:10 AM</td>
<td>COS 23-7 Parent, CE, PR Peres-Neto and MA Leibold</td>
<td>University of Texas at Austin, University of Quebec at Montreal.</td>
<td>Disentangling the environmental and historical biogeography effects in island species distributions: A metacommunity phylogenetics approach.</td>
</tr>
<tr>
<td>10:30 AM</td>
<td>COS 23-8 Takimoto, G, Toho University.</td>
<td>Local-regional richness relationships of metacommunities with local facilitation.</td>
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**COS 24 - Education: Research and Assessment**
9C, Austin Convention Center

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<th>Time</th>
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<tbody>
<tr>
<td>8:00 AM</td>
<td>COS 24-1 Hansen, MJ, University of British Columbia.</td>
<td></td>
<td>The use of everyday life analogies in scientific teaching.</td>
</tr>
<tr>
<td>8:40 AM</td>
<td>COS 24-3 Abraham, JK, S Allison-Bunnell and E Meir</td>
<td>SimBiotic Software.</td>
<td>Computer-based instruction and testing: Preliminary data on student scientific literacy and academic behaviors.</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>COS 24-4 Momsen, JL, E Bray Spath, TL Long, SA Wyse, and D Ebert-May</td>
<td>University of Pennsylvania, University of Tennessee.</td>
<td>North Dakota State University.</td>
</tr>
<tr>
<td>9:40 AM</td>
<td>Break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:50 AM</td>
<td>COS 24-6 Kamarainen, AM, S Metcalf, C Dede, TA Grotzer and Y Jiang</td>
<td></td>
<td>Student gains in science inquiry skills following participation in curriculum that combined EcoMUVE (Ecosystems Multi-user Virtual Environment) and field experiences.</td>
</tr>
<tr>
<td>10:10 AM</td>
<td>COS 24-7 Cook, WM, Saint Cloud State University.</td>
<td></td>
<td>Evaluating effectiveness of participation incentives in an online biological statistics course.</td>
</tr>
<tr>
<td>10:30 AM</td>
<td>COS 24-8 Popock, MJO and DM Evans</td>
<td>University of Bristol, University of Hull.</td>
<td>Conker Tree Science project: Linking public engagement with ecology and hypothesis-driven research.</td>
</tr>
<tr>
<td>10:50 AM</td>
<td>COS 24-9 Lloyd-Strovas, JD and TL Arusuffi</td>
<td>Texas Tech University.</td>
<td>Identifying patterns in environmental education and stewardship programs across Texas: a database and survey approach.</td>
</tr>
<tr>
<td>11:10 AM</td>
<td>COS 24-10 Long, T, KM Kostelnik, J Dauer, SA Wyse, JL Momsen, and D Ebert-May</td>
<td>Michigan State University, Bethel University, North Dakota State University.</td>
<td>Detecting difference downstream: Incorporating longitudinal impacts in the evaluation of reform efficacy.</td>
</tr>
</tbody>
</table>
Earth Stewardship: Preserving and enhancing earth’s life support systems

**COS 25 - Pollination II**
10A, Austin Convention Center

8:00 AM COS 25-1 Mandelik, Y1, R Winfree2 and C Kremen3, (1)The Hebrew University of Jerusalem, (2)Rutgers University, (3)University of California, Berkeley. Complementary habitat use by wild bees in agro-natural landscapes.

8:20 AM COS 25-2 Messinger, OJ3 and SD Sipes2, (1)Southern Illinois University Carbondale, (2)Southern Illinois University. Who needs common scents? The role of olfactory limitation in host-choice for a specialist bee, Diadasia.

8:40 AM COS 25-3 Manson, JS1, JP Strange2 and RE Irwin1, (1)Dartmouth College, (2)USDA-ARS. The invasive plant Linaria vulgaris affects native bumble bee populations.

9:00 AM COS 25-4 Benjamin, F1 and R Winfree2, (1)Rutgers, the State University of New Jersey, (2)Rutgers University. Pollination services from native bees: What scale matters?

9:20 AM COS 25-5 Bischoff, M1, DR Campbell1, AW Robertson2 and JM Lord3, (1)UC Irvine, (2)Massey University, (3)University of Otago. Where have all the blue flowers gone: Selection on flower color in New Zealand Wahlenbergia albolimbarina.

9:40 AM Break


10:10 AM COS 25-7 Burkle, LA1, TM Knight2 and JC Marlin3, (1)Montana State University, (2)Washington University in St. Louis, (3)University of Illinois. Comparison of historic and contemporary plant-pollinator interaction networks: Changes in phenology, loss of specialist bee species, and decreased pollinator fidelity.

10:30 AM COS 25-8 Lopera-Blair, MDP, University of South Florida. Interactions for pollination and reproductive isolation in sympatric species of Liatris (Asteraceae), in a Sandhill community, Florida.

10:50 AM COS 25-9 Carr, DE1, H Hart2, B Tawes3, R Kaczorowski1 and JM Carpenter3, (1)University of Virginia, (2)Transylvania University, (3)Rowan University, (4)University of Arizona, (5)Winchester Public Schools. Reduced pollen production and viability lowers bumblebee visitation rates to Mimulus guttatus flowers.

11:10 AM COS 25-10 Gaddis, KD and VL Sork, UCLA. Site factors affecting reproduction among subpopulations of Acacia greggii A Gray in a desert ecosystem.

**COS 26 - Herbivory II**
12B, Austin Convention Center

8:00 AM COS 26-1 Barber, NA1 and LS Adler2, (1)University of Massachusetts - Amherst, (2)University of Massachusetts. Effects of belowground herbivores on plant-pollinator interactions in cucumber (Cucumis sativus).

8:20 AM COS 26-2 West, NM and B Tenhumberg, University of Nebraska-Lincoln. Apical dominance as an optimal strategy.

8:40 AM COS 26-3 Tran, HE, L Souza, NJ Sanders and AT Classen, University of Tennessee. Plant genotype, not nutrients, shape aphid population dynamics.

9:00 AM COS 26-4 Murray, BD, CR Webster and JA Vucetich, Michigan Technological University. Chronic moose browsing impacts the architecture of balsam fir saplings.


9:40 AM Break


10:10 AM COS 26-7 Jamieson, MA1, T Seastedt2 and MD Bowers2, (1)Colorado State University, (2)University of Colorado at Boulder. Influence of soil nitrogen availability on plant allocation patterns: Allelochemical response varies with developmental stage and among plant parts.

10:30 AM COS 26-8 Cipollini, D and DM Lieurance, Wright State University. Escaping costs of induced resistance in the invasive plant, Alliaria petiolata.

10:50 AM COS 26-9 Ahern, JR, Rice University. Factors associated with the maintenance of a defensive chemical polymorphism in Xanthium strumarium.

**COS 27 - Invasion II**
13, Austin Convention Center

8:00 AM COS 27-1 Turner, KG1, RHulbauer2 and LH Riebeig1, (1)University of British Columbia, (2)Colorado State University. Phenotypic variation in an invasive weed across multiple common gardens.

8:20 AM COS 27-2, Lowery, E1, J Gurevitch1, KL Wojtas1, RA Hulbauer2 and R Sforza1, (1)Stony Brook University, (2)Colorado State University, (3)European Biological Control Laboratory, USDA-ARS. Comparing early seedling growth of Centaurea stoebe from European (native), western North American and eastern North American seed sources.

8:40 AM COS 27-3 Dugan, LE, DA Hendrickson and C Parsons, University of Texas. Predicting the distribution of an introduced fish in an endemic hotspot, Cuatro Ciengas, in Coahuila, Mexico.

9:00 AM COS 27-4 Faulkes, Z and TP Feria, The University of Texas-Pan American. Risk assessment of a mysterious invader: Marbled crayfish in Japan.

9:20 AM COS 27-5 Keser, LH1, Y Song2, FH Yu3, J Klimešová4, M Fischer1, M Dong2 and M van Kleunen5, (1)University of Bern, (2)Chinese Academy of Sciences, (3)Beijing Forestry University, (4)Academy of Sciences of the Czech Republic, (5)University of Konstanz. Determinants of invasiveness in clonal plant species.

9:40 AM Break


10:10 AM COS 27-7 Ringold, PL1, I Washburn1, TK Magee1, PR Kaufmann1 and AT Herlihy2, (1)US EPA, Western Ecology Division, (2)Oregon State University. Accounting for multiple stressors in regional stream ecosystem analysis: A demonstration with riparian invasive plants.

10:30 AM COS 27-8 Menuz, DR and KM Ketenring, Utah State University. Modeling the distribution of an invasive riparian plant species: Understanding drivers of invasion and testing model assumptions.

10:50 AM COS 27-9 Wilkerson, ML, University of California Davis. The role of the surrounding landscape matrix in invasion of conservation linkages by non-native plants.

11:10 AM COS 27-10 Alba, CM and RA Hulbauer, Colorado State University. The usefulness of biogeographic comparisons for prioritizing experimental work on plant invasions: an example with Verbascum thapsus (common mullein).
8 am-11:30 am

COS 28 - Physiological Ecology I
18A, Austin Convention Center

8:00 AM COS 28-1 Pratt, RB1, MF Tobin2 and AL Jacobsen2, (1) California State University Bakersfield, (2) California State University, Bakersfield. Xylem vulnerability to cavitation can be accurately characterized in species with long vessels: A case study with Quercus wislizeni A.DC. (Fagaceae).

8:20 AM COS 28-2 Jacobsen, AL, RB Pratt and MF Tobin, California State University, Bakersfield. Xylem vessel length and centroid measures of xylem cavitation resistance.

8:40 AM COS 28-3 Brantley, S1 and C Ford2, (1)Coweeta Hydrologic Lab, (2)USDA Forest Service. Seasonal drivers of Rhododendron maximum transpiration in forest understories in the southern Appalachians.

9:00 AM COS 28-4 Santiago, LS, K Alstad, SC Pasquin, A Pivoraroff, J Ambriz and J Stemke, University of California. Xylem vulnerability and hydraulic architecture as determinants of plant drought resistance on a desert-shrubland gradient.

9:20 AM COS 28-5 Quaresma, RM, AL Jacobsen, RB Pratt and MF Tobin, California State University, Bakersfield. Xylem vessel structure is linked to functional shifts between post-fire resprouting and unburned chaparral shrubs.

9:40 AM Break


10:10 AM COS 28-7 Tobin, MF, CA Traugh, AL Jacobsen, CC Whitelock, S Barrera, ME De Guzman, SR Del Rio and RB Pratt, California State University, Bakersfield. Relationships among water transport, biomechanics, and storage for stem xylem of 32 shrub species of the chaparral community.

10:30 AM COS 28-8 Blonder, B1, C Violle1, LD Patrick1 and BJ Enquist2, (1)University of Arizona, (2)University of Arizona and The Santa Fe Institute. Linking leaf venation networks to the worldwide leaf economics spectrum and paleoclimate.

10:50 AM COS 28-9 Taylor, SH1, PJ Franks1, SP Hulme1, E Spriggs2, PA Christin2, EJ Edwards2, FL Woodward1 and CP Osborne1, (1)University of Sheffield, (2)Brown University. Evolution of C4 photosynthesis in grasses linked to reduction in the anatomical capacity for stomatal conductance.

COS 29 - Modeling: Communities, Disturbance, Succession
18B, Austin Convention Center

8:00 AM COS 29-1 Wollrab, S1, S Diehl2 and AM de Roos3, (1)Ludwig-Maximilian-University Munich, (2)Umea University, (3)University of Amsterdam. Simple rules describe bottom-up and top-down control in food webs with alternative energy pathways.

8:20 AM COS 29-2 Holm, JA and HH Shugart, University of Virginia. GAP model validation for a subtropical dry forest and predicting poor transition of abandoned fields into secondary forests in southern Puerto Rico.

8:40 AM COS 29-3 Connolly, J1, T Bell2, C Brophy3, JA Finn4, L Kirwan5, A Luersche6, MT Sebastian1 and A Weigelt8, (1)University College Dublin, (2)University of Oxford, (3)National University of Ireland Maynooth, (4)Teagasc, (5)Waterford Institute of Technology, (6)Agroscope ART, (7)CTFC, (8)Friedrich-Schiller University, Jena. A new synthesis of models of biodiversity-ecosystem-function relationships based on pairwise species interactions.

9:00 AM COS 29-4 Miller, AD1, SH Roxburgh2 and K Shea1, (1)The Pennsylvania State University, (2)CSIRO. How frequency and intensity shape diversity-disturbance relationships.

9:20 AM COS 29-5 Reid, NM1, MM Koopman2, AJ Zellner1 and BC Carstens1, (1)Louisiana State University, (2)Eastern Michigan University. Integrating over taxonomic and phylogenetic uncertainty in analyses of phylogenetic community structure in the fluid of the pale pitcher plant (Sarracenia alata).

9:40 AM Break


10:10 AM COS 29-7 Woods, LM and JM Chase, Washington University. A metacommunity approach to modeling the effect of habitat destruction on species richness scaling.

10:30 AM COS 29-8 Young, K and BA Roundy, Brigham Young University. Seedling establishment and modeling seedling root depth of Great Basin species.

10:50 AM COS 29-9 Kulmatiski, A1, J Heavlin2 and KH Beard1, (1)University of Alaska Anchorage, (2)Utah State University. Plant-soil feedbacks quantified: model validation with experimental data shows the importance of plant-soil feedbacks to plant community development.


COS 30 - Dispersal and Colonization II
18C, Austin Convention Center

8:00 AM COS 30-1 Altermatt, F1, FCarrara2, MHolyoa3, ARinaldo4 and S Schreiber5, (1)Swiss Federal Institute of Aquatic Science and Technology (Eawag), (2)Ecole Polytechnique Federale de Lausanne ENAC, (3)University of California, Davis. Interactive effects of disturbance and directional dispersal and invasions on species richness and composition in linear and dendritic freshwater metacommunities.

8:20 AM COS 30-2 Davies, SW and MV Matz, University of Texas at Austin. Lack of coral recruitment in the Northern Caribbean: Suggestions from a “corals and cues around the world” approach.

8:40 AM COS 30-3 Hoch, JM, ER Sokal, AD Parker and JC Trexler, Florida International University. Fish movement and migration in the seasonally varying wetlands of the Florida Everglades.

9:00 AM COS 30-4 Galic, N1, H Bauevo2, P Thorbek3, A Schmolke1, E Bruns3 and P van den Brink2, (1)Wageningen University and Research Center, (2)Alterra, Wageningen University and Research Center, (3)Syngenta Ltd., (4)Helmholtz-Zentrum für Umweltforschung – UFZ, (5)Bayer CropScience. How habitat permeability influences metapopulation dynamics and population recovery in the weak flyer Chironomus riparius.

9:20 AM COS 30-5 Beaudrot, L and AJ Marshall, University of California-Davis. Tropical forest primate communities are structured more by dispersal limitation than by species sorting along environmental gradients.

9:40 AM Break
Earth Stewardship: Preserving and enhancing earth's life support systems

TUESDAY

8:00 AM COS 33-1 Thorne, JH, 1 University of California, Davis, 2University of California, Berkeley. Historic and contemporary landcover, urban areas and protected areas as a framework for regional conservation planning.

8:20 AM COS 33-2 Allen, DC, 1 University of South Florida, 2Rowan University, 3University of Florida Institute of Food and Agricultural Sciences. Contaminant-induced declines in freshwater biodiversity modify ecosystem functions: The case of the fungicide chlorothalonil.

8:40 AM COS 33-3 Selmants, PC and ES Zavaleta, University of California. Realistic species losses reduce nitrogen uptake and nitrogen-use efficiency in a California serpentine grassland.

9:00 AM COS 33-4 Rohr, JR, 1 University of Nevada, Reno, 2University of South Florida, 3Rowan University, 4University of Florida Institute of Food and Agricultural Sciences. Contaminant-induced declines in freshwater biodiversity modify ecosystem functions: The case of the fungicide chlorothalonil.


9:40 AM Break

9:50 AM COS 33-6 Handa, IT, 1 University of California, Davis, 2University of South Florida, 3Rowan University, 4University of Florida Institute of Food and Agricultural Sciences. Contaminant-induced declines in freshwater biodiversity modify ecosystem functions: The case of the fungicide chlorothalonil.

10:10 AM COS 33-7 Six, LJ, 1 University of Minnesota, 2University of Minnesota. Grassland vegetation changes over an agroforestry management cycle.

10:30 AM COS 33-8 Pendleton, RM, 1 University of Florida, 2University of California, Davis, 3University of California, Berkeley. Historic and contemporary landcover, urban areas and protected areas as a framework for regional conservation planning.

11:10 AM COS 33-10 Townley, S, 1 University of Exeter, 2University of Surrey, 3University of Cambridge. Maternal effects may alter the course of evolutionary change.

COS 31 - Evolution: Selection and Adaptation I
18D, Austin Convention Center

8:00 AM COS 31-1 Malcom, JW, University of Texas at Austin. From gene networks to evolutionary ecological dynamics.

8:20 AM COS 31-2 Dupuité, A, 1 University of Exeter, 2University of Surrey, 3University of Cambridge. Understanding the evolutionary impacts of ecosystem engineers: How have beetle-produced cavities influenced the diversification of cavity-nesting ants?

9:00 AM COS 31-3 Perry, EB and BJ Bohannan, University of Oregon. Community evolution in a bacteria-bacteriophage model.

9:40 AM Break

10:10 AM COS 31-4 Powell, S, 1 University of Missouri - St. Louis, 2University of Missouri - St. Louis, 3University of Missouri - St. Louis, 4University of Missouri - St. Louis, 5University of Missouri - St. Louis, 6University of Missouri - St. Louis, 7University of Missouri - St. Louis, 8University of Missouri - St. Louis, 9University of Missouri - St. Louis, 10University of Missouri - St. Louis, 11University of Missouri - St. Louis, 12University of Missouri - St. Louis. Population genetic structure of Bromus tectorum in western North America: Implications for the diversification of cavity-nesting ants?

10:50 AM COS 31-9 Revilla, TA, 1 University of California, Davis, 2University of California, Berkeley. Historic and contemporary landcover, urban areas and protected areas as a framework for regional conservation planning.

11:10 AM COS 31-10 Townley, S, 1 University of Exeter, 2University of Surrey, 3University of Cambridge. Maternal effects may alter the course of evolutionary change.

COS 32 - Ecosystem Function: Biodiversity II
19A, Austin Convention Center

8:00 AM COS 32-1 Narwani, A and A Mazumder, University of Victoria. Resource species diversity impacts the functioning and stability of food webs.

8:20 AM COS 32-2 Allen, DC, 1 University of South Florida, 2Rowan University, 3University of Florida Institute of Food and Agricultural Sciences. Contaminant-induced declines in freshwater biodiversity modify ecosystem functions: The case of the fungicide chlorothalonil.

8:40 AM COS 32-3 Selmants, PC and ES Zavaleta, University of California. Realistic species losses reduce nitrogen uptake and nitrogen-use efficiency in a California serpentine grassland.

9:00 AM COS 32-4 Rohr, JR, 1 University of Nevada, Reno, 2University of South Florida, 3Rowan University, 4University of Florida Institute of Food and Agricultural Sciences. Contaminant-induced declines in freshwater biodiversity modify ecosystem functions: The case of the fungicide chlorothalonil.


9:40 AM Break

9:50 AM COS 32-6 Handa, IT, 1 University of California, Davis, 2University of South Florida, 3Rowan University, 4University of Florida Institute of Food and Agricultural Sciences. Contaminant-induced declines in freshwater biodiversity modify ecosystem functions: The case of the fungicide chlorothalonil.

10:10 AM COS 32-7 Six, LJ, 1 University of Minnesota, 2University of Minnesota. Grassland vegetation changes over an agroforestry management cycle.

10:30 AM COS 32-8 Pendleton, RM, 1 University of Florida, 2University of California, Davis, 3University of California, Berkeley. Historic and contemporary landcover, urban areas and protected areas as a framework for regional conservation planning.

11:10 AM COS 32-10 Samaritani, E, 1 University of Neuchâtel, 2Max-Planck-Institut für molekulare Physiologie. Spatio-temporal variability and restoration effects on soil bacteria communities and ecosystem functions at the Thur floodplain.
8 am-11:30 am; 8 am-5 pm; 11:30 am-1:15 pm

8:20 AM COS 33-2 Barrows, CW1 and ML Murphy2, (1)University of California at Riverside, (2)University of California Riverside. Modeled climate change impacts on vegetation of the Mojave-Sonoran Desert interface.

8:40 AM COS 33-3 Wendelberger, KS1 and J Maschinski2, (1)Florida International University, (2)Fairchild Tropical Botanic Garden. Can assessing microsite and regeneration niche preferences when introducing endangered species help mitigate extinction debt?

9:00 AM COS 33-4 Dries, LA, City of Austin. Habitat reconstruction results in increased abundance, density, reproduction, and recruitment of endangered Eurycea sosorum, the Barton Springs Salamander.

9:20 AM COS 33-5 Gillespie, JH, University of Texas at Austin. Application of time-series and multiple regression techniques to assess population variability in two populations of the endangered Barton Springs Salamander (Eurycea sosorum).

9:40 AM Break

9:50 AM COS 33-6 Crawford, BA1, JC Maerz1, NP Nibbelink1, K Buhlmann1, TM Norton2 and SE Albeke3, (1)University of Georgia, (2)Georgia Sea Turtle Center, (3)University of Wyoming. Hot spots and hot moments for diamondback terrapin (Malaclemys terrapin) road mortality.

10:10 AM COS 33-7 Ruyle, LE1, BD Todd2 and JC Maerz3, (1)University of Georgia, (2)Savannah River Ecology Laboratory, (3)The University of Georgia. Effects of varying human population pressures on the critically endangered endemic Honduran Paleate Spiny-tailed Iguana, Ctenosaura melanosterna, in the Cayos Cochinos Archipelago, Honduras.

10:30 AM COS 33-8 O'Brien, JM, University of California, Davis. Estimating the risk of contact and disease transmission between bighorn and domestic sheep due to foray movements by bighorn rams.

10:50 AM COS 33-9 Brown, DJ1, JT Baccus2, DB Means3 and MRJ Forstner1, (1)Texas State University-San Marcos, (2)Texas State University, (3)Coastal Plains Institute. Short-term outcomes for juvenile amphibians after fire in a southern USA pine forest.

11:10 AM COS 33-10 Wootton, JT1 and DA Bell2, (1)University of Chicago, (2)East Bay Regional Park District. Assessing predictions of population viability analysis: Peregrine falcon populations in California.

8 am-1 pm

FT 17 - Hamilton Pool: An Example of a Past Climate Change Refugium
Trinity Street Lobby Field Trip Pick Up, Austin Convention Center
Organized by: J Poole

8 am-5 pm

ESA Vegetation Classification Panel
Lakeview, Radisson Hotel

11:30 am-1:15 pm

ESA Past Presidents' 2015 Committee Meeting
ML 12-level 2, Austin Convention Center

Carleton College Alumni and Friends Brown Bag Lunch
Ballroom F, Austin Convention Center

ESA Canada Chapter Business Meeting
ML 13-level 2, Austin Convention Center

ESA Southwest Chapter Brown Bag Lunch
17B, Austin Convention Center

ESA Traditional Ecological Knowledge Section Business Meeting
Ballroom E, Austin Convention Center

Rapid Response Team Luncheon (by invitation only)
6B, Austin Convention Center

WK 21 - Learn How to Publish in EcoEd DL, ESA's Digital Teaching Library!—$5
19B, Austin Convention Center
Organized by: KM Klemow (kenneth.klemow@wilkes.edu), KL Shea, D Kirschtel, T Mourad
Have you developed materials that you use to teach undergraduate ecology? Come learn how to publish them online! This workshop will provide an overview of the submission and review process for ecology educators interested in submitting their resources to ESA's digital teaching library. Leadership team opportunities will also be explored.

WK 29 - SEEDS Professional Development: the basics in writing for applying to graduate school--FREE
18A, Austin Convention Center
Organized by: AT Chang (antchang@ucdavis.edu), JA Reynolds
The purpose of this workshop is to elucidate the mystery of applying to graduate school by giving participants knowledge on how to effectively 1) contact potential advisors via email, and 2) write personal statements for graduate school applications.

WK 30 - 101 ways to effectively use journal articles as teaching tools--FREE
18D, Austin Convention Center
Organized by: ESJ Rauschert (erauschert@psu.edu), J Dauer, JL Momsen, A Sutton-Grier
In this workshop, we will explore how a range of learning objectives can be met by using the primary literature in a variety of ways, at all levels of undergraduate education.

WK 31 - Nature's Notebook: Tracking Phenology for Research, Management and Education in the Face of Climate Change--FREE
18C, Austin Convention Center
Organized by: JF Weltzin, CAF Enquist, A Rosemartin
This workshop will introduce participants to programs and products that can enhance our understanding of climate change impacts on natural systems through involvement in phenological research programs. Scientists, educators, managers and volunteer program coordinators are welcome.

WK 32 - Shaping the future: how students can set a precedent for Planetary Stewardship--FREE
19A, Austin Convention Center
Organized by: JT Talbot, N Zimmerman, AL Kuchy, J Ramos Jr.
Planetary stewardship remains a pending assignment in the to-do-list of many ecology students. This workshop will identify the most practical ways for ESA students to be active stewards and will
develop strategies for how we can build a foundation of planetary stewardship ethics for our generation.

**WK 33 - Funding Challenges and Opportunities for Ecological Research at Undergraduate Institutions—FREE**

18B, Austin Convention Center

Organized by: LJ Anderson (ljanders@owu.edu), R Burks

This workshop will explore a range of funding options for ecologists at primarily undergraduate institutions. Topics covered will include strategies for gaining funds from government agencies, local foundations, and corporations. Participants will also create a list of funding challenges and best practice solutions to be posted as an online resource.

12 pm-1 pm

**ESA Mexican Chapter Annual Business Meeting: Challenges for Ecology in Latin America**

Skyline, Radisson Hotel

12 pm-1:15 pm

**Ecology Letters Editorial Board Meeting**

Austin Suite, Austin Convention Center

1:30 pm-5 pm

**SYMP 7 - How We Manage Our Share of Planet Earth**

Ballroom E, Austin Convention Center

Organized by: H Balbach (Hal.E.Balbach@usace.army.mil), J Shurin, JS Brown, J Maul

Endorsed by: Applied Ecology, Agroecology Section, Aquatic Ecology, Rangeland

Moderator: H Balbach

Researchers and managers charged with responsibility for the nation’s resources will present their goals, achievements, challenges, and responsibility to the country for the results.

1:30 PM

Introductory Remarks

1:35 PM

SYMP 7-1 Berish, J, Florida Fish and Wildlife Conservation Commission. Saving ancient dunes, black holes, and burrowing turtles: The challenges of conserving gopher tortoises in Florida.

1:55 PM

SYMP 7-2 Davis, J and C Smith, Texas Parks and Wildlife Department. Where the winds blow and the microalgae grow: The changing lands and culture of the lone star state.

2:15 PM

SYMP 7-3 Salomon, AK1, L Lee1, RW Markel2, RG Martone2 and JB Shurin2. (1)Simon Fraser University, (2)University of British Columbia, (3)University of California- San Diego. Trophic cascades on temperate reefs: Managing for the resilience and adaptive capacity of coastal communities.

2:35 PM

SYMP 7-4 Diamond, DD1, LF Elliott1, C Blodgett1, D True1, K Ludeke2, D German2 and A Treuer-Kuehn2. (1)University of Missouri, (2)Texas Parks and Wildlife Department. The foundation for stewardship: Understanding the opportunities.

3:05 PM

SYMP 7-5 Hill, A, USFS Rocky Mountain Research Station. Global research, results and ramifications: Evolution of the forest service’s all lands approach.

3:25 PM


3:45 PM


4:05 PM

SYMP 7-8 Walters, JR, Virginia Polytechnic Institute and State University. The rise of the phoenix: How DoD and basic research saved the endangered red-cockaded woodpecker.

4:25 PM

SYMP 7-9 Orlofsky, A, NM Department of Transportation. A bridge to the future: How new modes of transportation will impact the future of the American transportation system.

4:45 PM

SYMP 7-10 Porter, E, USGS. Global change: Impacts and ecosystem responses to global change.

5:05 PM

Break

5:15 PM

SYMP 7-11 Norris, D, NC State University. Science for stewardship: Lessons from the Pine Tree Line.

5:35 PM

SYMP 7-12 Rapp, D, FGWA. Technology and the 21st century forest: How technology is shaping the future of forestry.

5:55 PM

Break

6:15 PM

SYMP 7-13 Pepper, K, US Forest Service. The future of the forest: How we can build a foundation of planetary stewardship ethics for our generation.

6:35 PM

SYMP 7-14 Shubert, J. C, NM State University. The disappearing sand dunes: How DoD and basic research saved the endangered dunes.

6:55 PM

Break

7:15 PM

SYMP 7-15 Heisler, T, NM State University. The future of the forest: How we can build a foundation of planetary stewardship ethics for our generation.

7:35 PM

SYMP 7-16 Shubert, J. C, NM State University. The disappearing sand dunes: How DoD and basic research saved the endangered dunes.

7:55 PM

Break

8:15 PM

SYMP 7-17 Pepper, K, US Forest Service. The future of the forest: How we can build a foundation of planetary stewardship ethics for our generation.

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8:55 PM

Break

9:15 PM

SYMP 7-19 Pepper, K, US Forest Service. The future of the forest: How we can build a foundation of planetary stewardship ethics for our generation.

9:35 PM

SYMP 7-20 Shubert, J. C, NM State University. The disappearing sand dunes: How DoD and basic research saved the endangered dunes.

9:55 PM

Break

10:15 PM

SYMP 7-21 Pepper, K, US Forest Service. The future of the forest: How we can build a foundation of planetary stewardship ethics for our generation.

10:35 PM

SYMP 7-22 Shubert, J. C, NM State University. The disappearing sand dunes: How DoD and basic research saved the endangered dunes.

10:55 PM

Break

11:15 PM

SYMP 7-23 Pepper, K, US Forest Service. The future of the forest: How we can build a foundation of planetary stewardship ethics for our generation.

11:35 PM

SYMP 7-24 Shubert, J. C, NM State University. The disappearing sand dunes: How DoD and basic research saved the endangered dunes.

11:55 PM
1:30 pm-5 pm

Water supply sensitivity and ecosystem resilience to land use change, climate change, and climate variability.

4:10 PM SYMP 9-6 Driscoll, CT,1, KF Lambert,2, FS Chapin3, CM Hart4, DB Kittredge4, DJ Nowak5, TA Spies6 and FJ Swanson6, (1)Syracuse University, (2)Harvard Forest (Harvard University), (3)University of Alaska Fairbanks, (4)University of Massachusetts, (5)US Forest Service, c/o SUNY College of Environmental Science & Forestry, (6)US Forest Service, Pacific Northwest Research Station. Integrating science and society: the role of long-term studies in environmental stewardship and policy.

4:40 PM Concluding Remarks

SYMP 9 - Assessing The Relative Contributions of Fungi and Bacteria to Terrestrial Biogeochemical Processes: State of The Art

Ballroom G, Austin Convention Center
Organized by: MD Wallenstein (mawallen@nrel.colostate.edu), K Peay
Endorsed by: Microbial Ecology, Biogeochemistry
Moderator: EA Lilleskov

This symposium brings together state of the art research on the roles of bacteria and fungi in biogeochemical processes and assesses the need for a more nuanced functional view of microbial soil communities.

1:30 PM Introductory Remarks

1:35 PM SYMP 9-1 Strickland, MS1, N Fierer2 and MA Bradford1, (1)Yale University, (2)University of Colorado. Seasonal variation in fungal bacterial dominance and its relationship to environmental factors and ecosystem processes.

2:00 PM SYMP 9-2 Allison, SD, University of California. Trait-based modeling of microbial soil decomposition.

2:25 PM SYMP 9-3 Sinsabaugh, R1, A Porras-Alfaro2 and J Herrera3, (1)University of New Mexico, (2)Western Illinois University, (3)Truman State University. The imprint of Ascomycota on the biogeochemistry of arid ecosystems.

2:50 PM SYMP 9-4 Rousk, J, Bangor University. Fungal and bacterial growth measurements in soil.

3:15 PM Break


3:50 PM SYMP 9-6 Baldrian, P, Institute of Microbiology of the ASCR. Parsing microbial community structure and function using next generation sequencing, stable isotope probing and enzyme analysis.

4:15 PM SYMP 9-7 Schneider, T, University of Zurich. Who is who in litter decomposition? Metaproteomics reveals major microbial players and their biogeochemical functions.

4:40 PM Panel Discussion

OOS 14 - Engaging with Communities and Regional Decision Makers to Sustain Earth's Life-Support Systems

16B, Austin Convention Center
Organized by: N Lymn (nadine@esa.org), G Middendorf
Moderator: N Lymn

The session goal is to increase awareness of ways in which ecologists may work with local communities on environmental issues. This requires a variety of tasks, including interacting with people with various perspectives and backgrounds. Ecologists can contribute to Earth stewardship by becoming a trusted part of a local community.

1:30 PM OOS 14-1 Wyndham, J, American Association for the Advancement of Science. Human rights and the advisory role of ecologists.

1:50 PM OOS 14-2 Middendorf, G1 and CH Nilson2, (1)Howard University, (2)University of Missouri. Guidelines for engaging outside the ecological community: Fostering local and regional interactions with communities in need.

2:10 PM OOS 14-3 Kearns, F, Pew Charitable Trusts. The potential of mindfulness and other contemplative practices in engaging with communities.

2:30 PM OOS 14-4 Lindenfeld, L1 and L Silka2, (1)University of Maine, (2)Margaret Chase Smith Policy Center. Building stakeholder partnerships for sustainable solutions.

2:50 PM OOS 14-5 Nell, JC, University of Colorado. Building institutional partnerships to address climate change adaptations and regional environmental change.

3:10 PM Break

3:20 PM OOS 14-6 Sisk, T1, MRR Loeser2 and TE Crews3, (1)Northern Arizona University, (2)Yakima Valley Community College, (3)Prescott College. Engaging in science-based environmental policy and resource management in the American west.

3:40 PM OOS 14-7 Udvardy, S, American Rivers. Working with communities to increase natural resilience against flooding in the Upper Mississippi River Basin.

4:00 PM OOS 14-8 Krasny, M and KG Tidball, Cornell University. Civic ecology.

4:20 PM OOS 14-9 Mack, Jr., J1, BM Walton2 and A Schermaier2, (1)Cleveland Metroparks, (2)Cleveland State University. Translating ecological knowledge into decision-making for the repurposing of vacant land. The vacant land rapid assessment procedure.

4:40 PM OOS 14-10 Mesmer, R1, PJ Bohlen2, M Clark3, EH Boughton1, S Hollingsed1, S Shukla3 and N Singh4, (1) Archbold Biological Station, (2)University of Central Florida, (3)University of Florida, (4)World Wildlife Fund. Increasing efficiency of monitoring environmental services on working agricultural landscapes.

OOS 15 - Spatial Spread of Invasive Species and Infectious Diseases: Theoretical and Empirical Advances

17A, Austin Convention Center
Organized by: JH Burns, MG Neubert
Moderator: A Hastings

Models to predict the speed of spatial spread are becoming increasingly sophisticated, improving our ability to predict such processes as invasion, disease dynamics, and responses to global climate change.

1:30 PM OOS 15-1 Melbourne, BA1 and A Hastings2, (1)University of Colorado at Boulder, (2)University of California, Davis. Randomness and uncertainty in spatial spread: Stochastic models and biological experiments.


2:10 PM OOS 15-3 Burns, JH1, EA Pardini2, MR Schutzenhofer3, YYA Chung4, KJ Seidler2 and TM Knight2, (1)Case Western Reserve University, (2)Washington University in St. Louis, (3)McKendree University. Differences in dispersal are more important than differences in demography to the greater invasion speed of invasive plant species than their noninvasive relatives.

2:30 PM OOS 15-4 Liebhold, AM, USDA Forest Service. Empirical
Earth Stewardship: Preserving and enhancing earth’s life support systems

analysis of forest insect invasion spread: Measurement, mechanisms, and management.


3:10 PM Break

3:20 PM OOS 15-6 Miller, TEsX, BD Inouye2 and BA Melbourne3, (1) Rice University, (2)Florida State University, (3) University of Colorado at Boulder. Sex, density dependence and the spread of invasive organisms.

3:40 PM OOS 15-7 Duke-Sylvester, SM1, R Biek2 and LA Real1, (1)Emory University, (2)University of Glasgow. The evolutionary genetic signatures of spatial dynamics during the epidemic expansion of infectious diseases.


4:20 PM OOS 15-9 Ordonez, A1 and H Oliff2, (1) University of Groningen, (2) RUG. Comparing the functional differentiation of native and alien plants across spatial scales.

4:40 PM OOS 15-10 Hock, K and NH Fefferman, Rutgers University. Impact of individual behavioral decisions and interaction structure on the spread of infectious disease in an ecosystem.

OOS 16 - Maintaining Hydrologic Connectivity to Preserve Biodiversity in a World Hungry for Hydropower

12B, Austin Convention Center

Organized by: N Lujan, KO Winemiller

Moderator: N Lujan

In this session, aquatic biologists and river conservationists from many latitudes will assemble to discuss factors that contribute to successful aquatic biodiversity conservation in the face of intense pressure to impede hydrologic connectivity beyond the limits that must be set to maintain biodiversity in lotic systems.

1:30 PM OOS 16-1 Jacobsen, D1, NK Lujan2, V Meza V3, K Roach2, V Rimarchin C1, J Arana M1 and KO Winemiller2, (1) University of Copenhagen, (2) Texas A&M University, (3) University of San Marcos. Anthropogenic impacts and longitudinal, elevational effects on the periphyton, macroinvertebrate, and fish communities of an Amazonian headwater.

1:50 PM OOS 16-2 Anderson, EP1 and CM Pringle2, (1) Florida International University, (2) University of Georgia. Challenges and opportunities for maintaining hydrologic connectivity in montane Neotropical streams.

2:10 PM OOS 16-3 Agostinho, A, LC Gomes and SM Thomaz, Universidade Estadual de Maringá. Mitigating biodiversity and ecosystem function losses in the Paraná River, the world’s most fragmented river basin.

2:30 PM OOS 16-4 Pusey, B, M Kennard and T Jardine, Griffith University. Freshwater fish and connectivity in tropical northern Australian rivers.

2:50 PM OOS 16-5 Dugan, P, WorldFish Center. Blending ecological science with development of the Mekong River: How ecologists can make a difference.

3:10 PM Break

3:20 PM OOS 16-6 Cada, G, Oak Ridge National Laboratory. The potential of technological innovations to cope with threats to biodiversity.

3:40 PM OOS 17-1 Schimel, D, NEON Inc.. NEON Continental Scale Data Products to Enable Ecological Analysis and Forecasting.

1:30 PM OOS 17-2 Phinn, S1, A Specht1, A Lowe2, M Liddell3, D Lindennmayer4, P Grace5, A Held6, H Cleugh6, A Steven6, M Grundy6, IC Prentice2 and C Walker1, (1) The University of Queensland, (2) The University of Adelaide, (3) James Cook University, (4) Australian National University, (5) Queensland University of Technology, (6) CSIRO, (7) Macquarie University. Australia’s TERN: Development a Terrestrial Ecosystem Research Network, Building on Past Knowledge to Generate New Understanding.

2:10 PM OOS 17-3 Johnson, B1, M Kuester2 and DJP Moore2, (1) NEON Inc., (2) NEON Inc.. The NEON Airborne Observation Platform: A Tool for Scaling from Organismal to Continental Scales.

2:30 PM OOS 17-4 Goodrich, DC1, D Marks2, MR Walbridge3, MS Moran1, DPC Peters4, MP McClaran5, MH Nichols1 and MB Adams6, (1) USDA-ARS-SWRC, (2) USDA ARS Northwest Watershed Research Center, (3) USDA-ARS Office of National Programs, (4) USDA ARS Jornada Experimental Range and Jornada Basin LTER Program, (5) University of Arizona, (6) USDA FS Timber and Watershed Laboratory. The Need for a Long-Term Agro-Ecosystems Research (LTAR) Network: Using Long-Term USDA Experimental Sites as Basis for Continental Scale Agro-Eco-Hydrology.

2:50 PM OOS 17-5 Mclachlan, J1, CJ Paciorek2, D Dietze3, DR Foster4, ST Jackson5 and JW Williams6, (1) University of Notre Dame, (2) University of California, Berkeley, (3) University of Illinois, (4) Harvard University, (5) University of Wyoming, (6) University of Wisconsin-Madison. Putting Climate Change in Context: What Is the Signal of Vegetation Change Over the Last 2000 Years?

3:10 PM Break


3:40 PM OOS 17-7 Moore, DJ, NEON Inc.. Development of a Data Assimilation System to Study Ecosystem Exchange at the National Scale Using Data from the National Ecological Observatory Network.

4:00 PM OOS 17-8 Crimmins, TM1, EGC Denny2, CAF Enquist1, RL Marsh3, A Rosemartin3 and JW Weltzin4, (1) USA National Phenology Network, (2) Northeast Regional Phenology Network, (3) USA National Phenological Network &
1:30 pm-5 pm

University of Arizona. Tracking climate change using Nature’s Notebook.

4:20 PM OOS 17-9 Jorgensen, PS1, K Bohning-Gaese2, K Thorup1, AP Tøttrup1 and C Rabbek1, (1)University of Copenhagen, (2)Biodiversity and Climate Research Centre (BfK-P). Global change response in European birds: Trait-environment interactions link short-term dynamics with long-term trends.


OOS 18 - Preserving & Enhancing Biodiversity in Temperate Deciduous Forests: Response of the Herb Layer to Anthropogenic Disturbance Regimes

14, Austin Convention Center

Organized by: JI Burton (julia.burton@oregonstate.edu), FS Gilliam, DJ Mladenoff, CC Kern

Moderator: JA Forrester

In this session we examine the effects of a range of anthropogenic disturbance regimes on forest ground-layer plant communities and explore the challenges of characterizing these effects within a general framework.

1:30 PM OOS 18-1 Gilliam, FS, Marshall University. Effects of excess nitrogen deposition on the herbaceous layer of temperate hardwood forests.

1:50 PM OOS 18-2 Flinn, KM, Emory & Henry College. Agricultural legacies in forest herb communities.

2:10 PM OOS 18-3 Luken, JO, Coastal Carolina University. Plant invasion of forests: Divergent narratives and possible explanations.

2:30 PM OOS 18-4 Johnson, SE1 and DM Waller2, (1)University of Wisconsin-Madison, (2)University of Wisconsin. A river runs through it: 55-year changes in floodplain forest herbs in Wisconsin.


3:10 PM Break

3:20 PM OOS 18-6 Kern, CC1, PB Reich2, RA Montgomery2 and TF Strong3, (1)USDA Forest Service, (2)University of Minnesota, (3)USDA Forest Service, Retired. Harvest-created canopy gap size influences niche partitioning of the ground-layer plant community in a northern hardwood forest.

3:40 PM OOS 18-7 Burton, J1, DJ Mladenoff2, JA Forrester3 and MK Clayton3, (1)Oregon State University, (2)University of Wisconsin-Madison, (3)UW-Madison. Anthropogenic constraints to the restoration of old-growth characteristics to younger second-growth stands.

OOS 19 - From Reasoning to Action: Environmental Literacy for Effective Earth Stewardship

15, Austin Convention Center

Organized by: JH Doherty (dohertyjh@gmail.com), JW Schramm, EG Keeling

Moderator: JW Schramm

This session brings together cutting-edge research by ecologists and learning scientists on the reasoning of students as they grapple with ecological concepts, such as carbon cycling, community assembly, natural selection, and water dynamics, across their formal education curriculum and how that reasoning is connected with citizenship decisions and quantitative reasoning.

1:30 PM OOS 19-1 Covitt, B1, JH Doherty2 and L Pito3, (1)University of Montana, (2)Michigan State University, (3)Colorado State University. Developing an environmental science citizenship learning progression framework.

1:50 PM OOS 19-2 Schuttlefield, JD1, KL Gunckel2 and BA Covitt3, (1)University of Wisconsin, Oshkosh, (2)University of Arizona, (3)University of Montana. Developing a learning progression for water in socio-ecological systems.

2:10 PM OOS 19-3 Cano, A1 and A Whitmer2, (1)University of California, Santa Barbara, (2)Georgetown University. Santa Barbara Middle School Student Discourse using IPCC Climate Change Evidence.

2:30 PM OOS 19-4 Mayes, RL1, M Lyford1, M MacGregor1, S Parker1 and J Schuttlefield2, (1)University of Wyoming, (2)University of Wisconsin, Oshkosh. Role of quantitative reasoning on the development of environmental literacy.

2:50 PM OOS 19-5 Keeling, EG1, AR Berkowitz1, CW Anderson2, RL Mayes3 and R Foot4, (1)Cary Institute of Ecosystem Studies, (2)Michigan State University, (3)University of Wyoming, (4)Towson University. Teaching strategies for improving public understanding of the global carbon cycle.

3:10 PM Break

3:20 PM OOS 19-6 Doherty, JH, JW Schramm and CW Anderson, Michigan State University. The role of heredity, environment, and agency in students’ accounts of adaptation by selection and phenotypic plasticity.

3:40 PM OOS 19-7 McMahon, S1, LM Hartley2 and B Wilke3, (1)Colorado State University, (2)University of Colorado Denver, (3)Michigan State University. Student understanding of processes and principles related to species diversity in communities.

4:00 PM OOS 19-8 Berkowitz, AR1, S Parker2, R Tschillard3, B Caplan1, JH Doherty4, A Whitmer5 and JC Moore6, (1)Cary Institute of Ecosystem Studies, (2)University of Wyoming, (3)Poudre Learning Center, (4)Michigan State University, (5)Georgetown University, (6)Colorado State University. How can professional development help teachers use learning progressions in teaching for environmental science literacy?.

4:20 PM OOS 19-9 Byrne, LB1, M Lowman2 and T Mourad3, (1)Roger Williams University, (2)North Carolina State University, (3)Ecological Society of America. What does it mean to be environmentally literate?.

COS 34 - Aquatic Ecology II

Ballroom B, Austin Convention Center


1:50 PM COS 34-2 Luhring, TM1 and RM Holdo2, (1)University of Missouri, (2)University of Florida. Body size as an adaptation for drought survival in stochastic aquatic environments.

2:10 PM COS 34-3 Phillips, CC1, DE Pears2 and JW Moore3, (1)Simon Fraser University, (2)NOAA National Marine Fisheries Service. Ecological consequences of rapid life-history evolution in rainbow trout.

2:30 PM COS 34-4 Matthews, KR, Conservation of Biodiversity Program. California golden trout and climate change: Will their stream habitat be resilient to increased water temperature.
4:00 PM COS 34-8 Lemasson, BH\textsuperscript{1}, D Smith\textsuperscript{2} and RA Goodwin\textsuperscript{3}, (1)U.S. Army Engineer R & D Center, (2)U.S. Army Engineer R&D Center, (3)U. S. Army Engineer R&D Center. Assessing the utility of drift-feeding behavior to reduce the uncertainty of habitat suitability analyses using a virtual species.


4:40 PM COS 34-10 Phillipson, IC and DA Lytle, Oregon State University. Habitat fragmentation in desert streams drives population structure of an aquatic insect.

4:20 PM COS 34-9 Friggen and RF Brown, University of New Mexico. The role of ground-water dependent vegetation communities: Decomposition and facilitates soil aggregate formation in the Chihuahuan Desert grassland.

5:00 PM COS 34-10 Okin and GS Okin, University of Washington. Habitat associations of desert small mammal communities at ground-water dependent vegetation communities.

2:10 PM COS 35-2 Hewins, DB\textsuperscript{1}, HL Thropp\textsuperscript{1}, SR Archer\textsuperscript{2} and GS Okin\textsuperscript{3}, (1)New Mexico State University, (2)University of Arizona, (3)UCLA. Soil-litter mixing accelerates decomposition and facilitates soil aggregate formation in a Chihuahuan Desert grassland.

2:30 PM COS 35-4 Vest, KR\textsuperscript{1}, AJ Elmore\textsuperscript{2}, JM Kaste\textsuperscript{3} and GS Okin\textsuperscript{4}, (1)Appalachian Laboratory, University of Maryland Center for Environmental Sciences, (2)University of Maryland Center for Environmental Science, (3)The College of William and Mary, (4)UCLA. Wind erosion in groundwater dependent vegetation communities.

2:50 PM COS 35-5 Raabe, TK\textsuperscript{1}, JT Baccus\textsuperscript{2}, TW Schwertner\textsuperscript{2} and TR Simpson\textsuperscript{1}, (1)Texas State University, (2)Bio-West, Inc. Habitat associations of desert small mammal communities at Ash Meadows National Wildlife Refuge, Nye County, Nevada.

3:10 PM Break

3:20 PM COS 35-6 DeFalco, LA and SJ Scopes-Sciulla, US Geological Survey, Western Ecological Research Center. The role of a pre-emergent herbicide to suppress non-native annuals and facilitate the recovery of a burned Mojave Desert shrubland.

3:40 PM COS 35-7 Martinez-Berdeja, A, University of California, Riverside. Ecological significance of serotiny and timing of seed dispersal in desert regions with varying seasonal rainfall distribution.

4:00 PM COS 35-8 Thoney, ML, SL Collins, WT Pockman, MT Friggens and RF Brown, University of New Mexico. Monsoon precipitation extremes and the response of two dominant grassland species across an arid-semiarid ecotone.

4:20 PM COS 35-9 Petrie, MD, SL Collins and D Gutzler, University of New Mexico. Heterogeneity in monsoon precipitation across space and time: An analysis of the northern Chihuahuan Desert, USA.

4:40 PM COS 35-10 Perez-Quezada, JF\textsuperscript{1}, PMS Jara\textsuperscript{1}, R Fuster\textsuperscript{1}, N Franck\textsuperscript{1}, KA Snyder\textsuperscript{2} and DA Johnson\textsuperscript{3}, (1)Universidad de Chile, (2)USDA Agricultural Research Service, (3)USDA-ARS Forage and Range Research Lab. Ecosystem water use efficiency in an arid shrubland in Chile under natural and afforested conditions.

1:30 PM COS 36-1 Crowley, PH, JJ Cox and DS Tedder, University of Kentucky. Modular Mutualism.

1:50 PM COS 36-2 Encinas-Viso, F\textsuperscript{1}, TA Revilla\textsuperscript{2}, D Alonso\textsuperscript{3} and RS Etienne\textsuperscript{3}, (1)Community and Conservation Ecology Group, (2)Instituto de Zoologia y Ecologia Tropical, Universidad Central de Venezuela, Facultad de Ciencias, (3)University of Groningen. Phenology drives mutualistic network structure and diversity.

2:10 PM COS 36-3 Bruna, III, EM\textsuperscript{1}, T Izzo\textsuperscript{2}, BD Inouye\textsuperscript{3}, M Uriarte\textsuperscript{4} and HL Vasconcelos\textsuperscript{5}, (1)University of Florida, (2)University Federal de Mato Grosso, (3)Florida State University, (4)Columbia University, (5)Universidade Federal de Uberlandia. Asymmetric dispersal capability of Amazonian plant-ant queens: Are there consequences for host plant demography?

2:30 PM COS 36-4 Morales, MA, Williams College. Phenology of mutualism: Alititudinal variation in survival and benefit of an ant-tended treehopper.

3:00 PM COS 36-5 Fitzpatrick, GM, TE Huxman and JL Bronstein, University of Arizona. Thermal tolerance affects mutualist attendance in an ant-plant interaction.

3:10 PM Break

3:30 PM COS 36-6 Palmer, TM\textsuperscript{1} and M Stanton\textsuperscript{2}, (1)University of Florida, (2)University of California Davis. The high cost of mutualism: effects of four species of East African ant symbionts on their myrmecophyte host tree.

3:40 PM COS 36-7 Johnson, CA and P Amarasekare, University of California, Los Angeles. Ecological determinants of specialization and generalization in mutualistic interactions.

4:00 PM COS 36-8 Keller, KR, Michigan State University. The effects of infraspecific diversity and resource mutualisms on community dynamics.

4:20 PM COS 36-9 Xie, J, B Tiner, N Silva, L Guenther and M Mateos, Texas A&M University. Defensive mutualism: The effects of Spiroplasma and Wolbachia, two endosymbiotic bacteria of Drosophila melanogaster, on fly survival upon attack by two parasitoid wasps.

4:40 PM COS 36-10 Frederickson, ME\textsuperscript{1}, A Ravenscraft\textsuperscript{2}, G Miller\textsuperscript{3}, LMA Hernandez\textsuperscript{4}, G Booth\textsuperscript{1} and NE Pierce\textsuperscript{2}, (1)University of Toronto, (2)Stanford University, (3)Harvard University. The direct and ecological costs of an ant-plant mutualism.
1:30 pm - 5 pm

for Biogeochemistry, (2)National Center for Ecological Analysis & Synthesis, (3)Universidade Estadual de Campinas, (4)Instituto de Pesquisa Ambiental da Amazônia. Interacting effects of fire, nutrients, and herbivores on the diversity of forest regeneration in the southern Amazon.

2:10 PM COS 37-3 Leibold, MA1, BL Brown2 and AL Downing3, (1)University of Texas at Austin, (2)Clemson University, (3)Ohio Wesleyan University. Effects of biodiversity and environmental forcing on compensatory dynamics in zooplankton.

2:30 PM COS 37-4 Brophy, C1, J Connolly2, L Kirwan3, R Collins4, JA Finn5, A Helgadottir6, A Lüscher7, C Porqueddu3 and MT Seoane3, (1)National University of Ireland Maynooth, (2)University College Dublin, (3)Waterford Institute of Technology, (4)IGER, (5)Teagasc, (6)Agricultural University of Iceland, (7)Agroscope Reckenholz-Tänikon Research Station ART, (8)CNR-IPPAAM, (9)Forest Technology Centre of Catalonia. Climatic effects on the composition of four-species agronomic grassland systems at 32 sites over three years.


3:10 PM Break

3:20 PM COS 37-6 Stephens, PR, S Huang and JL Gittleman, University of Georgia. Traits, trees, and taxa: Dimensions of biodiversity in terrestrial mammals.

3:40 PM COS 37-7 Rudolf, VH and NL Rasmussen, Rice University. From individuals to ecosystems: Consequences of ontogenetic niche shifts for community structure and ecosystem functioning.

4:00 PM COS 37-8 Niu, SQ and JH Knouft, Saint Louis University. The relationship between regional species richness, local hydrologic characteristics, and local species richness in North American freshwater fishes.

4:20 PM COS 37-9 Anacker, BL, SP Harrison and BM Going, University of California, Davis. The relationship of productivity, beta diversity, and phylogenetic beta diversity in the California flora.

4:40 PM COS 37-10 Downing, AS1, EH van Nes1, WM Mooij2 and M Scheffer1, (1)Wageningen University, (2)Netherlands Institute of Ecology (NIOO-KNAW). When diversity loss leads to a critical transition.

COS 38 - Biogeochemistry

6A, Austin Convention Center

1:30 PM COS 38-1 Lucas, JM1, NA Clay2, M Kaspari2 and AD Kay1, (1)University of St. Thomas, (2)University of Oklahoma. Azteca ants connect aboveground and belowground processes in a wet tropical forest.

1:50 PM COS 38-2 Donoso, DA1, MK Johnston2, N Clay1 and M Kaspari1, (1)University of Oklahoma, (2)University of Texas at Austin. Trees construct but seasonally deconstruct trophic structure of tropical litter arthropod communities.

2:10 PM COS 38-3 Trahan, NA1, DJP Moore2, DR Bowling3 and RK Monson1, (1)University of Colorado, Boulder, (2)King’s College London, (3)University of Utah. Mountain Pine beetle disturbance effects on Colorado subalpine forest carbon cycling.

2:30 PM COS 38-4 Monger, C and Y Feng, New Mexico State University. Soil carbonate: Its biological formation as a complex adaptive system.

2:50 PM COS 38-5 Homyak, PM1 and JO Sickman2, (1)University of California, Riverside, (2)UC Riverside. Pulses of NO and N2O in Mediterranean ecosystems of the Sierra Nevada (California): importance of gaseous fluxes in annual N budgets.

3:10 PM Break

3:20 PM COS 38-6 Boggs, JL and SG McNulty, USDA Forest Service. Experimentally applied nitrogen successfully induced nitrogen saturation: A 22-year case study in red spruce forest.

3:40 PM COS 38-7 Smith, KR1, B Hedin2, BP Breslow1, B McNeil1, WT Peterjohn1 and RB Thomas1, (1)West Virginia University, (2)Allegheny College. Changes in soil respiration along a nitrogen availability gradient in high-elevation red spruce forests.

4:00 PM COS 38-8 Whittinghill, KA, WS Currie and DR Zak, University of Michigan. Using an ecosystem process model to examine effects of increased nitrogen deposition on soil carbon storage through decreased decomposition.

4:20 PM COS 38-9 Procter, A1, RA Gill2, HW Polley3 and RB Jackson1, (1)Duke University, (2)Brigham Young University, (3)USDA, Agricultural Research Service. Soil type modifies response of soil carbon pools to an atmospheric CO2 gradient.

4:40 PM COS 38-10 Yanaí, RD1, EB Rastetter2, MC Fisk3, TJ Fahey4, RQ Thomas4 and MA Vadeboncoeur5, (1)SUNY College of Environmental Science and Forestry, (2)Marine Biological Lab, (3)Miami University of Ohio, (4)Cornell University, (5)University of New Hampshire. Multi-element limitation: Simulation and measurements suggest that P is more limiting than n in young northern hardwood ecosystems.

COS 39 - Climate Change I

8, Austin Convention Center

1:30 PM COS 39-1 Sandel, B1, B Dalsgaard2, L Arge1 and JC Svenning1, (1)Aarhus University, (2)University of Cambridge. Late Quaternary climate-change velocity: Implications for modern distributions and communities.

1:50 PM COS 39-2 Cuddington, K, University of Waterloo. Minimum temperature data of eastern North America: Significant changes in variance and autocorrelation over a period of 64 years.

2:10 PM COS 39-3 Mohan, J1, PT Franklin1, KJ Bridges1, F Lehman1, SI Khan1, CF Salt2, AW Stine3, JS Clark2 and JM Melillo1, (1)University of Georgia, (2)Duke University, (3)Marine Biological Laboratory. Forest composition in a warmer world: Results from across the eastern deciduous forest biome highlighting impacts of light and mycorrhizal.

2:30 PM COS 39-4 Rodriguez-Castañeda, G and R Jansson, Umeå University. Did climatic stability allow for the evolution of toxic plants, voracious specialist herbivores and fierce predators in the tropics?.

2:50 PM COS 39-5 Dybala, KE, University of California, Davis. Demography matters: adult and juvenile survival rates will respond differently to a changing climate.

3:10 PM Break

3:20 PM COS 39-6 Wiederholt, RP1 and EHC Grant2, (1)USGS Patuxent Wildlife Research Center, (2)US Geological Survey, Patuxent Wildlife Research Center/ MEES Program, University of Maryland, College Park. Managing for climate change in the mountains, the Shenandoah salamander Plethodon shenandoah.

3:40 PM COS 39-7 Lowe, WH, University of Montana. Climate change and long-term trends in a stream salamander
population.

4:00 PM  COS 39-8  Elderd, BD and JR Reilly, Louisiana State University. The effects of global warming on disease transmission in the fall armyworm Spodoptera frugiperda.

4:20 PM  COS 39-9  Bonebrake, TC and CA Deutsch, University of California, Los Angeles. Global insect warming responses driven by temporal and spatial thermal heterogeneity.

4:40 PM  COS 39-10  Godsoe, W1, P James2, B Bentz3, T Ives4, C Cobbold2 and M pineda-Krch2, (1)University of Tennessee, (2)University of Alberta, (3)USDA Forest Service, (4)University of Wisconsin, (5)University of Glasgow. Does the evolution of cold tolerance contribute to insect outbreaks?

**COS 40 - Community Assembly and Neutral Theory III**

**9AB, Austin Convention Center**

1:30 PM  COS 40-1  Brandt, AJ1, EW Seabloom2 and MW Cadotte3, (1)Oregon State University, (2)University of Minnesota, (3)University of Toronto - Scarborough. Disturbance and resource supply affect species and phylogenetic diversity in invaded California grasslands.

1:50 PM  COS 40-2  Schechter, SP1 and TD Bruns2, (1)USDA Forest Service, (2)University of California. Distinction between serpentine and non-serpentine AMF indicates role for edaphic selection in community assembly.

2:10 PM  COS 40-3  Andersen, KM1, BL Turner1 and JW Dalling2, (1)Smithsonian Tropical Research Institute, (2)University of Illinois. Predicting seedling performance along a soil nutrient gradient: Shifts in the relative importance of pest pressure on functional traits.

2:30 PM  COS 40-4  McGlinn, DJ and AH Hurlbert, University of North Carolina. Disentangling within- and between-species components of spatial community variation reveals processes driving community assembly.

2:50 PM  COS 40-5  Shaw, RW and MA Leibold, University of Texas at Austin. Unpredictable community composition of adult dragonflies (Odonata: Anisoptera) in a pond metacommunity.

3:10 PM  Break

3:40 PM  COS 40-6  Davies, KF1, BA Melbourne1, CR Margules2 and JF Lawrence2, (1)University of Colorado, (2)CSIRO Ecosystem Science. Habitat fragmentation reduces the importance of stochastic processes as beetle communities disassemble.

4:00 PM  COS 40-7  Butterfield, B1, LA Cavieres2, RM Callaway3, RWBrooker4, BJ Cook5, ZKikvidze6, C Lortie7, R Michael8, FIPignaure9, C Schoel10, A Valiente-Banuet11 and SXiao12, (1)Northern Arizona University, (2)University of Concepción, Instituto de Ecología y Biodiversidad (IEB), (3)University of Montana, (4)The Macaulay Institute, (5)Minasota State University, (6)University of Tokyo, (7)York University, (8)BIOGECO laboratory, (9)Consejo Superior de Investigaciones Científicas, (10)Consejo Superior de Investigaciones Científicas, (11)UNAM, (12)Lanzhou University. Evolutionary and biogeographic history constrain ecological convergence in alpine plant communities: A global comparison.

4:20 PM  COS 40-8  Baraloto, C1, C Fortunnel1 and PVA Fine2, (1)INRA, (2)University of California, Berkeley. Contrasting tissue strategies explain functional beta diversity in Amazonian trees.

4:40 PM  COS 40-9  Edwards, KF1, C Klausmeier2 and E Litchman2, (1)W. K. Kellogg Biological Station, Michigan State University, (2)Michigan State University. Evidence for a three-way tradeoff between nitrogen and phosphorus competitive abilities and cell size in phytoplankton.
1:30 pm-5 pm
insect herbivore traits at the level of individual host plants within natural populations.

2:10 PM COS 42-3 Buchanan, AL and NC Underwood, Florida State University. Pollination and herbivory influence plant allocation pattern: Within- and among-year effects in Chamerion angustifolium.

2:30 PM COS 42-4 Soper Gorden, NL and LS Adler, University of Massachusetts. Artificial florivory decreases floral attractiveness and increases natural florivory.

2:50 PM COS 42-5 McArt, SH and JS Thaler, Cornell University. Induced resistance to seed predators via leaf herbivory: Implications for individual plants and genotypically diverse patches.

3:10 PM Break

3:20 PM COS 42-6 Singer, MS¹, TE Farkas², CM Skorik¹ and KA Mooney³, (1)Wesleyan University, (2)University of Colorado at Boulder, (3)University of California at Irvine. Community-wide plant modification of herbivore suppression by birds.


4:00 PM COS 42-8 Petry, WK and KA Mooney, University of California, Irvine. Sex-biased and variable herbivory parallel clinal variation in plant sex ratios along an elevational gradient.

4:20 PM COS 42-9 Faeth, SH¹, A Jani² and E Shochat³, (1) The University of North Carolina at Greensboro, (2)University of California - Santa Barbara, (3)Arizona State University. Inherited microbial symbionts in two native grasses increase herbivore abundances and richness.

4:40 PM COS 42-10 Salazar, D, University of Missouri in Saint Louis. Large scale latitudinal changes in herbivore diversity and herbivore pressure on two widely distributed neotropical Pieris species.

COS 43 - Invasion: Species Interactions I
19A, Austin Convention Center

1:30 PM COS 43-1 Radtke, TM and SD Wilson, University of Regina. Effects of small consumers on Agropyron cristatum stands and native grasslands in the northern Great Plains.

1:50 PM COS 43-2 Schafer, JL¹, EL Mudrak², C Holzapfel¹, CE Haines¹, HA Parag¹, DC Housman³ and KA Moloney¹, (1)Rutgers University, (2)Iowa State University, (3)CALIBRE. Patterns of annual plant seedling recruitment differ between creosote dominated sites in the Mojave and Sonoran deserts.

2:10 PM COS 43-3 Shannon, SM, JT Bauer and HL Reynolds, Indiana University. Amur honeysuckle’s allelopathic effects on native plant germination are context-dependent.

2:30 PM COS 43-4 Beckstead, J¹, KT Merrill², SE Meyer³ and PS Allen², (1)Gonzaga University, (2)Brigham Young University, (3)USDA Forest Service, Rocky Mountain Research Station. Cheatgrass effects on native grass seed and seedling fate: Competition, facilitation, and indirect effects of a shared seed bank pathogen.

2:50 PM COS 43-5 Hulvey, KB¹ and ES Zavaleta², (1)University of Western Australia, (2)University of California, Santa Cruz. Site conditions determine a native species’ contribution to invasion resistance in California grasslands.

3:10 PM Break

3:20 PM COS 43-6 Zaya, DN¹, SA Leicht-Young², NB Pavlovic² and MW Ashley¹, (1)University of Illinois at Chicago, (2)US Geological Survey. Using hand-crosses and field observation to investigate pollen flow between American bittersweet (Celastrus scandens) and Oriental bittersweet (C. orbiculatus).

3:40 PM COS 43-7 Cummings, JA¹, JM Parker² and GS Gilbert¹, (1)University of California Santa Cruz, (2)University of California, Santa Cruz. Above ground factors mediate the suppression of an invasive grass in tropical reforestation.

4:00 PM COS 43-8 Hale, AN and S Kalisz, University of Pittsburgh. Experimental investigation on the long-term impacts of garlic mustard-mediated mutualism disruption in a native forest herb-AMF system.

4:20 PM COS 43-9 Graebner, RC, RM Callaway and D Montesinos, University of Montana. Centarea solstitialis from a non-native range are better competitors than conspecifics in the native range.

4:40 PM COS 43-10 Grove, SE¹, IM Parker² and KA Hauensiek³, (1)University of California Santa Cruz, (2)University of California, Santa Cruz, (3)Northern Arizona University. Soil legacy effects of Scotch broom invasion on Douglas-fir mycorrhizae.

COS 44 - Invasion: Prevention and Management
12B, Austin Convention Center

1:30 PM COS 44-1 Rauschert, ESJ and DA Mortensen, The Pennsylvania State University. Human-mediated spread of invasive plants across a landscape.

1:50 PM COS 44-2 Wang, H¹, WE Grant¹, TM Swannack¹, J Gan¹, WE Rogers¹, TE Koralowski¹, JH Miller² and JW Taylor Jr.², (1)Texas A&M University, (2)US Forest Service. Predicted range expansion of Chinese tallow tree (Triadica sebifera) in forestlands of the southern United States.

2:10 PM COS 44-3 Paudel, S¹ and L Battaglia², (1)Southern Illinois University, (2)Southern Illinois University - Carbondale. Response of native and invasive species to canopy openness and storm surge in different habitats in coastal Mississippi.

2:30 PM COS 44-4 Williams, JR and LD Dimov, Alabama A&M University. Effect of high-intensity directed fire in different seasons on survival of the invasive species Lonicera (bush honeysuckle).

2:50 PM COS 44-5 Carmichael, BJ¹ and WJ Platt III², (1) Louisiana State University, (2)Louisiana State University. Does variation in fire intensity affect survival and regrowth of Japanese climbing fern (Lygodium japonicum) invading a longleaf pine savanna?.

3:10 PM Break

3:20 PM COS 44-6 Post, AR¹, JB Willis² and SD Askew¹, (1) Virginia Tech, (2)Monsanto. Japanese stilgrass seedhead suppression with plant growth regulators and glyphosate.


4:00 PM COS 44-8 Kalnicky, EA, KH Beard and MW Brunson, Utah State University. Resource availability and invasive coqui frog (Eleutherodactylus coqui) density in Hawaii.

4:20 PM COS 44-9 Anderson, CB¹, PK Wallem³, MP Simanonok¹, G Martinez Pastur² and MV Lencikas², (1)University of North Texas and Universidad de Magallanes, (2)Pontificia Universidad Catolica de Chile, (3)Centro Austral de Investigaciones Científicas. Landscape-level effects of North American beavers in the Fuegian Archipelago: Is the introduction of beaver the largest threat to South America’s sub-Antarctic forest in the Holocene?

4:40 PM COS 44-10 Valenzuela, AE, AN Raya Rey and ACM Schiavini, Centro Austral de Investigaciones Científicas. Native southern river otter (Lontra provocax) versus
invasive American mink (Neovison vison) in the Beagle Channel, Tierra del Fuego Island.

**COS 45 - Microbial Ecology**
13, Austin Convention Center

1:30 PM COS 45-1 Frey, SD\(^1\), J Lee\(^2\) and J Stix\(^3\), (1)University of New Hampshire, (2)University of California - Davis, (3) University of California-Davis. Temperature sensitivity of microbial efficiency and implications for soil carbon storage.

1:50 PM COS 45-2 Zimmerman, AE, AC Martiny and SD Allison, University of California, Irvine. Cellular stoichiometry of the marine Roseobacter lineage.

2:10 PM COS 45-3 Dooley, SR and KK Treseder, University of California, Irvine. Fire and fungi: Changes in soil fungal abundance and community composition across a fire chronosequence in an Alaskan boreal forest.

2:30 PM COS 45-4 Sullivan-Guest, T\(^1\), CW Schadt\(^1\), N Basta\(^2\) and P Jardine\(^3\), (1)Oak Ridge National Laboratory, (2)The Ohio State University, (3)University of Wisconsin-Madison. Firing range soils yield a diverse fungal community capable of pb-mineral solubilization and organic acid secretion.

2:50 PM COS 45-5 Mineocha, R, USDA Forest Service, NRS. Watershed-scale calcium supplementation alters soil bacterial community composition at Hubbard Brook Experimental Forest (HBEF), New Hampshire, USA.

3:10 PM Break

3:20 PM COS 45-6 Larsen, ML\(^1\), S Wilhelm\(^2\) and JT Lennon\(^1\), (1)Michigan State University, (2)University of Tennessee. Eco-evolutionary dynamics of bacteria and phage in.shoping resource environments.

3:40 PM COS 45-7 Moitra, M\(^1\), S Ghosh\(^1\), LT Johnson\(^2\), TV Royer\(^2\) and LG Left\(^1\), (1)Kent State University, (2)Indiana University. Effect of quality and diversity of dissolved organic carbon on community structure and denitrification potential of stream bacteria.

4:00 PM COS 45-8 Shlef, KM\(^1\), P Loomer\(^2\), G Armitage\(^2\) and DA Relman\(^3\), (1)Stanford University, (2)University of California, San Francisco, (3)Stanford School of Medicine. Ecology in the dentist's chair: Teeth cleaning and the human subgivilal ecosystem.

4:20 PM COS 45-9 Hanson, CA\(^1\), JL Clasen\(^2\), AP Ho\(^1\), MD Wilson\(^3\), SS Chen\(^1\), C Weihe\(^1\) and JHB Martiny\(^1\), (1)University of California, Irvine, (2)University of British Columbia, (3)University of California, Davis. Seasonality of marine virus communities.

4:40 PM COS 45-10 Waring, BG and CV Hawkes, University of Texas at Austin. Water availability is the primary driver of microbial function in a tropical rainforest soil.

**COS 46 - Modeling: Populations**
16A, Austin Convention Center

1:30 PM COS 46-1 Riede, JO and U Brose, University of Göttingen. Stepping in Eltons footsteps: a general scaling model for body masses and trophic levels across ecosystems.

1:50 PM COS 46-2 Reynolds, SA\(^1\) and CE Brassert\(^2\), (1)University of Nebraska-Lincoln, (2)University of Nebraska. When can a single species, density dependent model capture the dynamics of a consumer-resource system?.

2:10 PM COS 46-3 Shyu, E\(^1\), EA Pardini\(^2\), TM Knight\(^2\) and H Caswell\(^1\), (1)Woods Hole Oceanographic Institution, (2)Washington University in St. Louis. A seasonal, density-dependent, stage-structured harvest model for the management of an invasive weed.

2:30 PM COS 46-4 Haynes, KJ\(^1\) and AM Liebhold\(^2\), (1)University of Virginia, (2)USDA Forest Service. Spatial synchrony of gypsy moth outbreaks affected by structure of forest food webs.

2:50 PM COS 46-5 McKelvey, M and PM Dixon, Iowa State University. Incorporating imperfect detection into a classification and regression tree model of occupancy.

3:10 PM Break

3:20 PM COS 46-6 Taylor, CM, Tulane University. Metapopulation models for seasonally migratory animals.

3:40 PM COS 46-7 Peterman, WE\(^1\), JE Earl\(^1\), TAG Rittenhouse\(^2\) and RD Semlitsch\(^1\), (1)University of Missouri, (2)University of Wisconsin-Madison. Patterns in time and space: Using graph theory and occupancy modeling to assess population connectivity and persistence of Missouri wood frogs.

4:00 PM COS 46-8 Gil-Weir, K and EH Weir, Ecosystems Advisors LP. Whooping crane migration and stopover decision, a conceptual model.

4:20 PM COS 46-9 Westhus, EJ and GR Camilo, Saint Louis University. Developing a scale transition model for Missouri’s mosquito populations.

4:40 PM COS 46-10 Nelles, LC, Stanford University. Do population dynamic parameters differ between native and exotic grassland species?

**TUESDAY**

1:30 pm-5 pm 77

**COS 47 - Reptiles and Amphibians**
18A, Austin Convention Center

1:30 PM COS 47-1 Fields, WR, C Fock, NM Haddad and N Thurgate, North Carolina State University. Testing assumptions about amphibian movement behavior with field experiments.

1:50 PM COS 47-2 Liang, CT, Pacific Southwest Research Station, USDA Forest Service. Movement and habitat use of the Yosemite toad (Anaxyrus canorus) in the Sierra Nevada mountains, California.

2:10 PM COS 47-3 Bendik, NF\(^1\), MA Turner\(^1\), M Sanders\(^1\) and AG Gluesenkamp\(^2\), (1)City of Austin, (2)Texas Parks and Wildlife. Shrinking salamanders, reproducing refugees, and pliable populations: Drought response of a neotenic amphibian, the Jollyville Plateau salamander (Eurycea tonkawae).

2:30 PM COS 47-4 Searcy, CA\(^1\), E Gabbai-Saldate\(^2\) and HB Shaffer\(^1\), (1)University of California-Davis, (2)Dartmouth College. Problematic generalizations: variation across time, space, and taxa shows amphibian landscape ecology requires a closer look.

2:50 PM COS 47-5 Leavitt, DJ and LA Fitzgerald, Texas A&M University. Landscape fragmentation disrupts lizard metacommunity structure in a sand-dune ecosystem.

3:10 PM Break

3:20 PM COS 47-6 Cox, CL\(^1\) and AR Davis\(^2\), (1)The University of Texas-Arlington, (2)University of California-Berkeley. Landscape genetics of the ground snake, Sonora semiannulata.

3:40 PM COS 47-7 Scholl, JP\(^1\), L Calle\(^2\), EM Frazier\(^3\) and T Hindle\(^2\), (1)Florida Atlantic University (SEEDS Student), (2)Florida Atlantic University (SEEDS student), (3) Florida Atlantic University. Distribution and habitat use of the gopher tortoise (Gopherus polyphemus) in a declining southeast Florida conservation area.

4:00 PM COS 47-8 Castellon, TD and BB Rothermel, Archbold Biological Station. Gopher Tortoise burrow distribution and densities in sub-optimal habitats of peninsular Florida.


4:40 PM COS 47-10 Hoverman, JT, KL Dosch, E Kellermanns, BE LaFonte, DL Preston and PT Johnson, University of Colorado.
1:30 pm-5 pm  
Co-infecting parasites: How parasite assemblages and timing of exposure affect host pathology and parasite loads.

**COS 48 - Evolution: Selection and Adaptation II**  
18B, Austin Convention Center

1:30 PM  
COS 48-1  
Kandur, AS, University of Chicago. Adaptation at a range limit in the mussel Mytilus californianus.

1:50 PM  
COS 48-2  
Singer, MC, University of Texas. Butterflies fall off anthropogenic adaptive peak and meet their doom in anthropogenic ecological trap.

2:10 PM  
COS 48-3  
Smith, HA and TW Snell, Georgia Institute of Technology. Hydroperiod correlates with sexual reproduction and life history traits in brachionid rotifers.

2:30 PM  
COS 48-4  
Touchon, JC, Smithsonian Tropical Research Institute. Measuring selective pressures on aquatic and terrestrial reproduction using a vertebrate with reproductive mode plasticity.

2:50 PM  
COS 48-5  
Bahn, V, JH Miller and JL Peters, Wright State University. Independent estimates of population history help unlock the genetic signatures in duck populations.

3:10 PM  
Break

3:20 PM  
COS 48-6  
Egan, SP1, GR Hood1 and JR Ott2, (1)University of Notre Dame, (2)Texas State University-San Marcos. Divergent host plant adaptation promotes reproductive isolation among cynipid gall wasps populations.

3:40 PM  
COS 48-7  
Tonsor, SJ, A Montesinos Navarro and MD Wolfe, University of Pittsburgh. Adaptation to temperature and moisture regimes in Arabidopsis thaliana.

4:00 PM  
COS 48-8  
Moran, EV1 and ME Kubiske2, (1)NIMBioS, (2)USDA Forest Service, Northern Research Station. Selective forces of CO2 and ozone on a forest tree.

4:20 PM  
COS 48-9  
Richardson, JL, Yale University. Fine-scale adaptive divergence of amphibian populations in response to habitat-mediated selection.

**COS 49 - Fisheries Management and Models**  
18C, Austin Convention Center

1:30 PM  
COS 49-1  
Pease, AA1, KO Winemiller2, JM Taylor3 and RS King4, (1)University of Missouri, (2)Texas A&M University, (3)Baylor University. Functional trait diversity and trait-environment relationships in Central Texas stream-fish assemblages: Implications for biomonitoring.

1:50 PM  
COS 49-2  
Ward, EJ and EE Holmes, Northwest Fisheries Science Center. Linking genetic and time series data to reveal spatial structure in Chinkook salmon.

2:10 PM  
COS 49-3  

2:30 PM  
COS 49-4  

2:50 PM  
COS 49-5  
Peña, TS, LJ Gonzalez-Guzman and TH Keitt, The University of Texas at Austin. Consequences of complex connectivity, fishing pressure, and Allee effects in marine metapopulations.

3:10 PM  
Break

3:20 PM  
OS 49-6  

3:40 PM  
COS 49-7  
Curtis, JM1, GW Stunz1, MW Johnson1 and SL Diamond2, (1)Texas A&M University-Corpus Christi, (2)Texas Tech University. The fate of regulatory discarded red snapper in the Gulf of Mexico: Insights into delayed-post-release mortality and behavior.

4:00 PM  
COS 49-8  
Aalto, EA, University of California, Davis. Effects of bycatch mortality on population dynamics in model food webs.

4:20 PM  
COS 49-9  
Stevens, ML1 and EM Zelazo2, (1)CSUS, (2)CSU Sacramento. Fire, floodplains, and fish: The historic ecology of the lower cosumnes river watershed.

**COS 50 - Conservation Ecology**  
18D, Austin Convention Center

1:30 PM  
COS 50-1  
Sewald, J and KV Root, Bowling Green State University. The importance of heterogeneity in protected areas for bat species.

1:50 PM  
COS 50-2  
Peterson, BJ and WR Graves, Iowa State University. Recruitment of Dirca palustris L. (Thymelaeaceae) in five habitats from Florida to North Dakota.

2:10 PM  
COS 50-3  
Stewart, LR, Texas A&M University. The impact of a forest pathogen: Response of golden-cheeked warblers to oak wilt induced tree mortality in Texas.

2:30 PM  
COS 50-4  
Wonka, CL, WE Rogers, FE Smeins and D Twidwell, Texas A&M University. Fire-induced divergence of the lifecycle of an endangered terrestrial orchid (Spiranthes parksi Correll).

2:50 PM  
COS 50-5  
Moskwik, MP1 and T Thom2, (1)University of Texas, (2)National Park Service. Three years of search effort for Ivory-billed Woodpecker (Campephilus principalis) in South Carolina, USA.

3:10 PM  
Break

3:20 PM  
COS 50-6  
Richards-Dimitrié, TM and RA Seigel, Towson University. Spatial ecology of Northern Map Turtles (Graptemys geographica) in an altered river system.

3:40 PM  
COS 50-7  
Gotlieb, A1, Y Hollender1 and Y Mandelik2, (1)Tel Aviv University, (2)The Hebrew University of Jerusalem. Gardening in the desert changes bee communities and pollination network characteristics.

4:00 PM  
COS 50-8  
Matthes, D1, T Sandner2 and A Ensslin3, (1)Philips-University Marburg, (2)Philipps-University Marburg, (3)University of Bern. Genetic diversity, fitness and adaptation of the monocarpic plant Cynoglossum officinale in botanic gardens.

4:20 PM  
COS 50-9  
Morrison, TA and DT Bolger, Dartmouth College. Reproductive costs in wildebeest (Connochaetes taurinus).

4 pm-6 pm

**ESA Ecological Applications Editorial Board Meeting**  
1, Austin Convention Center

4 pm-8:30 pm

**FT 18 - Ecology & Conservation Of The Endangered Barton Springs Salamander & Swimming at Barton Springs Pool**  
Trinity Street Lobby Field Trip Pick Up, Austin Convention Center
Organized by: JH Gillespie (hayleygillespie@gmail.com)

4:30 pm-6:30 pm

Royal Society Publishing Event (booth 210)  
Exhibit Hall 3, Austin Convention Center
PS 15 - Climate Change
Exhibit Hall 3, Austin Convention Center

PS 15-1 Grant, K, J Kreiling, LFH Dienstbach, C Beierkuhnlein and A Jentsch, University of Bayreuth. Increased intra-annual precipitation variability affect biomass production and forage quality.


PS 15-4 Lepczyk, CA, R Bergstrom, MW Chynoweth, LM Ellsworth, S Henly-Shepard, DK Iwashita, K Miller and RH Rodgers, University of Hawaii at Manoa. Solutions and challenges to addressing human population growth and global climate change.

PS 15-5 Sokolow, SH, University of California Santa Barbara. Climate and the dynamics of coral infectious disease.

PS 15-6 Fashu-Kanu, S, Syracuse University. Experimentally induced soil freezing on soil biogeochemical processes across an elevation gradient at Hubbard Brook Experimental Forest.

PS 15-7 Colon-Rivera, RJ, RA Feagin and JB West, Texas A&M University. Effects of sea level rise on a rare Pterocarpus forested wetland in Puerto Rico.

PS 15-8 Stork, RJ, The University of Texas at Arlington. Thermal ecology and intra-specific variation in Rhabdosa raba (Araneae: Lycosidae) from the mountains of Arkansas.

PS 15-9 Stine, AW, CF Salk, J Mohan, JM Melillo and JS Clark, (1)DUKE University, (2)University of Georgia, (3)Marine Biological Laboratory. Leaf senescence phenology: Interactions with warming and light habitat.

PS 15-10 Tysor, CS, PL Heinrich and AV Whipple, Northern Arizona University. Testing climate WNA modeled climate data against independent weather station records.


PS 15-13 Boehm, EM and S Travers, North Dakota State University. Global climate change effects upon prairie plant pollination.

PS 15-14 Xi, W, DJ Mladenoff, RM Scheller, SD Pratt, LR Parker and CW Swanson, (1)University of Wisconsin-Madison, (2)Portland State University, (3)U.S. Forest Service, (4)US Forest Service, Northern Research Station. Simulating the impacts of climate change, land use and mitigation strategies on forest biomass in northern Wisconsin, USA.

PS 15-15 Center, AE and J Cavender-Bares, University of Minnesota. Consequences of the seed production timing on germination rates and seedling survival in highly seasonal environments: A case study of an evergreen live oak species (Quercus oleoides) in tropical dry forests of Northwest Costa Rica.

PS 16 - Climate Change: Biogeochem Cycles
Exhibit Hall 3, Austin Convention Center

PS 16-16 Brownlee, AH, LM Lynch, SN Schmidt and JD Schade, St. Olaf College. Effect of snowpack on plant nitrogen dynamics in restored prairie ecosystems in southeastern Minnesota.

PS 16-17 Ladwig, LM, RL Sinsabaugh, ML Thomey and SL Collins, University of New Mexico. Soil enzyme stability response to precipitation variability in a semiarid grassland.

PS 16-18 Campbell, JL, GE Likens2, DC Buso2 and SD Sebestyen1, (1)USDA Forest Service, (2)Cary Institute of Ecosystem Studies. Climate-induced changes in the timing of streamwater nutrient export at the Hubbard Brook Experimental Forest, New Hampshire, USA.

PS 16-19 Gallas, G, K Dontsova, J Chorover, E Hunt and S Ravi, University of Arizona. Nutrient uptake and carbon release by exotic and native Arizona grass species under different temperature conditions.

PS 16-20 Vaness, BM, P Convay2, HE Epstein3, R Aerts4, S Bokhorst5, A Huiskes6 and AM Kelley6, (1)Western Ag Innovations, Inc., (2)British Antarctic Survey, (3)University of Virginia, (4)Vrije University, (5)Netherlands Institute of Ecology (NIOO-KNAW), (6)North Carolina State University. Integrating Plant Root Simulator (PRSTM™)-Probe soil sampling and conventional soil tests to examine Arctic and Antarctic plant ecosystem responses to nitrogen addition and warming.

PS 16-21 Kratz, CJ, AJ Burton and EA Lilleskov2, (1)Michigan Technological University, (2)US Forest Service, Northern Research Station. Microbial metabolic responses to short-term soil warming in a temperate deciduous forest.

PS 16-22 Litton, CM, CP Giardina2 and SE Crow1, (1)University of Hawaii at Manoa, (2)USDA Forest Service. Soil carbon storage does not vary with temperature along a 5°C mean annual temperature gradient in Hawaiian tropical montane wet forests.

PS 16-23 Smith, S1, J Cherrier2 and J Callfrey2, (1)Delaware State University, (2)Florida A&M University, (3)University of West Florida. Dissolved inorganic carbon dynamics in two subtropical estuaries: Apalachicola Bay, FL, and St. Joseph Bay, FL.

PS 16-24 Iwashita, DK, CM Litton1 and C Giardina2, (1)University of Hawaii at Manoa, (2)USDA Forest Service. Coarse woody debris biomass does not vary with mean annual temperature in Hawaiian tropical montane wet forests.

PS 17 - Climate Change: Communities
Exhibit Hall 3, Austin Convention Center

PS 17-25 Marvin, DC, K Winter2, SA Schnitzer3 and RJ Burnham1, (1)University of Michigan, (2)Smithsonian Tropical Research Institute, (3)University of Wisconsin - Milwaukee. Tropical lianas and trees under elevated CO2: Growth and physiological response.

PS 17-26 Dhugana, N, N vanGestel1, J Moore-Kucera1, V Acosta-Martinez2 and JC Zak1, (1)Texas Tech University, (2)USDA-ARS. Responses of a soil microbial community to reduced daily soil temperature variability: A field study in the Chihuahuan Desert.

PS 17-27 Stuble, KL, DA Fowler2, R Dunn2 and NJ Sanders1, (1)University of Tennessee, (2)NCSU. Experimental warming of entire assemblages alters foraging behavior in ants.

PS 17-28 Ernest, SM1, TJ Valone2 and JH Brown2, (1)Utah State University, (2)Saint Louis University, (3)University of Minnesota.

Earth Stewardship: Preserving and enhancing earth’s life support systems 79
of New Mexico. Multi-decadal climate cycles and the dynamics of a Chihuahuan Desert ecosystem.

PC 17-29 Kelt, DA1, PL Meserve2, MA Prevalti3, WB Milstead4 and JR Gutierrez5, (1) University of California, (2) Northern Illinois University, (3) Cary Institute of Ecosystem Studies, (4) U.S. Environmental Protection Agency, (5) Universidad de La Serena. Global climate change and small mammal populations in north-central Chile.

PC 17-30 Gasarch, El and TR Seastedt1, (1) University of Colorado, (2) University of Colorado at Boulder. Alpine plant community response to increased moisture and nitrogen accumulation along an elevational gradient, Niwot Ridge, CO.

PC 17-31 Ashbacher, AC, University of California San Diego. Shifting trait composition of chaparral communities in response to altered rainfall regimes.

PC 17-32 Lubetkin, KC1, EL Berlow2, A Westerling3 and LM Kueppers3, (1) University of California at Merced, (2) University of California at Merced, (3) University of California, Merced. Extent and timing of conifer encroachment into subalpine meadows in the central Sierra Nevada, California.

PC 17-33 Smith, CD, AH Baldwin, JH Sullivan and PT Leisnham, University of Maryland. Higher larval mortality and delayed development of the mosquitoes Aedes albopictus and A. triseriatus in container habitats with leaf litter grown in elevated atmospheric CO2.

PC 17-34 Mulder, C1 and BA Roy2, (1) University of Alaska Fairbanks, (2) University of Oregon. Direct and indirect impacts of environmental conditions on leaf consumers of boreal shrubs in interior Alaska, and implications for climate change.

PC 18 - Climate Change: Plants
Exhibit Hall 3, Austin Convention Center

PC 18-35 Chamorro, D, B Luna and JM Moreno, University of Castilla-La Mancha. Germination response of four weed species to different thermal regimes, collected along a European latitudinal gradient.


PC 18-37 Mycka, UK, Poison Ivy Horticulturist. Has increased CO2 impacted the northerly limit of Eastern Climbing Poison Ivy over the last 50 years?

PC 18-38 Warud, L1, G King2, M Bollman1, JR Reichman1, BM Smith1, CA Burdick1 and EH Lee1, (1) US Environmental Protection Agency/NHEERL, (2) Dynamac Corporation. Feral biocfuel crops in constructed oak savannas and wet prairie communities.

PC 18-39 Yin, J and RO Teskey, University of Georgia. Fine root anatomy and hydraulic conductivity of one-year-old loblolly pine seedlings under different levels of [CO2], fertility, and water availability.

PC 18-40 Tetreault, H1, C Rodewald2, S Baer3, BR Maricle4, T Morgan1, RK Goad3, J Olsen3 and L Johnson1, (1) Kansas State University, (2) Minnesota State University-Mankato, (3) Southern Illinois University Carbondale, (4) Fort Hays State University. Local drought adaptation of the ecologically dominant prairie grass big bluestem andropogon gerardii: Contribution of genotype and environment to phenotypic variation.

PC 18-41 Brenberg, TC, AN Colaco, SJ Emrich, ST O’Neil and JS McLachlan, University of Notre Dame. New genetic tools for estimating long term changes in forest composition.

PC 18-42 Rich, R, RA Montgomery, SE Hobbie and PB Reich, University of Minnesota. Boreal forest warming at an ecotone in danger (B4warmed): Climate change impacts at the temperate-boreal ecotone—An overview of initial results from a concurrent above and belowground warming experiment.

PC 18-43 Rosenstein, RW, TW Boutton, MG Tjoelker, A Volder and DD Briske, Texas A&M University. Root dynamics in response to elevated temperatures and altered rainfall regimes in oak savanna: A global change experiment.

PC 18-44 Smith, RA1, JD Lewis2, O Ghannoun1 and DT Tissue1, (1) University of Western Sydney, (2) Fordham University. Recent and projected changes in atmospheric [CO2] and temperature differentially affect leaf structure and function in Eucalyptus sideroxylon.

PC 18-45 Lok, ME, AL Concilio, C Wade, SJ Martinson and H Alpert, University of California. Snow depth effects on seedling recruitment at the Great Basin Desert, Sierra Nevada ecotone.

PC 18-46 McMunn, MS, University of Michigan. Growth rate-longevity tradeoffs in northern conifers.

PC 18-47 Locke, AM1, L Sack2 and DR Ort3, (1) University of Illinois, (2) UCLA, (3) USDA-ARS and University of Illinois. Leaf hydraulic conductance in elevated atmospheric CO2.


PC 18-49 Flanagan, LB and AC Adkinson, University of Lethbridge. Interacting controls on productivity in a northern Great Plains grassland, and implications for response to ENSO events.

PC 18-50 Dale, EM and EE Elton, University of Virginia. The influence of stomatal morphology on gas-exchange processes of native and invasive mid-Atlantic tree species.

PC 18-51 Wines, AA1, RM Marchin1, RR Dunn2 and WA Hoffmann1, (1) North Carolina State University, (2) NCSU. Deciphering the effects of temperature and vapor pressure deficit on plant carbon assimilation: Implications for plant productivity under global warming.

PC 18-52 Pritchard, SG1, AE Strand1, BN Taylor1, ER Cooper1, ML McCormack2 and S Zhang1, (1) College of Charleston, (2) Pennsylvania State University. Effects of CO2 and nitrogen enrichment on production, standing crop, and survivorship of mycorrhizal root tips in a loblolly pine FACE experiment over 12 years.

PC 18-53 Baguskas, SA1 and CJ Still2, (1) University of California-Santa Barbara, (2) University of California. Tree mortality in a California coastal fog forest.

PC 19 - Aquatic Ecology
Exhibit Hall 3, Austin Convention Center

PC 19-54 Herron-Sweet, CR1, G Gauthier Jr2 and SN Schmidt1, (1) St. Olaf College, (2) College of Menominee Nation. An analysis of allochthonous and autochthonous contributions to brook trout diet using hydrogen, nitrogen, and carbon stable isotopes.


PC 19-56 Ishikawa, NF1, M Uchida2, Y Shibata2 and I Tayasu1, (1) Kyoto University, (2) National Institute for Environmental Studies. Natural carbon-14 signature provides new data for stream food web studies.

PC 19-57 Sullivan, ML1 and Y Zhang2, (1) Texas State University, (2) Texas State University at San Marcos. Terrestrial subsidies
in the diets of fishes: A comparison across climate regions.

PS 19-58 Virtanen, LK and J Soininne, University of Helsinki. Are diatoms better reflectors of stream quality than water chemistry at regional scales?

PS 19-59 Ortiz, AC, R De La Torre-Roche, MB Cox and WY Lee, University of Texas at El Paso. Multi-residue effects of 17-estradiol and bisphenol a with a chemi-luminescent assay on Saccharomyces cerevisiae.

PS 19-60 Pomeroy, JN, ZR Snobl, O Xiong, EC Merten and TA Wellnitz, University of Wisconsin - Eau Claire. Phenology of aquatic insect emergence in a northern Minnesota stream.


PS 19-62 Lear, SC, B Ondimu, L Lee and M Wu, Montclair State University. Develop a rapid detection method for blooming cyanobacteria and algae.

PS 19-63 Meza-Lopez, MM and E Siemann, Rice University. Exotic enrichment herbivores limit aquatic plants while nutrient enrichment increases exotic herbivore size.

PS 19-64 Henderson, BL and MM Chumchal, RW Drenner, P Diaz and WH Nowlin, (1)Texas Christian University, (2)Texas State University. Mercury contamination of macroinvertebrates from grassland ponds with and without fish.


PS 19-66 Pauley, LR, JE Earl and RD Semlitsch, (1)University of Missouri - Columbia, (2)University of Missouri. Effects of predation and commercial mosquito insecticides on the gray treefrog tadpoles.

PS 19-67 Baca, SL, DA Martinez Gomez and EJ Walsh, (1) University of Texas at El Paso, (2)The University of Texas at El Paso. Effects of Pharmaceuticals and Personal Care Products (PPCPs) on impacted and non-impacted populations of the freshwater rotifer Platorias paludis.


PS 19-70 Xiong, O, JN Pomeroy, AM Sasidharan, JP Schoen, ZR Snobl, SD Vinetas, CM Wojan, EC Merten and TA Wellnitz, University of Wisconsin - Eau Claire. Reach-scale effects of a stream logjam on benthic macroinvertebrate richness, evenness, diversity, and feeding guilds.


PS 19-72 Jackson, AT, KO Winemiller and A Adite, (1)Texas A&M University, (2)Université d’ Abomey-Calavi. Food web structure in floodplain habitats of the Oueme River, Benin, West Africa.

PS 19-73 Wooster, DE, S Miller and S DeBano, (1)Oregon State University, (2)Utah State University. Impact of surface water withdrawal on macroinvertebrate drift.

PS 19-74 Dennis, MK, LF Altfeld and DS Austin, Wilson College. Comparing vitellogenin induction by 17β-estradiol in male Danio rerio through both a tritrophic bioaccumulation model and a bioconcentration model.

PS 19-75 Wellnitz, T and WD Hintz, (1)University of Wisconsin - Eau Claire, (2)Southwestern Illinois University. Do small-scale trophic cascades contribute to benthic heterogeneity in streams?

PS 19-76 Refsland, TK, Saint Olaf College. Leaf processing in an impaired southeastern Minnesota stream: The impact of flow velocity on detritivores.

PS 19-77 Connelly, CK and C McNeely, Eastern Washington University. Impacts of urbanization and aquifer recharge on Spokane river macroinvertebrates.

PS 19-78 Saha, AK, MB Gallagher, A Narducci, M Koba, MC Cook and JS Rehage, (1)Florida International University, (2)South Florida Water Management District. Quantifying the movement and habitat use of native sunfishes in response to seasonal hydrological variation in the Everglades.

PS 19-79 Matherne, BW, PM Holt, MM Chumchal, AP Roberts, DJ Hoeinghaus, AA Agostinho and LC Gomes, (1)University of North Texas, (2)Texas Christian University, (3)Universidade Estadual de Maringá. Distributions of mercury in fish of the Paraná River, Brazil.

PS 19-80 Paul, JS and JH Kennedy, University of North Texas. Life and times of Chlamatopsyche lasia Ross (Trichoperta: Hydropsychidae) in an urban stream with respect to a municipal wastewater treatment facility.

PS 19-81 Dunithan, A, MG Williams, NB Ford and LR Williams, (1)University of Texas at Tyler, (2)The University of Texas at Tyler. Using MAXENT to predict the probability of occurrence of rare fish and mussel species in the Sabine River and Neches River in East Texas.

PS 20 - Riparian and Floodplain Habitats

Exhibit Hall 3, Austin Convention Center


PS 20-83 Zhang, Q, Wuhan Botanical Garden, the Chinese Academy of Sciences. Assessing soil heavy metal pollution in the water-level-fluctuation zone of the Three Gorges Reservoir, China.

PS 20-84 Aldredge, BE, DD Nally and GW Moore, Texas A&M University. Sabine River riparian vegetation assessment related to flow modifications.


PS 21 - Wetlands

Exhibit Hall 3, Austin Convention Center

PS 21-87 Baquerizo, M, EM Barrows, S Droes and A Han, (1)Georgetown University, (2)USGS. Lasioglossum bee (Halictidae) diversity in a United States Mid-Atlantic national park.

PS 21-88 Smith, LL, Joseph W. Jones Ecological Research Center. Amphibian persistence in isolated wetlands in an
4:30 pm-6:30 pm

PS 21-89
Shange, R.1, R Ankumah1, E Haugabrooks2 and L Githinji1,
(1)Tuskegee University, (2)Iowa State University. Assessing soil bacterial community composition and structure across wetland, transition zone, and upland ecosystem types along a single transect in Macon, Alabama.

PS 21-90
Perez, R1 and T Heartsill Scalley2, (1)East Los Angeles College, (2)International Institute of Tropical Forestry. Root Nodulation in the wetland tree Pterocarpus officinalis along coastal and montane systems of northeast of Puerto Rico.

PS 21-91
Cipollini, KA1, DJ Burks1, D Cipollini2, P Lavretsksy2, K Millan1 and JL Peters2, (1)Wilmington College, (2)Wright State University. Comparison of genetic population structure of endangered Scirpus acrostichaceus using two methods.

PS 21-92
Sherwood, NR and M Wu, Montclair State University. Criteria for habitat selection by wood turtles (Glyptemys insculpta) in New Jersey.

PS 21-93
Rainford, S, B Blossey and LJ Martin, Cornell University. Plant species effects override the effects of plant diversity and origin in determining tadpole performance.

PS 21-94
Yu, L, D Yu2 and D Xie2, (1)Peking University, (2)Wuhan University. Plant zonation along a freshwater flooding gradient: The relative importance of flooding, competition, and grazing.

PS 21-95
Deeny, JB and ER Crawford, Virginia Commonwealth University. Spatial patterns of herbaceous aquatic macrophyte recruitment in a naturally restored tidal and non-tidal freshwater wetland located within the Mid-Atlantic coastal plain.

PS 21-96
Joo, Y and EJ Lee, Seoul National University. Effects of shading on demography and physiological changes of Tamarix chinensis: Outdoor and indoor respects.

PS 21-97
Martinez, JL, University of Texas at El Paso. Assessment of water quality and benthic macroinvertebrate community at a wastewater receiving constructed wetland in El Paso, Texas.

PS 22 - Coastal Habitats
Exhibit Hall 3, Austin Convention Center

PS 22-98
Zayas-Santiago, CM1, RJ Colón-Rivera2 and RA Feagin2, (1)University of Puerto Rico at Humacao, (2)Texas A&M University. A new bio-bay: Bioluminescence in the Humacao Natural Reserve, Puerto Rico.

PS 22-99

PS 22-100
Awkerman, JA, S Raimondo and MG Barron, U. S. Environmental Protection Agency. Incorporating ecologically relevant habitat and demographic data in assessment of contaminant risk to wildlife.

PS 22-101
Larcher, L, APL Martins, MRT Boeger, WA Boeger and A Ostrensly, Universidade Federal do Paraná. Structural variation in two mangrove areas of the southern coast of Brazil.

PS 22-102
Tate, AS, L Battaglia and M Geisler, Southern Illinois University - Carbondale. Comparing Spartina alterniflora ESTs to Oryza sativa and Zea mays gene sequences: Implications for cross-species hybridization microarrays.

PS 22-103
Daneshgar, PP1, LS Wootton2 and C Torres1, (1)Monmouth University, (2)Georgian Court University. The role of beach nourishment on the success of the invasive Asiatic sand sedge.

PS 22-104
Nims, MK and B Walther, The University of Texas at Austin. The use of stable isotopes and trace element analysis to investigate freshwater residency patterns of southern flounder (Paralichthys lethostigma) in South Texas.
PS 25 - Mammals
Exhibit Hall 3, Austin Convention Center

PS 25-119 Weaver, SP, TR Simpson, JT Baccus and FW Weckerly, Texas State University. Characteristics of overwintering Brazilian free-tailed bats in central Texas.

PS 25-120 Barr, BN, University of North Texas. Effect of population density on juvenile growth rate in white-tailed deer (Odocoileus virginianus).

PS 25-121 Schauber, EM1, CK Nielsen2, LJ Kjør and C Anderson1, (1)Southern Illinois University, (2)Southern Illinois University Carbondale. Fluctuating social affinities of female and juvenile white-tailed deer at various time scales and impacts on disease transmission.

PS 25-122 Nicolay, CW1 and JL Horton2, (1)University of North Carolina Asheville, (2)University of North Carolina at Asheville. Roost characteristics and thermal competition in bats in a high-temperature cave.

PS 25-123 Chappell, AR1, YTK Lin2, L Young3 and LD Hayes4, (1) University of Louisiana at Monroe, (2)National Taiwan University, (3)Emory University, (4)The University of Louisiana at Monroe. Ecological and neuroanatomical correlates of mating system variation in the Taiwan field vole (Microtus kikuchii).


PS 26 - Arctic, Alpine, Antarctic Systems
Exhibit Hall 3, Austin Convention Center

PS 26-125 Miller, KE1, DA Lipson1, CT Lal1 and RA Dahlgren2, (1)San Diego State University, (2)University of California, Davis. Anaerobic methane oxidation as a methane sink in Arctic wetlands.

PS 26-126 Reyes, Jr, FR and VL Lougheed, University of Texas at El Paso. Are elevated nutrient levels in Arctic tundra ponds due to permafrost thaw.

PS 26-127 Stine, MB and DR Butler, Texas State University - San Marcos. Site characteristics of burned krummholz at alpine treeline in the Northern Rocky Mountains, USA.

PS 26-128 Hudelson, KE1, BD Barst2, JD Smith1 and AP Roberts1, (1)University of North Texas, (2)Institut National de la Recherche Scientifique, Université du Québec. Effects of carotenoprotein expression on UV tolerance in high elevation copepods.

PS 26-129 Zhang, L1 and S Cheng2, (1)The Ohio State University, (2)Chinese Academy of Sciences. Carbon dynamics for alpine natural wetlands in the eastern Qinghai-Tibet Plateau.

PS 27 - Arid and Semi-Arid Systems
Exhibit Hall 3, Austin Convention Center


PS 27-131 Whitcomb, HL and MW Brunson, Utah State University. Temperature increase effects on rangeland forbs: Experimental evidence and manager perspectives.

PS 27-132 Hoffmann, S, Utah State University. Ecological effects of vehicle-generated particulate matter, and the use of magnesium chloride as a dust suppressant in Arches National Park, UT.

PS 27-133 Tobler, MA1, MK Grabner1, HL Throop2, SR Archer3 and PW Barnes1, (1)Loyola University, (2)New Mexico State University, (3)University of Arizona. Interaction of soil deposition and UV radiation on dryland litter decomposition.

PS 27-134 Zhu, J1 and M Young2, (1)Desert Research Institute, (2)University of Texas at Austin. Evapotranspiration and groundwater system dynamics in arid riparian zone.

PS 27-135 Dugger, AL1, C Tague2, EQ Margolis3, CD Allen4 and TR Ringer1, (1)University of California at Santa Barbara, (2)University of California, Santa Barbara, (3)University of Arizona, (4)Jemez Mountains Field Station, (5)Los Alamos National Laboratory. Forest-hydrology interactions under a warmer climate: Effects of vegetation productivity dynamics and mortality on streamflow predictions in a semi-arid New Mexico mountain system.

PS 27-136 Wiemers, DW1, TE Fullbright1, A Ortega-Santos1, DG Hewitt1, GA Rasmussen1 and MW Hellickson2, (1) Texas A&M University-Kingsville, (2)Orion Wildlife Management Services. Influence of thermal cover on habitat selection by male white-tailed deer.


PS 27-139 Zhou, L1, G Yang1 and Y Luo2, (1)Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences, (2)University of Oklahoma. Landscape change and human activity analysis on desertification process in northern China.

PS 28 - Forest Habitats: Temperate
Exhibit Hall 3, Austin Convention Center

PS 28-140 Nuttle, T1 and TE Ristau2, (1)Indiana University of Pennsylvania, (2)USDA Forest Service. Long-term legacy of experimentally controlled deer density on understory vegetation in Pennsylvania.

PS 28-141 Li, B1, Z Hao1, Y Bin2, J Zhang3 and M Wang1, (1)Institute of Applied Ecology, Chinese Academy of Sciences, (2)South China Botanical Garden, Chinese Academy of Sciences, China, (3)Department of Renewable Resources, University of Alberta. Seed rain dynamics reveals dispersal limitation, strategies of reducing risks and response to climate.

PS 28-142 Álvarez-Sánchez, J, E Baltazar-Ortega, M Martínez-Hurtado and GM Barajas-Guzmán, Universidad Nacional Autónoma de México. Composition and distribution of soil fauna in a temperate forest of Central Mexico.

PS 28-143 Gacura, MD, B Heidenreich, DD Sprockett and CB Blackwood, Kent State University. Characterization of the leaf litter degrading capabilities of saprotrophic fungal communities using pectinase specific primers.

PS 28-144 Kush, JS1, DK Lauer2, RJ Barlow1 and JC Gilbert1, (1)Auburn University, (2)Sylvics Analytical. Miscommunication and confusion about longleaf pine growth: Using 40 years of real data to characterize longterm stand development.

PS 28-145 Brownstein, KJ, GE Rottinghaus and WR Folk, University of Missouri. Comparative analyses of harpagoside concentration in Devil’s Claw to Plantaginaceae and Scrophulariaceae species.

PS 28-146 Kaylor, SD and JA Franklin, University of Tennessee. Recovery from large impact disturbance: Spruce-fir forests after invasive insect depredation.
TUESDAY

4:30 pm-6:30 pm

PS 28-147 Ryee, E1, MD Gacura1, S Eisenlord2, DR Zak2 and CB Blackwood1, (1)Kent State University, (2)University of Michigan. Distribution of functional traits and taxonomic composition of leaf litter degrading fungal communities.

PS 28-148 Miller, JC1, SW Choi2 and JS An2, (1)Oregon State University, (2)Mokpo National University. A Pan-Pacific study of macromoth species richness and abundance: Oregon and South Korea.

PS 28-149 Nyamai, PA1, PC Goebel1, DM Hix1 and RG Corace III2, (1)The Ohio State University, (2)USDI Fish and Wildlife Service. Dormant woody fuel dynamics of mixed-pine forest ecosystems in the eastern Upper Peninsula of Michigan, U.S.A.

PS 28-150 Adam, PM1, LA Vierling1, KT Vierling1, E Strand1 and A Hudak2, (1)University of Idaho, (2)USDA Forest Service. Assessing Pileated woodpecker habitat from space: Predicting presence from lidar derived forest structure.

PS 28-151 Hurtado, G1 and LA Trulio2, (1)New Mexico State University, (2)San Jose State University. Black oak (Quercus kelloggii) multiple management release restoration in California.

PS 28-152 Fell, M1, K Ogle1 and Ibanez2, (1)Arizona State University, (2)University of Michigan. Tree functional traits and their relationship to survival in seedlings of seven species from a latitudinal gradient.

PS 28-153 Del Valle, LA1, MD Gacura2, SA Vernon1 and CB Blackwood2, (1)Kent State University, (2)Kent State University. Characterization and analysis of the succession of endophytes in decaying leaves in Manistee National Forest, MI.

PS 28-154 Celis-Diez, JL1, M Carmona2, A Gaxiola3, CB Anderson4, JR Gutierrez5, R Rozzi5 and J Armesto1, (1)Institute of Ecology and Biodiversity and Center for Advanced Studies in Ecology and Biodiversity, (2)Institute of Ecology and Biodiversity and CASEB, Pontificia Universidad Católica de Chile, (3)Institute of Ecology and Biodiversity and Center for Advanced Studies in Ecology and Biodiversity, (4)Institute of Ecology and Biodiversity and Omosa Park - University of Magallanes, (5)Universidad de Chile, (6)University of North Texas and University of Magallanes - Institute of Ecology and Biodiversity, Chile. Filling a gap in long-term ecological research and monitoring of terrestrial ecosystems in the southern hemisphere.

PS 28-155 Limm, EB1, C Rico2 and J Pittermann3, (1)Save The Redwoods League, (2)University of California, Santa Cruz, (3)University of California. High resistance to drought-induced cavitation in ferns of the coast Redwood forest.

PS 29 - Forests: Montane/Subalpine

Exhibit Hall 3, Austin Convention Center

PS 29-156 Collins, BJ1, CC Rhoades2, RM Hubbard3, M Battaglia2 and J Underhill4, (1)USDA Rocky Mountain Research Station, (2)USFS Rocky Mountain Research Station, (3)USDA Forest Service. (4)USFS Arapaho-Roosevelt National Forest. Future stand development following mountain pine beetle and harvesting in Colorado lodgepole pine stands.


PS 29-158 Litong, Sr., C, Northwest Institute of Plateau Biology, Chinese Academy of Sciences. Divergent patterns of 14C versus 15N in Quercus aquifoloides along an altitudinal gradient: An integrated study based on multiple foliar traits.

PS 29-159 Curtis, EEM1, AK Ettinger2, R Konrady2 and J HilleRisLambers2, (1)Swarthmore College, (2)University of Washington. Decrease in growth preceding death in Abies amabilis (Pacific Silver Fir).

PS 29-160 Anderegg, LD, Stanford University. Linking tree ecohydrology, drought seasonality, and forest mortality.

PS 29-161 Berry, ZC and WK Smith, Wake Forest University. Cloud immersion impacts water relations in a relic spruce-fir community in the Southern Appalachian Mountains, USA.

PS 29-162 Kim, H and SW Choi, Mokpo National University. The Beta diversity of vascular plants and their relationships with environmental factors along an altitudinal gradient in the Mt. Jiri National Park, Korea.

PS 29-163 Dugan, SC1, BP Oswald1, RG Ballice2 and DR Unger1, (1)Stephen F. Austin State University, (2)Los Alamos National Laboratory. Assessing recent drought response in northern New Mexico with respect to ovestory tree mortality in the ponderosa pine ecosystem.

PS 29-164 Barbieto, I, MA Dawes, C Rixen, J Senn and P Bubi, WSL Institute for Forest, Snow and Landscape Research - SLF. Factors driving survival and growth at treeline: A 30-year experiment of 92000 conifers.

PS 30 - Urban Ecosystems

Exhibit Hall 3, Austin Convention Center

PS 30-165 Stratford, JA, A Bartlow, N Lamoreaux, C Bartlow and P Payne, Wilkes University. Blood parasite prevalence and health status of song sparrows (Melospiza melodia) along an urban-rural gradient in ne Pennsylvania.

PS 30-166 Wepprich, TM1, M Maloley2 and JE Grealey3, (1)North Carolina State University, (2)Natural Resources Canada, (3)Natural Resource Solutions, Inc.. Butterfly flight phenology in response to urban heat island effects.


PS 30-168 Youth, MD1, G Hess2, MR McHale1 and MN Peterson1, (1)North Carolina State University, (2)NC State University. Ecosystem services and equity: How do drinking water supply reservoirs shift local demographics?.

PS 30-169 Watkins, CD, KO Winemiller and M Mora, Texas A&M University. Do wastewater treatment plants cause abnormal effects in mosquito fish in the Houston bayous?.

PS 30-170 Carey, TS1 and DW Katz2, (1)University of Michigan, Ann Arbor, (2)University of Michigan. Pollen and public health: A citizen science project.

PS 30-171 Bennett, AB and ST Lovell, University of Illinois. Evaluating the impact of local and landscape scale variables on native pollinators in urban agricultural sites.


PS 30-173 Garcia, AM, MD Blackledge, CR Burt and GC Chang, Gonzaga University. Dalmatian toadflax is larger and hosts fewer weevils when growing at urban sites.

PS 30-174 Torres, AO1 and JH Sullivan2, (1)University of Maryland, College Park, (2)University of Maryland. Sustainability of urban tree planting programs: Using socioeconomic factors to predict tree mortality in urban ecosystems.

PS 30-175 Volder, A, B Viswanathan and TW Watson, Texas A&M University. Effect of pervious pavement on soil CO2 efflux, root growth and tree diameter growth.

PS 30-176 Stabler, LB1, WL Johnson1, KJ Loccy2 and PA Stone1, (1)University of Central Oklahoma, (2)Utah State University. Mediterranean geckos (Hemidactylus turcicus) in two
temperate zone urban habitats.

PS 30-177 Freeman, KE¹, SE Cuttler, T Pucci¹, and BM Walton¹, (1)Cleveland State University, (2)Cleveland Museum of Natural History. Urban hymenoptera: Diversity and abundance in vacant lots and community gardens in Cleveland, Ohio.

PS 30-178 Haines, CE¹, F Gallagher¹, J Grabosky¹, and KV Schafer², (1)Rutgers University, (2)Rutgers University Newark. The impact of soil metal and water stress on leaf area in Betula populifolia: Implications for carbon modeling.

PS 30-179 Cucco, A, Fordham University. Urbanization effects on nitrogen cycling and plant growth.


PS 31-1 Fire Exhibit Hall 3, Austin Convention Center


PS 31-182 Sankey, JB¹, MJ Germino², TT Sankey² and AN Hoover², (1)USGS, (2)Idaho State University. Meta-analysis of the interplay of soil resources affecting ecological condition and resistance to disturbance in the sagebrush steppe, USA.

PS 31-183 Burnett, SA¹, SL Collins², JA Hattey¹, JE Johnson² and AL Swann³, (1)University of Hawaii, (2)University of Arizona, (3)University of California, Berkeley. Effects of fire on belowground biomass in a black grama grassland.

PS 31-184 Mola, JM¹, JM Varner², T Spector³, C Sullivan² and EA Engber¹, (1)Florida State University, (2)Humboldt State University, (3)Florida Park Service. Contrasting flammability of adjacent plant communities: Florida’s Apalachicola Bluffs and Ravines.

PS 31-185 Arizpe, AA and DA Falk, University of Arizona. Fire history reconstruction in the sky islands of Northern Sonora.

PS 32 - Fire Management Exhibit Hall 3, Austin Convention Center

PS 32-186 Plavsic, MJ¹, M Hein² and L Cassidy³, (1)University of New England, (2)University of Innsbruck, (3)University of Botswana. Ecological and socioeconomic dimensions of anthropogenic fire in southern Africa: An interdisciplinary synthesis.

PS 32-187 Branson, DH and LT Vermeire, USDA-Agricultural Research Service. Effects of patch burning season and livestock grazing on grasshopper populations in northern mixed prairie.

PS 32-188 Ellsworth, LM¹, CM Litton¹ and JB Kauffman², (1)University of Hawaii at Manoa, (2)USDA Forest Service, Northern Research Station. A custom fuel model for improving wildfire prediction in nonnative guinea grasslands (Megathyrsus maximus) in Hawaii.

PS 32-189 Arthur, MA¹, CE McMichael² and GC Sovkopoulos¹, (1)University of Kentucky, (2)Morehead State University. Using remotely-sensed imagery to monitor post-fire forest dynamics on upland oak forests on the Cumberland Plateau, Kentucky.

Earth Stewardship: Preserving and enhancing earth’s life support systems
6:30 pm-8 pm; 8 pm-10 pm

ESA Statistical Ecology Section Business Meeting and Mixer
18D, Austin Convention Center

ESA Student Section Business Meeting and Awards Ceremony
7, Austin Convention Center

Michigan Ecology Mixer
19B, Austin Convention Center

NEON Meet & Greet
Ballroom C, Austin Convention Center

Oecologia Editorial Board Reception (by invitation only)
Skyline, Radisson Hotel

USGS Meet & Greet
Ballroom E, Austin Convention Center

8 pm-10 pm

SS 12 - Environmental Literacy For a Sustainable World: An Action Plan
6B, Austin Convention Center
Organized by: T Mourad (teresa@esa.org), M Lowman
This session will present the Decadal Action Plan developed at the Ecology and Education Summit led by ESA and its partners in 2010. We will discuss ways ESA members can contribute within the coordinated framework of priorities to accelerate environmental literacy. Gaps that need further attention will also be explored.

SS 13 - Introducing ESA’s Guidebook on Effective Communication and Policy Engagement
18D, Austin Convention Center
Organized by: N Lymn (nadine@esa.org), K Kline, T Houston
This session will showcase ESA’s new guidebook on opportunities for ecological scientists to engage in policy and effective communication. Following several presentations, participants will rotate tables to interact with speakers and other experts to gain additional insights. All will receive a copy of ESA’s guidebook. Cash bar and snacks.

SS 14 - The Greening of Higher Education
16B, Austin Convention Center
Organized by: VJ Watson, M Tare
The past decade has seen many universities and colleges strive to become models of sustainability. A survey of their efforts will be presented, and a panel of university sustainability officers and ecologists will describe highlights from their schools. Audience members will be invited to describe efforts at their schools.

Speakers:
P Rowland, Association for the Advancement of Sustainability in Higher Education (AASHE)
D Orr, Oberlin College
WH McDowell, University of New Hampshire
J Grover, University of Texas at Arlington
TM Long, Michigan State University

SS 15 - Earth Stewardship in Latin America: Challenges and Opportunities
5, Austin Convention Center
Organized by: JJ Armesto, ME Lam, D Stanton, R Rozzi
Latin America houses both tremendous biocultural diversity and massive exploitation of natural resources. The special session will address the challenges and opportunities facing ecologist and institutions to achieve long-term sustainability and stewardship of Latin American ecosystems, integrating varied perspectives and experiences from across the region in a roundtable discussion.

Speakers:
ME Power, University of California, Berkeley
JP Rodriguez, Instituto Venezolano de Investigaciones Científicas
M Quesada, Universidad Nacional Autónoma de México

SS 16 - Ecology Meets Environmental Ethics: The Case of Three Gray Whales in Barrow, Alaska
4, Austin Convention Center
Organized by: IS Ng (ngi@uoguelph.ca)
The paradox of ecology is that many ecologists enter the field because they value nature, but then are expected to be “value-free” as scientists. How do we reconcile these (sometimes conflicting) parts of our selves? This session takes a philosophical approach to explore ecology’s hidden dimensions and emerging richness.

WK 34 - Ecologists’ Speaker’s Bureau for Earth Stewardship Outreach to Faith Communities—FREE
19A, Austin Convention Center
Organized by: GE Hitzhusen (hitzhusen.3@osu.edu), LM Jablonski, JR Miesel, G Middendorf
Organizing session to establish a national ecologists’ speaker’s bureau to provide good science and timely ecological information to local communities and influential social organizations, including faith communities and EJ-impacted communities. National religion-environment leaders will provide mini-orientation and training to empower successful ecology education outreach. Participants will discuss and plan implementation.

Speakers:
FS Chapin, University of Alaska
CB DeWitt, University of Wisconsin
P Bakken, Wisconsin Council of Churches and Interfaith Power and Light
Wednesday, August 10
Field Trips, Business Meetings, and Receptions

7 am-9 am
- ESA Development Business Meeting
  ML 12-level 2, Austin Convention Center
- ESA Meetings Committee Business Meeting
  Austin Suite, Austin Convention Center
- ESA Publications Committee Business Meeting
  ML 13-level 2, Austin Convention Center

8 am-9 am
- ESA Education and Human Resources Committee Business Meeting
  1, Austin Convention Center

11:30 am-12 pm
- ESA Presider/AV Training
  17A, Austin Convention Center

11:30 am-1:15 pm
- ESA Agroecology Business Meeting
  19B, Austin Convention Center
- ESA Environmental Justice Section Meeting and Discussion
  18A, Austin Convention Center

12 pm-1 pm
- Researchers at Undergraduate Institutions Business Meeting
  Austin Suite, Austin Convention Center

12:15 pm-1:15 pm
- PL 3 - ESA Recent Advances Lecture
  Guest Lecturer: Camille Parmesan of the University of Texas

5 pm-6:30 pm
- ESA Musicians Central
  Registration Lobby, Austin Convention Center

6:30 pm-8 pm
- Bringing Athens, Georgia to Austin (Odum School of Ecology)
  Ballroom C, Austin Convention Center
- Colorado State University Ecologists
  Travis III, Radisson Hotel
- ESA Diversity Mixer
  Ballroom F, Austin Convention Center
- ESA Natural History Section Mixer
  Old Pecan St, Radisson Hotel
- ESA Plant Population Ecology Business Meeting
  Travis II, Radisson Hotel
- ESA Physiological Ecology Section Mixer and Business Meeting
  Ballroom G, Austin Convention Center
- ESA South American Chapter Business Meeting
  Austin Suite, Austin Convention Center
- The Nature Conservancy Reception
  18B, Austin Convention Center
Wednesday Sessions

7 am-9 am

ESA Development Business Meeting
ML 12-level 2, Austin Convention Center

ESA Meetings Committee Business Meeting
Austin Suite, Austin Convention Center

ESA Publications Committee Business Meeting
ML 13-level 2, Austin Convention Center

7:30 am-12:30 pm

CANCELED FT 20 - Hornsby Bend
Trinity Street Lobby Field Trip Pick Up, Austin Convention Center
Organized by: KM Anderson (kevin.anderson@ci.austin.tx.us)

8 am-9 am

ESA Education and Human Resources Committee Business Meeting
1, Austin Convention Center

8 am-11:30 am

SYMP 10 - From Sky-Islands to Sea-Mountains: The Ecology and Dynamics of Cornerstone Ecosystems In the Pacific Coastal Drylands
Ballroom E, Austin Convention Center
Organized by: E Ezcurra, S Vanderplank, B Wilder
Endorsed by: Former Chair, Mexico Chapter, Former Chair, Mexico Chapter
Moderator: E Ezcurra

Binational, regional session linking patterns in terrestrial and marine biodiversity to environmental pulses.

8:00 AM SYMP 10-1 Erisman, B¹, P Hastings¹, O Aburto-Oropeza¹, I Mascareñas-Osorio² and C González-Abraham³, (1) Scripps Institution of Oceanography, UCSD, (2)Centro para la Biodiversidad Marina y la Conservación, (3) CIBNOR. Spatio-temporal heterogeneity and interactions of fishes, fisheries, and coastal ecosystems in the Gulf of California Region.

8:15 AM SYMP 10-2 Aburto-Oropeza, O¹, B Erisman¹, I Mascareñas-Osorio², J Cota-Nieto² and E Ezcurra³, (1) Scripps Institution of Oceanography, (2)Centro para la Biodiversidad Marina y la Conservación, (3)University of California, Riverside. Climate variability and environmental services of mangroves, sargassum beds, and reefs.

8:30 AM SYMP 10-3 López-Medellín, X¹, E Ezcurra², C González-Abraham³, J Hak¹, JO Sickman⁵ and LS Santiago⁶, (1) CIECO-UNAM, (2)University of California, Riverside, (3) San Diego Natural History Museum, (4)NatureServe, (5)UC Riverside, (6)University of California. Mangrove ecology and seal-level changes in the Pacific coasts of Baja California Sur.

8:45 AM SYMP 10-4 Velarde, E¹, E Ezcurra² and DW Anderson², (1)Instituto de Ciencias Marinas y Pesquerías, (2) University of California. Seabird demographies, sardine cycles and oceanographic anomalies.

9:00 AM SYMP 10-5 Sagarin, R, University of Arizona. The microcosm and the macrocosm: Historical ecology and coastal change in the Gulf of California.

9:15 AM Break

9:25 AM SYMP 10-6 Mellink, E¹ and M Riojas², (1)CICESE, (2) Universidad de Guadalajara. Geography of ground-dwelling vertebrates in Baja California.

9:40 AM SYMP 10-7 Wilder, B¹ and R Felger², (1)University of California, Riverside, (2)University of Arizona Herbarium. Island biogeography, plant distribution, and origin of island floras.

9:55 AM SYMP 10-8 Wehnecke, E, San Diego Natural History Museum. Insect herbivory impacts blue fan palm populations of northern Baja California: Revealing a new endemic interaction.


10:25 AM SYMP 10-10 Garcillán, PP¹, C González-Abraham¹ and E Ezcurra¹, (1)CIBNOR, (2)University of California, Riverside. Forrest Shreve revisited: The ecological regions of Baja California and the Sonoran Desert under large-scale environmental change.

SYMP 11 - Stewardship of Urban Systems 1: Ecosystem Processes and Services in the ULTRA Network
Ballroom G, Austin Convention Center
Organized by: G Hess, PS Warren, M Katti
Endorsed by: Urban Ecosystems Ecology
Moderator: G Hess

This symposium features researchers, working with practitioners outside academia, from the nascent Urban Long Term Research Area (ULTRA) network who are using diverse, interdisciplinary approaches to study the flow of materials, organisms, and ecosystem services in cities across the nation.

8:00 AM SYMP 11-1 Grove, JM, U.S. Forest Service. What a long strange trip it’s been: Background and impulses for the development of the ULTRA program from the US Forest Service.

8:15 AM SYMP 11-2 Phillips, N¹, L Hutrya¹, M Friedl¹, S Gopal¹, R Kaufmann¹, J Ferreira¹, P Furth¹, DY Hollinger¹, DF Foster¹ and S Wofsy¹, (1)Boston University, (2)Massachusetts Institute of Technology, (3)Northeastern University, (4) US Department of Agriculture Forest Service, (5)Harvard University. The metabolism of Boston.

8:30 AM SYMP 11-3 Pijanowski, B¹, A Durnbaugh², P Gabster³, SL Stewart¹, J L Heneghan¹, J Hirsch¹, E Lonsdorf¹, E Minor⁸, DH Wise³, N Tuchman³ and L Westphal², (1)Purdue University, (2)Chicago Department of the Environment, (3)United States Forest Service, (4)USDA Forest Service, (5)DePaul University, (6)The Field Museum, (7)Lincoln Park Zoo, (8)University of Illinois at Chicago, (9)Loyola University-Chicago. Convergences and synergies between conserving biodiversity and the provisioning of ecosystem services to people: The Chicago ULTRA Project.

8:45 AM SYMP 11-4 Griffin, KL, WR McGillis and DY Hsueh, Lamont Doherty Earth Observatroy. Human population impact on the atmospheric CO2 levels of NYC over the last 180 years: Results from an urban to rural transect.

9:00 AM SYMP 11-5 Walton, BM¹, T Schwarz², JJ Mack Jr.³, D Beach³, PS Grewal⁴, E Price⁴ and MM Gardiner⁴, (1) Cleveland State University, (2)Cleveland Urban Design Collaborative, Kent State University, (3)Cleveland MetroParks, (4)GreenCityBlueLake Institute, Cleveland Museum of Natural History, (5)Ohio State University. (6)
Earth Stewardship: Preserving and enhancing earth's life support systems

8 am-11:30 am


10:50 AM SYMP 12-8 Yannarell, AC, University of Illinois at Urbana-Champaign. Microbial ecology in plant invasions: Considerations of scale.


OOS 20 - Plant Responses to Climate Change: Lessons from Invasions
16B, Austin Convention Center
Organized by: P Caplat (paul.caplat@gmail.com), YM Buckley
Moderator: P Caplat
This session aims to highlight the potential for invasion biology to help answer questions about how and how fast we might expect populations to move, re-assemble and adapt to climate change, and more generally offer ideas for new research directions in invasion and climate change ecology.

8:00 AM OOS 20-1 Richardson, DM1, C Hui1, JJ Le Roux1 and JRU Wilson2, (1)Stellenbosch University, (2)South African National Biodiversity Institute. Australian acacias take on the world: Lessons for management from a global translocation experiment.

8:20 AM OOS 20-2 Zhang, R1, E Jongejan2 and K Shea1, (1)The Pennsylvania State University, (2)Radboud University Nijmegen. Enhanced dispersal and spread of an invasive thistle under climate change.

8:40 AM OOS 20-3 van Kleunen, M and W Dawson, University of Konstanz. Plastic responses of alien plants to environmental change.

9:00 AM OOS 20-4 Cheptou, P, CEF-E-CNRS. Rapid adaptations to novel environments: the example of dispersal in urban environment.

9:20 AM OOS 20-5 Peltzer, DA1, PJ Bellingham1, LR Walker2, H Kurokawa3, IA Dickie1, MG St. John1 and D Wardle4, (1)Landcare Research, (2)University of Nevada Las Vegas, (3)Tohoku University, (4)Department of Forest Ecology and Management, Swedish University of Agricultural Sciences. Soil-plant interactions, invasives and climate change.

9:40 AM Break

9:50 AM OOS 20-6 Diez, JM and I Ibanez, University of Michigan. Invasive species as model organisms: integrating disparate data sources to predict species responses to climate change.

10:10 AM OOS 20-7 Larson, B, University of Waterloo. Stewarding the planet's plants: Human dimensions of the spread of plants in response to climate change.

10:30 AM OOS 20-8 Zelikova, TJ, SC Reed and J Belnap, USGS. Plant responses to experimental warming and modified precipitation in an arid ecosystem.

10:50 AM OOS 20-9 Gornish, ES and TE Miller, Florida State University. Quantifying the effects of global change on invasive species and invaded habitats.

11:10 AM OOS 20-10 Von Holle, B, University of Central Florida. Do native and nonnative species respond similarly to climate change?

OOS 21 - Earth Stewardship: Communicating and Fostering Stewardship Behavior
17A, Austin Convention Center
Organized by: FS Chapin (terry.chapin@alaska.edu), D Carter
Moderator: FS Chapin

SYMP 12 - Micro-Managing the Planet: Integrating Microbial Ecology and Earth Stewardship
Ballroom F, Austin Convention Center
Organized by: JT Lennon (lennonja@msu.edu), A Kent
Endorsed by: Microbial Ecology
Moderator: JT Lennon
The proposed symposium will present interdisciplinary perspectives on microbial services to society, highlighting the contributions of microbial communities to maintenance, management, and restoration of ecosystem services, environmental quality, and sustainability.

8:00 AM Welcoming Remarks

8:05 AM SYMP 12-1 Ducklow, H, Marine Biological Laboratory. Microbial services: Challenges for microbial ecologists in a changing world.

8:40 AM SYMP 12-2 Smith, VH, University of Kansas. Application of ecological principles to engineered biosystems.


9:40 AM Break

9:50 AM SYMP 12-5 Stuart, D, Michigan State University. Bringing microbial ecology into the social sciences.

10:10 AM SYMP 12-6 Bohannan, BJM, J Green, SW Kembel and GZ Brown, University of Oregon. The impact of architectural design on the microbial diversity of built environments.
8 am-11:30am

This session brings together environmental psychologists, sociologists, landscape architects, religious scholars, environmental authors and ecologists seeking to improve understanding of the conditions under which people are motivated to be stewards of their communities and the broader world.

8:00 AM OOS 21-1 Jablonski, LM\(^1\), AM Hruska\(^2\), KE Bohrer\(^3\) and RW McEwan\(^2\), (1)Marianist Environmental Education Center, (2)The University of Dayton, (3)University of Dayton. Sustainability, Energy, Environment Initiative: Ecology learning in an interdisciplinary environment.

8:20 AM OOS 21-2 Shanahan, SA, Southern Nevada Water Authority. A dozen “plus one” years of ecosystem service enhancements in the Las Vegas Valley watershed, Nevada USA: A baker’s perspective.

8:40 AM OOS 21-3 Bixler, RP, Colorado State University. “From my place to yours”: Communities of open innovation as an approach to watershed stewardship transferability.

9:00 AM OOS 21-4 Princen, T, University of Michigan. Drivers of Overconsumption and Pathways to More Restrained Resource Use.


9:40 AM Break

9:50 AM OOS 21-6 Nassauer, JI, University of Michigan. From place to planet: Can landscape care promote environmental stewardship?

10:10 AM OOS 21-7 DeWitt, CB, University of Wisconsin. The moral ground: The role of faith and faith-based institutions in fostering stewardship.

10:30 AM OOS 21-8 Steinwald, M\(^1\) and SJ Tonsor\(^2\), (1)Phipps Conservatory and Botanical Gardens, (2)University of Pittsburgh. Training emerging ecologists in outreach through botanic gardens contributes to environmental stewardship and transformation of the culture of science.

10:50 AM OOS 21-9 Fernandez, E, Stanford University. From knowledge to action: Creating a social movement.

11:10 AM OOS 21-10 Ogden, L, Florida International University. Defining our place in the world: How ecology offers an ethics for land stewardship.

OOS 22 - Mobile Devices for Enhancing Data Collection in Citizen Science Projects

17B, Austin Convention Center

Organized by: EA Graham (egraham@cens.ucla.edu), S Henderson

Moderator: EA Graham

Advances in mobile technologies and the current proliferation of citizen science programs have resulted in new collaborative methods for earth stewardship. This OOS brings together individuals using mobile devices for field data collection, sharing ideas and approaches to enhancing data collection and analysis in environmental and citizen science projects.

8:00 AM OOS 22-1 Estrin, D, University of California, Los Angeles. Participatory Sensing: from ecosystems to human systems.


8:40 AM OOS 22-3 Alaback, P\(^1\), EA Graham\(^2\) and S Henderson\(^3\), (1)University of Montana, (2)University of California, Los Angeles, (3)NEON, Inc. Project BudBurst Mobile.

9:00 AM OOS 22-4 Ansari, Y, Networked Organisms. Project Noah: Networked Organisms and Habitats.

9:20 AM OOS 22-5 Schloss, A\(^1\), J Beaudry\(^2\), J Pickle\(^3\), F Carrera\(^4\) and S Guerin\(^5\), (1)University of New Hampshire, (2)University of Southern Maine, (3)Concord Academy, (4)Worcester Polytechnic Institute, (5)Santa Fe Complex. How mobile picture posts will expand participation in the Digital Earth Watch and Picture Post citizen environmental monitoring network.

9:40 AM Break

9:50 AM OOS 22-6 Klemow, KM, Wilkes University. Can use of handhelds in citizen science programs spur public consensus on development of shale gas in northeastern Pennsylvania?.

10:10 AM OOS 22-7 Stevenson, RD, University of Massachusetts. Electronic Field Guides and Mobile Data Collection.

10:30 AM OOS 22-8 Marsh, L\(^1\), D Meredith\(^2\) and A Rosemartin\(^3\), (1)USA National Phenology Network & University of Arizona, (2)USA National Phenology Network, (3)USA National Phenological Network & University of Arizona. The needs of the many: Challenges and opportunities in mobile citizen science infrastructure at the USA-APN.

OOS 23 - Taking stock: The Role of Vegetation and Ecosystem Types in Guiding Ecological Assessments

12A, Austin Convention Center

Organized by: P Comer

Moderator: A Solomeshch

Stewardship of lands and waters requires ongoing assessments of their status. Information on ecosystem or vegetation types, their patterns, levels of protection, and current condition, and climate-induced stressors are core components of such assessments. We demonstrate ecological assessments for ecoregions and wetlands.

8:00 AM OOS 23-1 Rooney, R and SE Bayley, University of Alberta. Cross-assemblage concordance is lower in disturbed than in reference wetlands: implications for monitoring and assessment.


8:40 AM OOS 23-3 Unnasch, B\(^1\) and J Hak\(^2\), (1)Sound Science, (2)NatureServe. Fire Regime Dynamics in BLM rapid ecological assessments.

9:00 AM OOS 23-4 Jennings, M, University of Idaho. Evaluating the influence of climate on the vegetation composition of ecological systems.

9:20 AM OOS 23-5 Elliott, LF\(^1\) and DD Diamond\(^2\), (1)Missouri Resource Assessment Partnership, (2)University of Missouri. The role of Ecological System mapping for assessment and stewardship applications in Texas.

9:40 AM Break


10:10 AM OOS 23-7 Muldavin, EH\(^1\), E Millford\(^1\), Y Chauvin\(^2\), B Bader\(^2\) and M McGraw\(^3\), (1)University of New Mexico, (2)SWCA Environmental Consultants, (3)New Mexico Environment Department. Using a vegetation classification framework for rapid assessment measures of biodiversity: a case study from wetlands in the Southwest.

10:30 AM OOS 23-8 Gould, WA and GS Potts, USDA Forest Service. Integrating LiDAR and Advanced Land Imager (ALI) data in landcover mapping of the U.S. Virgin Islands (USVI) and using the U.S. National Vegetation Classification to integrate Puerto Rico and the USVI with national GAP landcover datasets.
Earth Stewardship: Preserving and enhancing earth's life support systems

OOS 24 - From Projections to Decisions: Integrating Climate Change and Ecological Models to Inform Regional Conservation Strategies
14, Austin Convention Center
Organized by: JK Costanza (jennifer_costanza@ncsu.edu), M Post van der Burg
Moderator: S Jones

Our session features state-of-the-art techniques for integrating climate change projections and their associated uncertainties with ecosystem and species-level modeling into theoretical and applied studies that inform regional conservation actions.

8:00 AM OOS 24-1 Terando, A, Biodiversity and Spatial Information Center. Developing downscaled probabilistic climate projections for regional integrated assessments.
8:20 AM OOS 24-2 Costanza, JK1, TS Earnhardt2, A Terando2 and A McKerrow3, (1)North Carolina State University, (2) Biodiversity and Spatial Information Center, (3)United States Geological Survey. Modeling the impact of climate change on regional vegetation dynamics via effects on the fire regime.
8:40 AM OOS 24-3 Hulcr, J, North Carolina State University. Insect outbreaks are a significant factor in models of Southeastern vegetation dynamics under climate change.
9:00 AM OOS 24-4 LaFontaine, JH, LE Hay, RJ Viger, SL Markstrom and RS Regan, USGS. Simulation of hydrologic response to climate change using the Precipitation Runoff Modeling System in the Apalachicola-Chattahoochee-Flint River Basin in the Southeastern USA.
9:20 AM OOS 24-5 Veran, S1, JD Nichols1 and JA Collazo2, (1) USGS, (2)North Carolina State University. Modeling habitat dynamics accounting for possible misclassification.
9:40 AM Break
9:50 AM OOS 24-6 Post van der Burg, M1 and JB Grand2, (1) Auburn University, (2)USGS Alabama Cooperative Fisheries and Wildlife Research Unit. Making robust landscape planning decisions under severe uncertainty due to climate change.
10:10 AM OOS 24-7 Dubois, NS1, A DeWan1, JL Boshoven1 and DC Parsons2, (1)Defenders of Wildlife, (2)Florida Fish and Wildlife Conservation Commission. Using species-level vulnerability assessments to inform conservation planning under climate change.
10:30 AM OOS 24-8 Freeman, MC1, JT Peterson2, CM Elliot3, CP Shea4 and MM Hagler5, (1)USGS Patuxent Wildlife Research Center, (2)USGS GA Cooperative Fish and Wildlife Research Unit, (3)USGS Columbia Environmental Research Center, (4)University of Georgia, Warnell School of Forestry and Natural Resources, (5)University of Georgia, Odum School of Ecology. Using species traits and geomorphic conditions to condition coarse-resolution assessment of climate change effects on aquatic species.
10:50 AM OOS 24-9 Wintle, BA1, SA Bekessy2, DA Keith3, B van Wilgen1 and HP Possingham2, (1)University of Melbourne, (2)RMIT University, (3)Department of Environment and Climate Change New South Wales, (4)CSIR South Africa, (5)University of Queensland. From prediction to action; the science of saving species from climate change.
11:10 AM OOS 24-10 Barrett, K1, NP Nibbelink1 and JC Maerz2, (1)University of Georgia, (2)The University of Georgia. Amphibian response to climate change in the southeastern US: A model for identifying priorities.

OOS 25 - Trait Evolution and the Dynamics of Food Webs
15, Austin Convention Center
Organized by: F Massol (francois.massol@cemagref.fr), V Calcagno, JH Pantel
Moderator: F Massol

More than thirty years after van Valen’s (1973) seminal paper on Red Queen dynamics, this session explores how traits evolve in food webs, which selective pressures arise in these systems, and how the evolution of species traits feed back on food web dynamics.

8:00 AM OOS 25-1 Pantel, JH1 and N Louelle2, (1)University of Illinois at Urbana-Champaign, (2)Universite Paris 6. Ecological and evolutionary contributions to community-wide trait change.
8:20 AM OOS 25-2 Duffy, MA1, JM Housley1, RM Penczykowski1, CA Klausmeier6 and SR Hall1, (1)Georgia Institute of Technology, (2)Michigan State University, (3)Indiana University. Ecological context influences parasite-driven evolution and host-parasite dynamics.
8:40 AM OOS 25-3 Louelle, N, Universite Paris 6. Heterogeneity of prey/resource dispersal constrains the emergence and maintenance of diversity.
9:00 AM OOS 25-4 Fellous, S1 and BP Lazzaro2, (1)Centre National de la Recherche Scientifique, (2)Cornell University. A link between the communities of parasites of insect larvae and adults mediated by the host's immune system.
9:40 AM Break
10:50 AM OOS 25-9 Murall, CL, C Bauch and KS McCann, University of Guelph. The food webs inside the human body.
11:10 AM OOS 25-10 Pawar, S1, AI Dell2 and VM Savage3, (1) University of California, Los Angeles, (2)University of California Los Angeles, (3)UCLA. Consumption rates and trophic interaction strengths are constrained by dimensionality of consumer search space.

COS 51 - Wetlands
Ballroom B, Austin Convention Center

8:00 AM COS 51-1 Parker, VT1, JC Callaway2, LM Schile3, MC Vasey1 and ER Herbert1, (1)San Francisco State University, (2)University of San Francisco, (3)UC Berkeley. Vegetation structure in Mediterranean-climate brackish tidal wetlands and their sensitivity to climate change impacts.
8:40 AM COS 51-3 Rigsby, CE, Reinhardt University. Terrestrial habitat environmental influence on amphibian larvae and metamorphs within temporary wetlands.
8 am - 11:30 am
9:00 AM COS 51-4 Baldwin, T, Alabama A&M University. Survivorship and the influence of varying spatial environmental factors on Spotted Salamander, Ambystoma maculatum, egg masses in northern Alabama.
9:20 AM COS 51-5 Plenzler, MA and HJ Michaels, Bowling Green State University. The effects of canopy shading on the macroinvertebrate biodiversity and water quality of artificial wetlands.
9:40 AM Break
9:50 AM COS 51-6 Langley, MR, K Stone and MM Carreiro, University of Louisville. Effects of flooding duration, depth, and simulated canopy closure on the growth and survival of the invasive shrub Lonicera maackii (Rupr.) Herder.
10:10 AM COS 51-7 Stefaniak, KC1 and WJ Mitsch2, (1)The Ohio State University, (2)Wilma H. Schiermer Olentangy River Wetland Research Park. Vegetation development and succession in mitigation wetlands of Ohio.
11:10 AM COS 51-10 White, DA, Loyola University. The Mississippi River: The ecological forcer in the marsh communities of its bird-foot delta. Louisiana, as illustrated over this 25+ year study by its impacts from both warming, likely from climate change, and also from its highly dynamic character.

COS 52 - Foraging, Savannas, and Woodlands
Ballroom C, Austin Convention Center
8:00 AM COS 52-1 Belchior, C1, K Del-Claro1 and PS Oliveira2, (1) Universidade Federal de Uberlandia, (2)State University of Campinas. Ecology of the harvester ant Pogonomyrnx neageli in the Brazilian tropical savanna.
8:20 AM COS 52-2 Newbold, TAS1 and EW Schupp2, (1)Sheridan College, (2)Utah State University. The role of harvester ant foraging behavior in the restoration of cheatgrass-degraded sagebrush-steppes rangelands.
8:40 AM COS 52-3 Hebelmann, L1, D Ward1, H Fritz2 and AM Shrader1, (1)University of KwaZulu-Natal, (2)Université de Lyon 1. Quality is the key: Seasonal home range shifts of white rhinos are driven by food quality not availability.
9:00 AM COS 52-4 Van Der Merwe, J1 and JP Marshall2, (1) Southern Illinois University, (2)University of the Witwatersrand. Resource selection in a mixed feeder: Which factors drive switching between diets?.
9:40 AM Break
9:50 AM COS 52-6 Woolley, L1, L Hedin2, E February1 and NGovender3, (1)University of Cape Town, (2)Princeton University, (3)Scientific Service Kruger National Park. Ecosystem level N and P effects on carbon assimilation and growth by savanna shrubs.
10:10 AM COS 52-7 Barger, NN1, HS Guenther1, JE Herrick2 and ME Miller3, (1)University of Colorado, (2)USDA Agricultural Research Service, (3)National Park Service. Soil erosion increases in response to fire mitigation in a pitoon-juniper woodland.
10:30 AM COS 52-8 Murray, DB and JD White, Baylor University. Growth response of a deciduous oak species to fire, loss of neighbors, and climate within a juniper-dominated woodland ecosystem.
10:50 AM COS 52-9 Lastra, RA and NC Kenkel, University of Manitoba. Determining the consequences of clonal biology on the likelihood of trembling aspen (Populus tremuloides) encroachment.

COS 53 - Mutualism and Facilitation II
4, Austin Convention Center
8:00 AM COS 53-1 Lau, JA1, DJ Weese1 and KD Heath2, (1) Michigan State University, (2)University of Illinois, Urbana-Champaign. Long-term nitrogen addition alters the ecology and evolution of legume-rhizobium resource mutualisms.
8:20 AM COS 53-2 Akçay, E1 and E Simms2, (1)National Institute for Mathematical and Biological Synthesis (NIMBioS), (2) University of California Berkeley. Negotiation, sanctions and context dependency in the legume-rhizobium mutualism.
8:40 AM COS 53-3 Vick, JK and DR Young, Virginia Commonwealth University. Proximity to a N-fixing shrub leads to additional N acquisition by a co-occurring non-N-fixing shrub.
9:00 AM COS 53-4 Bauer, JT1, NM Kleczewski2, JD Bever1, K Clay1 and HL Reynolds1, (1)Indiana University, (2) Purdue University. Nitrogen-fixing bacteria, arbuscular mycorrhizal fungi, and the productivity and structure of prairie grassland communities.
9:20 AM COS 53-5 Grman, E1 and TMP Robinson2, (1)Kellogg Biological Station, Michigan State University, (2)Michigan State University. The availability and imbalance of nitrogen and phosphorus influence plant productivity, fitness, and allocation to roots and arbuscular mycorrhizal fungi.
9:40 AM Break
9:50 AM COS 53-6 Alkhami, ME and SY Strauss, University of California, Davis. Mutualistic endophyte may confer resistance to enemies resulting in niche expansion of its grass host.
10:10 AM COS 53-7 Porter, S, University of California, Davis. Adaptive divergence in serpentine tolerance for native and invasive rhizobial mutualists.
10:30 AM COS 53-8 Moore, CM and SB Vander Wall, University of Nevada, Reno. The little apple can fall far from the tree: Seed dispersal of greenleaf manzanita (Arctostaphylos patula).
10:50 AM COS 53-9 Brown, BL1, MW Turnbull1, RP Creed Jr2 and J Skelton1, (1)Clemson University, (2)Appalachian State University. Surprising effects in a cleaning symbiosis: Down regulation of immune response in crayfish by ectosymbiotic annelids.

COS 54 - Biodiversity II
5, Austin Convention Center
8:00 AM COS 54-1 Yuan, C and P Chesson, University of Arizona. Asymmetric sensitivities in environmental responses: Its role in creating temporal niche partitioning for species coexistence.
8:20 AM COS 54-2 Dooley, A1, C Brophy2, J Connolly3, L Kirwan3, T Bell5, A Weigel6 and J Harndorf7, (1)National University of Ireland, Maynooth., (2)National University of Ireland Maynooth, (3)University College Dublin, (4)Waterford Institute of Technology, (5)University of Oxford, (6)Friedrich-Schiller University, Jena, (7) University of Kassel. Assessing interactions among species
in high richness communities using Diversity-Interaction modelling combined with random effects.

8:40 AM COS 54-3 Bugalho, MN1, MC Caldeira2, JS Pereira3, J Aronson4 and J Pausas5, (1)Technical University of Lisbon and WWF Mediterranean Program, (2) Technical University of Lisbon, (3)Instituto Superior de Agronomia, (4)Centre d’Ecologie Fonctionnelle et Evolutive, Montpellier, France, and Missouri Botanical Garden, St Louis, MO, (5)Centro de Investigación sobre Desertización, Spanish National Research Council, Valencia, Spain. Mediterranean cork oak savannas require human use to sustain biodiversity and ecosystem services.

9:00 AM COS 54-4 Gallery, R1, R Bagchi1, S Gurr2 and O Lewis2, (1)National Ecological Observatory Network (NEON), (2) University of Oxford. Host range and the diversity enhancing role of seedling pathogens in a neotropical forest.

9:20 AM COS 54-5 Behrmann, KD1 and TH Keitt2, (1)University of Texas at Austin, (2)The University of Texas at Austin. Hierarchical decomposition of the species-energy relationship by scale.

9:40 AM Break

9:50 AM COS 54-6 Franklin, KA, University of Arizona. Primary productivity and the richness of ant assemblages in arid and semiarid ecosystems of Sonora, Mexico.

10:10 AM COS 54-7 Smith, KG1, K Lips2, JM Chase1 and AG Boyer3, (1)Washington University in St. Louis, (2)University of Maryland, (3)The University of Tennessee. Occupancy and extinction probability: Are locally restricted species disproportionately extinction-prone?.

10:30 AM COS 54-8 Prevost, LB and CJ Peterson, University of Georgia. Island biogeography theory as a predictor of species diversity in tropical premontane forest fragments.


11:10 AM COS 54-10 Fotinos, TA and MA Huston, Texas State University. Climatic regulation of environmental heterogeneity and its effects on plant beta diversity vary with scale.

**COS 55 - Biogeochemistry: Biogeo Patterns along Environmental Gradients I**

**6A, Austin Convention Center**

8:00 AM COS 55-1 Reed, SC1, CC Cleveland2, EA Davidson3 and AR Townsend1, (1)USGS, (2)University of Montana, (3)The Woods Hole Research Center, Massachusetts, (4)University of Colorado, Boulder. Patterns in foliar nutrient resorption at multiple scales: Driving factors and ecosystem consequences.

8:20 AM COS 55-2 Groffman, PM1, JM Duncan2 and LE Band2, (1)Cary Institute of Ecosystem Studies, (2)University of North Carolina. Denitrification, riparian heterogeneity and nitrogen fluxes in a forested watershed.

8:40 AM COS 55-3 Dunn, ST, KR Salk, LM Lynch, EA Daugherty, JD Schade, SN Schmidt, KE Lapo and KM Halvorson, St Olaf College. The effects of drying and re-wetting on methanogenesis in two midwestern wetlands.

9:00 AM COS 55-4 Castle, SC1, CC Cleveland1, JW Leff1, DR Nemergut2 and SK Schmidt2, (1)University of Montana, (2)University of Colorado. Microbial functional diversity in glacial forelands: Are there general patterns.

9:20 AM COS 55-5 Schade, JD1, SA Thomas2, EC Seybold1 and KL MacNeill1, (1)St. Olaf College, (2)University of Nebraska-Lincoln. Patterns in the coupling of N and P uptake in stream networks.

9:40 AM Break

9:50 AM COS 55-6 Markewitz, D1, RO Figueiredo2, EA Davidson3 and DC Nepstad4, (1)The University of Georgia, (2)Embrapa Meio Ambiente, (3)The Woods Hole Research Center, Massachusetts, (4)Instituto de Pesquisa Ambiental da Amazônia (Amazon Institute of Environmental Research). Simulated drought in the Amazon: Impacts on soil solution and nutrient fluxes.


10:30 AM COS 55-8 Drenner, RW1, MM Chumchal2 and SP Wente1, (1)Texas Christian University, (2)Lake Hart Research. Landscape-level patterns of mercury contamination of fish in the South Central United States.

10:50 AM COS 55-9 Vitousek, PM1, OA Chadwick2, TN Ladeloged3 and CM Stevenson4, (1)Stanford University, (2)University of California, (3)Auckland University, (4)Virginia Department of Historic Resources. Pre-contact intensive agriculture on Rapa Nui (Easter Island): Finescale biogeochemical spots?

11:10 AM COS 55-10 Hargreaves, SK1, TB Parkin2, LA Schulte-Moore1 and KS Hofmockel1, (1)Iowa State University, (2)USDA Agricultural Research Service. The influence of landscape-scale soil processes on microbial activity associated with carbon and nitrogen cycling in agroecosystems.

**COS 56 - Climate Change II**

**6B, Austin Convention Center**

8:00 AM COS 56-1 Niziolek, OK1, CL Casteel2 and EH DeLucia2, (1)University of Illinois Urbana Champaign, (2)University of Illinois. The impact of elevated CO2 in combination with increased temperature on Japanese beetle herbivory.

8:20 AM COS 56-2 Mainali, KP, University of Texas at Austin. Growth characteristics of Rhododendron campanulatum above treeline in the Himalaya.

8:40 AM COS 56-3 Foster, TE1, PA Schmalzer2 and GA Fox2, (1)Innovative Health Applications, (2)University of South Florida. Site differences in growth response of Quercus myrtifolia to climate.

9:00 AM COS 56-4 Drake, JE and AC Finzi, Boston University. Seasonal variation in the temperature sensitivity of soil nitrogen transformations in New England forests.

9:20 AM COS 56-5 Tague, C1, CD Allen2 and N McDowell3, (1)University of California, Santa Barbara, (2)Jemez Mountains Field Station, (3)Los Alamos National Laboratory. What do mechanistic models of carbon starvation tell us about spatial patterns of drought related forest mortality: A case study of Ponderosa Pine dieback in New Mexico.

9:40 AM Break

9:50 AM COS 56-6 Jaron, MP and AJ Burton, Michigan Technological University. Short-term metabolic response of sugar maple roots to soil warming.

10:00 AM COS 56-7 Young, DR and D Resler, Virginia Commonwealth University. A rules-based model to predict shrub thicket expansion on Atlantic coast barrier islands.

10:30 AM COS 56-8 Neupane, RP, Baylor University. Implications of climate-driven variability on some ecological issues of headwater watershed system in mountain regions.

10:50 AM COS 56-9 Sengupta, N1, ES Blumer2 and D Wilhelm3, (1)Auroville, (2)Ososomo Ltd, (3)New Harvest Ventures. Earth Stewardship: An innovative and integrated approach
8 am-11:30 am
to regenerate land, support biodiversity, and generate multiple benefits from reclaimed mined or marginal lands.

COS 57 - Community Pattern and Dynamics II
8; Austin Convention Center

8:00 AM COS 57-1 Cowden, C and RP Shefferson, University of Georgia. Microbial community succession in Estonian oil-shale ash hills.

8:40 AM COS 57-3 Kivlin, SN, GC Winston, M Goulden and KK Treseder, University of California, Irvine. Spatial and temporal controllers of soil and airborne fungal assemblages.


9:20 AM COS 57-5 Fukami, T¹, K Peay² and M Belisle¹, (1) Stanford University, (2) University of Minnesota. Phylogenetic relatedness and the strength of priority effects in nectar yeast communities.

9:40 AM COS 57-6 Paver, SF¹, KR Hayek¹, EW Triplett² and AD Kent¹, (1)University of Illinois at Urbana-Champaign, (2) University of Florida. Phytoplankton succession and lake bacterial community dynamics.

10:10 AM COS 57-7 Mordecai, EA, University of California-Santa Barbara. Consequences of pathogen spoilover for plant species diversity.

10:30 AM COS 57-8 Pizano, C and K Kitajima, University of Florida. Negative plant-soil feedback dominates degraded tropical forests and agricultural lands.

10:50 AM COS 57-9 Mangan, SA, SA Schnitzer, A Yanazaki and CH Yang, University of Wisconsin - Milwaukee. Oomycetes do not drive negative plant-soil feedback in a tropical forest in Panama.

11:10 AM COS 57-10 Ong, TWY and JH Vandermeer, University of Michigan. Predation-controlled infection: Coexistence in a multi-exploiter system.

COS 58 - Trophic Dynamics and Interactions
9A, Austin Convention Center

8:00 AM COS 58-1 Foufopoulos, J¹, P Pafilis² and E Valakos², (1)University of Michigan, (2)University of Athens. Interactions between top-down and bottom-up processes in island reptile populations.

8:40 AM COS 58-3 Castro-Escobar, BD¹, R Pickens², MV Price³, NM Waser⁴ and DT Blumstein⁵, (1)University of Puerto Rico, Rio Piedras Campus, (2)Funarum University, (3)Rocky Mountain Biological Laboratory, (4)University of California, Los Angeles. A possible trophic cascade involving humans, coyotes, mule deer, and native Colorado wildflowers.

9:00 AM COS 58-4 Rogers, HS¹, J Hille Ris Lambers¹, R Miller² and JJ Tewksbury¹, (1)University of Washington, (2) University of Guam. The island-wide loss of insectivorous birds initiates only a weak trophic cascade.

9:20 AM COS 58-5 Raab, K¹, LAJ Nagelkerke¹, AD Rijnsdorp², A Temming², M Llope⁴ and M Dicke-Collas⁵, (1)Wageningen University and Research Centre, (2) Wageningen IMARES (Institute for Marine Resources & Ecosystem Studies), (3)Universität Hamburg, (4)Instituto Español de Oceanografía, (5)Sir Alister Hardy Foundation for Ocean Science. Trophic interactions of anchovy with potential competitors and North Sea plankton.

9:40 AM COS 58-6 Rot, G and U Shanas, University of Haifa. Inter-trophic level interactions affect biodiversity across a political border in the salt flats of the Arava Desert, Israel.

10:10 AM COS 58-7 Mitchell, SR¹, N Christensen³, S Cohen² and JR Walters², (1)Duke University, (2)Marine Corps Base Camp Lejeune, (3)Virginia Polytechnic Institute and State University. Vegetative diversity and composition correlates with avifaunal diversity and composition in pine forests of the Atlantic coastal plain.

10:30 AM COS 58-8 Reichstein, BS¹, L Persson², A Schröder² and KA Nilsson³, (1)Umeå University, (2)University of Leeds. Refuges randomize the invasion success of small and large predators in an intraguild predation system.

10:50 AM COS 58-9 Michel, NL¹, TW Sherry¹ and WP Carson², (1)Tulane University, (2)University of Pittsburgh. Vertebrates gone wild: Collared peccaries limit lianas and understory insectivorous birds in Central American rainforest fragments.

11:10 AM COS 58-10 Vasseur, DA¹ and JW Fox², (1)Yale University, (2)University of Calgary. Eco-evolutionary dynamics of competition for non-substitutable resources: Why and how stoichiometry matters.

COS 59 - Habitat Structure, Fragmentation, Connectivity
9C, Austin Convention Center

8:00 AM COS 59-1 Sugiyama, A and CJ Peterson, University of Georgia. Forest fragmentation impacts on multiple early regeneration components of a tropical non-pioneer tree species Tapirira mexicana (Anacardiaceae).

8:40 AM COS 59-4 Floyd, KW and CS Lieb, University of Texas at Austin. How roads affect population demography in two lizard species in the Northern Chihuahuan Desert.

9:00 AM COS 59-5 McCulloch, ES, RD Stevens and A Whitehead, Louisiana State University. Population genetic structure of the great fruit-eating bat (Artibeus lituratus) in Atlantic forest remnants in South America.

9:40 AM COS 59-6 Macedo, MN¹, MT Coe², RS DeFries¹, M Uriarte¹ and PA Lefebvre², (1)Columbia University, (2) Woods Hole Research Center. Impacts of agricultural development on headwater stream temperature and connectivity in southeastern Amazonia.

10:10 AM COS 59-7 Cortes, MC¹, EM Bruna III², WJ Kress³ and M Uriarte¹, (1)Columbia University, (2)University of Florida, (3)Smithsonian Institution. Fine-scale spatial genetic structure of an Amazonian herb across a fragmented landscape.

Earth Stewardship: Preserving and enhancing earth’s life support systems

8:20 AM  COS 60-2 Gawel, AM, University of Guam. Ecology of introduced ungulates in limestone forests of Guam.

8:40 AM  COS 60-3 Pauchard, A1, P Langdon1, LA Cavieres1, E Peña2, J Esquivel1, A Jiménez1 and J Urrutia1, (1) Universidad de Concepción, Instituto de Ecología y Biodiversidad (IEB), (2) Universidad de Concepción. Pinus contorta invasion in the Chilean Patagonia: Insights from spatial patterns.

9:00 AM  COS 60-4 Garnas, J, D Chungu, B Hurley and B Slippers, University of Pretoria. Cryptic diversity in the Eucalyptus snout beetle swamps that of its biocontrol agent, Anaphes nitens, in South Africa.

9:20 AM  COS 60-5 Zarnetske, PJ1, SD Hacker1, EW Seabloom2, P Ruggiero1 and J Mull1, (1) Oregon State University, (2) University of Minnesota. Connecting process with pattern: Towards a mechanistic understanding of invasions impacts on coastal dune ecology and geomorphology.

9:40 AM  Break

9:50 AM  COS 60-6 Jezorek, HA and P Stiling, University of South Florida. Effects of Cactoblastis cactorum on native Florida Opatnia: Results from a six year study.

10:10 AM  COS 60-7 Bohl Stricker, K and P Stiling, University of South Florida. Lack of evidence for enemy release and its implications for population growth of Eugenia uniflora: Invasional conflict?

10:30 AM  COS 60-8 Recart, W, JD Ackerman and AA Cuevas, University of Puerto Rico, Rio Piedras Campus. There goes the neighborhood: apparent competition between invasive, and native orchids.

10:50 AM  COS 60-9 Siemann, E1, J Carrillo1, C Gabler1, J Ding2, W Huang3, Y Wang2, J Zou3, Z Ling4, B Li5, Q Yang3, Z Yang3, H Shen2 and S Fu2, (1) Rice University, (2) Wuhan Botanical Garden, (3) Nanjing Agricultural University, (4) Fudan University, (5) South China Botanical Garden. Aboveground and belowground enemies and the invasion success of plants: Experimental tests in the US and China.

11:10 AM  COS 60-10 Ding, J1, W Huang1, Y Wang1, GS Wheeler2, JA Carrillo3 and E Siemann3, (1) Wuhan Botanical Garden, (2) USDA Agricultural Research Service, (3) Rice University. Evolved resistance to specialist and generalist herbivory as revealed by quantitative and qualitative defence in the invasive tallow tree.

COS 61 - Disease and Epidemiology II

10:10 AM  COS 61-7 Artzy-Randrup, Y, GS Wheeler, Z Ling, Q Yang, J Ding, W Huang, S Fu, B Li, Y Wang, Z Yang, H Shen, E Siemann and P Mull, (1) Rice University, (2) Wuhan Botanical Garden, (3) Nanjing Agricultural University. Plant level indirect effects of the arundo scale (Rhizaspidiotus donacis) on growth and eco-physiology of the invasive giant reed.

10:30 AM  COS 61-8 Huang, S and S Altizer, University of Georgia. Estimating parasite diversity using non-parametric methods.

10:50 AM  COS 61-9 Halstead, NT, SA Johnson2, TA McMahon1, K Parker1, TR Raffel1 and JR Rohr1, (1) University of South Florida, (2) University of Florida Institute of Food and Agricultural Sciences. Agrochemicals increase risk of human schistosomiasis.

11:10 AM  COS 61-10 Hosseini, P and P Daszak, EcoHealth Alliance (formerly Wildlife Trust). The effect of population structure on Avian Influenza outbreaks in wild and domestic birds.

COS 62 - Landscape Ecology and Analysis

8:20 AM  COS 62-2 Convertino, M1, JB Elsner2, GA Kiker1, R Munoz-Carpena1, JF Donoghue2, RA Fischer3 and I Linkov3, (1) University of Florida, (2) Florida State University, (3) USA Engineering and Development Center. Bayesian inference for assessing feedbacks among species, anthropogenic and climate forcings: Shorebirds in Florida.

8:40 AM  COS 62-3 Galpern, P1, M Manseau1 and P Wilson2, (1) University of Manitoba, (2) Trent University. Recent habitat fragmentation creates fine-scale genetic structure: A multiscaled landscape genetics approach.

9:00 AM  COS 62-4 Becker, JC, WH Nowlin, B Labay and KJ Rodibaugh, Texas State University. Influence of land use at multiple spatial scales on nutrient concentration and ecosystem function in a large river system.

9:20 AM  COS 62-5 Dunn, WC and BT Milne, University of New Mexico. Spatial renormalization as a multiscale approach to determining the security of landscapes.

9:40 AM  Break

9:50 AM  COS 62-6 Brudvig, LA1, CW Habeck2 and J Ledvina2, (1) Michigan State University, (2) Washington University. Patterns and controls over biodiversity spillover around remnant longleaf pine woodland patches.

10:10 AM  COS 62-7 Resasco, J1, DJ Levey1 and EL Damschen2, (1) University of Florida, (2) University of Wisconsin-
Madison. An experimental test of corridor and edge effects on the trophic ecology of a generalist ant.

10:30 AM COS 62-8 Hickey, J, N Nibbelink and J Carroll, University of Georgia. Modeling bonobo (Pan paniscus) occupancy in relation to bushmeat hunting, slash-and-burn agriculture, and timber harvest.

10:50 AM COS 62-9 Porensky, LM1, KE Veblen2 and TP Young1, (1)University of California, Davis, (2)U.S. Geological Survey. Grasses and large herbivores enhance landscape heterogeneity by excluding a savanna tree from ecosystem hotspots.

11:10 AM COS 62-10 Madronich, MB1, CA Wessman2 and AG Guenther2, (1)University Of Colorado, (2)University of Colorado, (3)National Center for Atmospheric Research. Influence of landscape configuration on monoterpene emissions from a Ponderosa Pine forest.

10-11 am

COS 63 - Forest Habitats: Temperate

13, Austin Convention Center

8:00 AM COS 63-1 Szlavecz, K1, MK McCormick2, DF Whigham2, L Xia1, S Pitzi1, CH Chang1, MJ Bernard1 and J O'Neil2, (1)Johns Hopkins University, (2)Smithsonian Environmental Research Center. Combined effects of earthworms and forest age on below- and aboveground processes in the Mid-Atlantic region.

8:20 AM COS 63-2 D'Souza, LE1, LJ Six1, JD Bakker2 and RE Bilby1, (1)Weyerhaeuser NR Company, (2)University of Washington. Plant diversity and effects of harvesting on riparian reserves in forested landscapes.

8:40 AM COS 63-3 Ting, T, University of Illinois at Springfield. Woody composition and structure of upland forest at carpenter park nature preserve: Implications for management.

9:00 AM COS 63-4 Halman, JM1, PG Schaberg2, GJ Hawley1, CF Hansen1 and TJ Fahey3, (1)University of Vermont, (2)USDA Forest Service, (3)Cornell University. Growth dynamics of American beech and sugar maple trees exposed to long-term calcium and aluminum additions.


9:40 AM Break

9:50 AM COS 63-6 Diaz, IA1 and JJ Armesto2, (1)Universidad Austral de Chile, (2)JEBO, Universidad de Chile, CASEB, P. Universidad Catolica de Chile, Life history and habitat use characterization of temperate forest birds from Chiloé Island, southern Chile: Implications for research and conservation in a changing landscape.

10:10 AM COS 63-7 Brown, S1, IC Burke1, PM Brown2, WK Lauenroth1 and DR Schlaepfer1, (1)University of Wyoming, (2)Rocky Mountain Tree-ring Research, Inc.. Comparing pre-European and contemporary carbon emissions from wildfire in the montane forest of the Colorado Front Range, USA.

10:30 AM COS 63-8 St. John, MG1, RB Allen1, F Carswell1, S Husheer2, SJ Richardson1 and D Wardle3, (1)Landcare Research, (2)Lincoln University, (3)Department of Forest Ecology and Management, Swedish University of Agricultural Sciences. No detectable ecosystem carbon changes despite community-level impacts of invasive deer in New Zealand conifer-hardwood forests.

10:50 AM COS 63-9 Santos, MJ1, JH Thorne2 and C Moritz3, (1)University of California, Berkeley, (2)University of California, Davis. Do changes in habitat predict observed changes in small mammals in Yosemite National Park?

11:10 AM COS 63-10 Rosson, Jr., JF and AK Rose, USDA Forest Service, Southern Research Station.Using stand-structure data from older protected forests to validate models for identifying late-successional and older forests in large-scale surveys.

COS 64 - Evolution: Genetic Isolation and Differentiation

16A, Austin Convention Center

8:00 AM COS 64-1 Vaupel, A and D Matthies, Philipps-University Marburg. Population structure and genetic diversity of central and peripheral populations of Carduus defloratus.

8:20 AM COS 64-2 Suni, S1 and BJ Broi2, (1)University of Arizona, (2)Emory University. Landscape genetics of orchid bees in a fragmented tropical landscape.

8:40 AM COS 64-3 Barman, AK1, RF Medina1, MN Parajulee2 and CG Sansone3, (1)Texas A&M University, (2)Texas AgriLife Research, (3)Texas AgriLife Research and Extension Center. Genetic population structure in Pseudatomoscelis seriatums. An agro-ecological perspective.

9:00 AM COS 64-4 Fetcher, N1, JB McGraw2, CC Bennington3, MC Vavrek4, S Souther2, ZK Fowler2 and GR Shaver5, (1)Wilkes University, (2)West Virginia University, (3)Stetson University, (4)Glenville State College, (5)Marine Biological Laboratory. Ecotypic variation in an arctic plant, Eriophorum vaginatum: A thirty-year experiment.


9:40 AM Break

9:50 AM COS 64-6 Medina, RF, AM Dickey and C Tamborindeguy, Texas A&M University. Host-associated differentiation of species of Stermorhynchia in pecan and water hickory and its correspondence with bacterial diversity.

10:10 AM COS 64-7 Gilman, RT1 and JE Behm2, (1)National Institute for Mathematical and Biological Synthesis, (2)University of Wisconsin-Madison. Hybridization, species collapse, and species reemergence after disturbance to premating mechanisms of reproductively isolating species.

10:30 AM COS 64-8 Streicher, JW and EN Smith, The University of Texas at Arlington. Niche partitioning in small direct-developing frogs from the highlands of central Mexico.

10:50 AM COS 64-9 Ballare, KM1, J Slothauber Galbreath2, SAM Martin2 and WC Jordan3, (1)Howard Hughes Medical Institute, (2)University of Aberdeen, (3)Zoological Society of London. Sympatric divergence in Arctic charr: Genetic and morphological evidence.

11:10 AM COS 64-10 Jiang, Y, University of Texas at Austin. The maintaining of individual specialization and its effects on predator-prey dynamics.

COS 65 - Population Dynamics and Regulation

18A, Austin Convention Center

8:00 AM COS 65-1 Davis, MJ1, NT Hobbs1, MW Miller2, SK Thokala3, X Xing2, R Han2 and S Mishra2, (1)Colorado State University, (2)Colorado Division of Wildlife, (3)University of Colorado. Testing the data transfer capabilities of WildSense: A GPS-based wildlife tracking network.

8:20 AM COS 65-2 Li, Q1, L Feng1, Y Tian1, H Wang1, X Li1, S Mou1, L Zhang1, T Wang1, P Mou1, J Wu2, X Kou3 and J Ge1, (1)Beijing Normal University, (2)Arizona State University. Density estimation on preys of Amur tiger (wild boar and Siberian roe deer) using camera traps.
Earth Stewardship: Preserving and enhancing earth’s life support systems

8:00 AM COS 66-1 Fernandez, C¹ and RT Koide², (1)The Pennsylvania State University, (2)Pennsylvania State University. The role of chitin in the composition of ectomycorrhizal fungal litter.

8:20 AM COS 66-2 Cheeke, TE, T Rosenstiel and M Cruzan, Portland State University. A field evaluation of arbuscular fungal colonization in multiple transgenic Bt maize lines.

8:40 AM COS 66-3 Cheng, L¹, C Tu¹, F Booker², K Burkey² and S Hu¹, (1)North Carolina State University, (2)USDA, Plant Science Research Unit. Do arbuscular mycorrhizal fungi inhibit or stimulate organic C decomposition in soil?

9:00 AM COS 66-4 Barto, K¹, M Hilker¹, F Mueller¹, BK Mohney², JD Weidenhamer² and MC Rillig¹, (1)Freie Universitaet Berlin, (2)Ashland University. The fungal fast lane: Common mycorrhizal networks extend bioactive zones of allelochemicals in soils.


9:40 AM Break


10:10 AM COS 66-7 Clark, AL and SB St. Clair, Brigham Young University. Mycorrhizas and secondary succession in aspen-conifer forests: Light limitation differentially affects a dominant early and late successional species.

10:30 AM COS 66-8 Middleton, EL and JD Bever, Indiana University. Plant community composition is influenced by successional stage of the soil community.

10:50 AM COS 66-9 Hall, SL¹, RL McCulley¹, K Clay² and E Kozio³, (1)University of Kentucky, (2)Indiana University. Does endophyte status of tall fescue impact mycorrhizal colonization of native species commonly planted in grassland restorations?

11:10 AM COS 66-10 Williams, GC, Duke University. From pine to oak: Ectomychorrhizal host preference facilitates succession.

COS 67 - Agroecology
18C, Austin Convention Center

8:00 AM COS 67-1 Wanger, TC¹, T Tscharntke², AM Klein³ and NS Sodhi⁴, (1)Stanford University, Stanford, CA, USA, (2)Georg August University, (3)Leuphana University of Luebben, (4)National University of Singapore. Pesticides and tropical biodiversity.


8:40 AM COS 67-3 Stringfellow, WT, R Jain and ME Karpuzcu, University of the Pacific. Incorporation of engineered ecosystem services into regions with highly modified hydrologic cycles.


9:20 AM COS 67-5 Marin, L¹, A De La Mora Rodriguez², SM Philippot³ and I Perfecto¹, (1)University of Michigan, (2)El Colegio de la Frontera Sur, (3)University of Toledo. Leaf litter spider diversity in coffee landscapes: The influence of management type.

9:40 AM Break

9:50 AM COS 67-6 Ryals, R¹ and W Silver², (1)University of California, Berkeley, (2)University of California. Changes to grassland carbon pools and fluxes three years after organic matter amendment.

10:10 AM COS 67-7 Riskin, SH¹, S Porder¹, ME Schipanski², EM Bennett³ and C Nell⁴, (1)Brown University, (2)The Pennsylvania State University, (3)McGill University, (4)Marine Biological Laboratory. The role of phosphorus in intensive soybean agriculture.

10:30 AM COS 67-8 Garbach, K¹, A Martinez-Salinas², VT Exner¹, M Lubell¹ and F DeClerck², (1)University of California Davis, (2)CATIE. Live fence complexity and the conservation of avian biodiversity in a pasture-dominated agricultural ecosystem.

10:50 AM COS 67-9 Corkidi, L¹, DJ Merhaut¹, EB Allen¹, JDowner², J Bohn³ and M Evans³, (1)University of California, (2)University of California Cooperative Extension, (3)Tree of Life Nursery. Use of mycorrhizal colonization to reduce nitrogen and phosphorus leaching from nursery containers.

11:10 AM COS 67-10 Maier, CM and RD Jackson, University of Wisconsin-Madison. Dominance by grazing-tolerant species limits plant community change in rotationally-grazed reconstructed mesic tallgrass prairie in southern Wisconsin.

COS 68 - Amphibian Decline and Chytridiomycosis
18D, Austin Convention Center

8:00 AM COS 68-1 Piovia-Scott, J¹, KL Pope², SP Lawler¹ and JE Foley¹, (1)University of California, Davis, (2)USDA Forest
8 am-11:30 am; 9 am-2:30 pm; 1:30 pm-5 pm

Service, Pacific Southwest Research station. Evaluating the impact of a fungal pathogen on the Cascades frog (Rana cascadae) in the mountains of northern California.

8:20 AM COS 68-2 McMahon, TA1, JR Rohr1 and XE Bernal2, (1) University of South Florida, (2)Texas Tech University. Investigation of croyfish (Procambarus), mosquito fish (Gambasia) and frog-biting midges (Corethrella) as potential hosts for Batrachochytrium dendrobatidis.

8:40 AM COS 68-3 Biga, LM and AR Blaustein, Oregon State University. Effects of a pyrethroid insecticide in an aquatic community.

9:00 AM COS 68-4 Talley, BL1, K Lips2 and VT Vredenburg3, (1) Southern Illinois University, (2)University of Maryland, (3)San Francisco State University. High levels of disease prevalence and intensity in Illinois amphibians: Rethinking enzootic infections.

9:20 AM COS 68-5 Briggs, CJ1, VT Vredenburg2, RA Knapp3, M Toothman1 and E.Rosenblum4, (1)University of California, Santa Barbara, (2)San Francisco State University, (3) Sierra Nevada Aquatic Research Laboratory, University of California, (4)University of Idaho. The amphibian chytrid fungus: Investigating the mechanisms resulting in frog population persistence versus extinction.

9:40 AM Break

9:50 AM COS 68-6 Raffel, TR, TA McMahon, NT Halstead and JR Rohr, University of South Florida. Interactive effects of temperature, moisture, and thermal acclimation on newt susceptibility to chytrid infection.

10:10 AM COS 68-7 Becker, SN1, BL Talley2 and K Lips3, (1) University of Nebraska - Lincoln, (2)Southern Illinois University - Carbondale, (3)University of Maryland. Impacts of environmental factors on anuran body temperature and repercussions for disease dynamics.

10:30 AM COS 68-8 Searle, CL, LM Biga and AR Blaustein, Oregon State University. Evidence for a dilution effect in an emerging amphibian pathogen, Batrachochytrium dendrobatidis.

10:50 AM COS 68-9 McKenzie, V1, R Bowers2, R Knight1 and N Fierer1, (1)University of Colorado, (2)University of Colorado-Boulder. Co-habitating amphibian species harbor unique skin bacterial communities in wild populations.

11:10 AM COS 68-10 Skelly, DK, A Smits and SR Bolden, Yale University. The landscape ecology of amphibian intersex.

8:30 am-1:30 pm

FT 21 - Lady Bird Johnson Wildflower Center
Trinity Street Lobby Field Trip Pick Up, Austin Convention Center
Organized by: M Simmons

9 am-2:30 pm

FT 22 - Toxic Tour of East Austin with PODER(People Organized in the Defense of Earth and her Resources)
Trinity Street Lobby Field Trip Pick Up, Austin Convention Center
Organized by: KA Marshall (kmarsh9@uic.edu)

11:30 am-12 pm

ESA Presider/AV Training
17A, Austin Convention Center

11:30 am-1:15 pm

ESA Agroecology Business Meeting
19B, Austin Convention Center

ESA Environmental Justice Section Meeting and Discussion
18A, Austin Convention Center

ESA Microbial Ecology Section Business Meeting
Ballroom F, Austin Convention Center

ESA SEEDS Meeting
6B, Austin Convention Center

ESA Urban Ecosystem Ecology Business Meeting
19A, Austin Convention Center

National Phenology Network Brown Bag Luncheon
18B, Austin Convention Center

ESA Southeast Brown Bag Luncheon
Blrm C, Austin Convention Center

12 pm-1 pm

Researchers at Undergraduate Institutions Business Meeting
Austin Suite, Austin Convention Center

12:15 pm-1:15 pm

PL 3 - ESA Recent Advances Lecture
Ballroom E, Austin Convention Center

1:30 pm-5 pm

SYMP 13 - A Natural History Initiative for Ecology, Stewardship, and Sustainability
Ballroom E, Austin Convention Center

Organized by: JJ Tewksbury (tewksjj@gmail.com), SC Trombulak, K Rowell

Endorsed by: Natural History Section, Traditional Ecological Knowledge Section

Moderator: SC Trombulak

Greater emphasis on the collection, synthesis, dissemination, and appreciation of natural history knowledge will be essential for effective planetary stewardship. Here we present findings from the Natural History Initiative in an interactive forward-looking series of panels examining Natural History in society, education, and ecological research, conservation and land management.

1:30 PM SYMP 13-1 Tewksbury, JJ. University of Washington. The Natural History Initiative: An introduction.

1:45 PM SYMP 13-2 Greene, H. Cornell University. Why research and higher education need natural history.

2:00 PM SYMP 13-3 Fleishman, E1, B Dickson2, J Thomson3, EC Hansen4 and DS Dobkin5, (1)University of California, (2)Northern Arizona University, (3)School of Biological Sciences, (4)Eric C. Hansen Consulting, (5)High Desert Ecological Research Institute. Incorporating natural history into models of occupancy and connectivity.

2:15 PM SYMP 13-4 Hawley, N. Department of the Interior. Stewardship, youth, and nature.

2:30 PM SYMP 13-5 Sewall, L. Bates College. Natural history, ecopsychology and perception.

2:45 PM Panel: Tewksbury, Greene, Fleischman, Hawley and Sewall
SYMP 14 - Stewardship of Urban Systems 2: Socio-ecology, Governance, and Equity in the ULTRA Network
Ballroom G, Austin Convention Center

Organized by: PS Warren, G Hess, M Katti
Endorsed by: Urban Ecosystems Ecology
Moderator: PS Warren

This symposium features researchers, working with practitioners outside academia, from the nascent Urban Long Term Research Area (ULTRA) network who are using diverse, interdisciplinary approaches to study cities and develop strategies to enhance ecological and social equity.

1:30 PM SYMP 14-1 Boone, C, Arizona State University. Normative frames for the ULTRA network: Exploring the merits of environmental justice, vulnerability, and sustainability.


2:00 PM SYMP 14-3 Robbins, P, University of Arizona. Ecological hazards in southwestern metropolises: Integrating modeling, participation, and political ecology.

2:15 PM SYMP 14-4 Meentemeyer, RK1, JC Thill1, T BenDor2, V Bott3, B Ribarsky4, DA Shoemaker5 and C Wang6, (1)University of North Carolina at Charlotte, (2)University of Utah, (3)Virginia Commonwealth University, (4)University of Missouri.

2:30 PM SYMP 14-5 Hall, MH, N Sun and CM Foley, SUNY College of Environmental Science and Forestry. Analysis of the socio-ecological constraints and implications for stewardship of a rust belt urban watershed, USA.

2:45 PM Discussion

3:00 PM Break

3:10 PM SYMP 14-6 Lam, ME, University of British Columbia. Valuing natural and cultural history in earth stewardship.

3:25 PM SYMP 14-7 Blum, MJ1, K Gotham1, J McLachlan1, W Zipperer2 and R Campanella1, (1)Tulane University, (2) USDA Forest Service. Reconsidering the new normal: Trauma, vulnerability, and resilience in post-Katrina new orleans.


3:55 PM SYMP 14-9 Lewis, DB1, RK Zarger1, SM Landry1, FA Akiwumi1, MC Rain1, KA Nilsson2, CO Adjei1, SJ Feit1, GM Larsen1, RB Perkerson1, PE Thurman1, TL Crisman1, SS Bell1 and CC Trettin2, (1)University of South Florida, (2)USDA Forest Service. Urban development, power relations, and water redistribution as drivers of wetland change in the Tampa Bay region socioecosystem.

4:10 PM SYMP 14-10 Yeakley, JA1, SM Bollens2, S Duncan3, CP Ozawa4 and V Shandas1, (1)Portland State University, (2)Washington State University Vancouver, (3)Oregon State University. Evaluating the role of governance in building resilient urban ecosystems in Portland-Vancouver.

4:25 PM Discussion

SYMP 15 - Theory and Dynamics of Savanna Systems
Ballroom C, Austin Convention Center

Organized by: B Beckage (B.BecKage@uvm.edu)
Endorsed by: Theory Section
Moderator: LJ Gross

We propose to explore the theory underlying the dynamics of diverse savanna systems in order to identify commonalities and suggest directions for development and synthesis of existing savanna theory.

1:30 PM Introductory Remarks

1:35 PM SYMP 15-1 Beckage, B, University of Vermont. Vegetation-fire feedbacks as savanna determinants.

1:55 PM SYMP 15-2 Hofmann, WA, North Carolina State University. Critical thresholds governing the distribution of savanna and forest in tropical landscapes.

2:15 PM SYMP 15-3 Anderson, TM1 and RM Holdo2, (1)Wake Forest University, (2)University of Missouri. What can spatial relationships between trees and seedlings tell us about recruitment mechanisms in African savannas? Insights from the Serengeti rainfall gradient.

2:35 PM SYMP 15-4 Higgins, S, Goethe University. Inverse fitting of heuristic savanna models: An inter-continental and inter-model comparison.

2:55 PM Break

3:05 PM SYMP 15-5 Fowler, NL and AV González, University of Texas at Austin. Dynamics of the encroachment process: Biologically-based models of aerial image data give surprisingly simple results.


3:45 PM SYMP 15-7 Scheiter, S1 and SI Higgins2, (1)Biodiversity and Climate Research Centre (LOEWE-BiK-F), (2)Universität Frankfurt A.M.. Using adaptive vegetation modelling to forecast the global potential for the savanna biome on paleo-ecological time scales.

4:05 PM SYMP 15-8 Platt, III, WJ and KE Harms, Louisiana State University. Engineering of fire by savanna trees can facilitate high plant species biodiversity.

4:25 PM Panel Discussion
1:30 pm-5 pm

nature of the Earth Stewardship Initiative of ESA.

1:30 PM OOS 26-1 Hidinger, LA, Arizona State University. Creating science that makes a difference.
2:10 PM OOS 26-3 Schoenmager, T\(^1\), CR Nelson\(^2\) and MA Moritz\(^3\), (1)University of Colorado-Boulder, (2)University of Montana, (3)University of California, Berkeley. Managing human-wildfire interactions in a changing climate.
2:30 PM OOS 26-4 Steiner, F, University of Texas. Ecosystems in the United States? Earth stewardship in an urbanized world.
2:50 PM OOS 26-5 Mohrig, D and PB Flemings, The University of Texas at Austin. Overpressure, fluid venting and submarine drilling: How can we preserve and build required expertise to respond to large oil vents in U.S. waters?
3:10 PM Break
3:20 PM OOS 26-6 Patzek, TW, University of Texas, Austin. Sustainability: Just how far are we from you?.
3:40 PM OOS 26-7 Cadenasso, ML, University of California, Davis. Ecosystem services in urban landscapes: who benefits?
4:20 PM OOS 26-9 Bekessy, SA\(^1\), B Wintle\(^2\), DB Lindenmayer\(^3\), MA McCarthy\(^4\), MC Colyvan\(^5\), MA Burgman\(^6\) and HP Possingham\(^7\), (1)RMIT University, (2)University of Melbourne, (3)Australian National University, (4)The University of Melbourne, (5)University of Sydney; (6) University of Queensland. The biodiversity bank cannot be a lending bank.
4:40 PM OOS 26-10 Ballan, EV and A Berhault, Royal Belgian Institute of Natural Sciences. Positive Visions for Biodiversity: an innovative approach to mainstream biodiversity.

OOS 27 - Interface of Ecology and Policy: How Is Ecological Research Incorporated into Air Quality Policy to Protect Ecosystems in the United States?

17A, Austin Convention Center

Organized by: JD Herrick (herrick.jeffrey@epa.gov), TL Greaver, T K Novak, L Liu

Moderator: K Novak

This session seeks to foster communication between ecological researchers and policy-makers through an extended case study of the role of ecological science in the process of setting National Ambient Air Quality Standards in the U.S. and the innovative approaches considered in evaluating effects of airborne pollutants on ecosystems.

1:30 PM OOS 27-1 Herrick, JD and K Novak, US Environmental Protection Agency. Where does ecological research fit into the process of setting air quality standards? An overview of the role of ecological data in the ozone rulemaking.
1:50 PM OOS 27-2 Talhelm, AF\(^1\), CE Campany\(^1\), KS Pregitzer\(^1\), DR Zak\(^2\) and ME Kubiske\(^3\), (1)University of Idaho, (2)University of Michigan, (3)USDA Forest Service, Northern Research Station. Ozone at AspenFACE: Effects on plant productivity and ecosystem carbon storage.
2:10 PM OOS 27-3 Dubois, J and JD Herrick, US Environmental Protection Agency. Prediction models for policy: Comparison of recent FACE observations of plant responses to ozone with predictions based on open-top chamber data.
2:30 PM OOS 27-4 Liu, L\(^1\), JD Herrick\(^1\), Q Li\(^2\) and JJ Dubois\(^1\), (1)US Environmental Protection Agency, (2)U.S. Environmental Protection Agency. Effects of ozone exposure on community composition.
2:50 PM OOS 27-5 Greaver, TL, L Liu, JD Herrick, JJ Dubois and K Novak, US Environmental Protection Agency. How ecological data were used in reviewing a national standard for acidification and nutrient enrichment effects of oxides of nitrogen and oxides of sulfur.
3:10 PM Break
3:20 PM OOS 27-6 Pardo, LH\(^1\), L Geiser\(^1\), J Lynch\(^2\) and ME Fenn\(^1\), (1)USDA Forest Service, (2)US Environmental Protection Agency. Assessment of N deposition effects across ecoregions of the U.S. and critical load considerations.
3:40 PM OOS 27-7 Tian, H, C Lu and W Ren, Auburn University. Effects of nitrogen deposition and ozone exposure on terrestrial productivity and GHG balance in US.
4:00 PM OOS 27-8 Porter, E\(^1\), TJ Sullivan\(^2\), TC McDonnell\(^2\) and R Kohut\(^3\), (1)National Park Service, (2)E&E Environmental Chemistry, Inc, (3)Boyle Thompson Institute, Cornell University. Protecting National Parks From Air Pollution: What’s In Our Toolbox?

OOS 28 - Infectious disease dynamics in migratory species

17B, Austin Convention Center

Organized by: RJ Hall (rjhall@uga.edu), RA Bartel, BA Han

Moderator: BA Han

Despite the pervasiveness of animal migrations and their often-spectacular nature, their effects on host-pathogen dynamics remain largely unknown. This session presents cross-disciplinary research on disease in migratory animals, with particular focus on species of conservation or economic importance, and species implicated in the spread of pathogens of public health concern.

1:30 PM OOS 28-1 Bartel, RA, S Altizer and BA Han, University of Georgia. Catching the travel bug: new perspectives on disease dynamics in migratory animals.
1:50 PM OOS 28-2 Krkosek, M, University of Otago. Sea lice and salmon population dynamics: migration, domestication, and conservation.
2:10 PM OOS 28-3 Altizer, S, University of Georgia. Migratory immunity: parasite infection, host defense and fitness costs in monarch butterflies.
2:30 PM OOS 28-4 Plowright, RK\(^1\), F Cassirer\(^2\), PC Cross\(^3\), K Manlove\(^4\) and PJ Hudson\(^5\), (1)Pennsylvania State University, (2)Idaho Dept. of Fish and Game, (3)US Geological Survey, (4)Penn State University. Connectivity and the spread of infectious diseases in wildlife.
2:50 PM OOS 28-5 Hall, RJ, University of Georgia. Sick moves: modeling disease-induced changes to migration patterns.
3:10 PM Break
3:20 PM OOS 28-6 Owen, JC and D Arsnoe, Michigan State University. Role of migrating birds in the movement of zoonotic pathogens.
3:40 PM OOS 28-7 Lebeabenchon, C, University of Georgia. Avian influenza virus exchanges in the Mississippi flyway.
4:00 PM OOS 28-8 Ezenwa, VO, University of Georgia. Host movement behavior and infection risk in ungulates.
4:20 PM OOS 28-9 Wilson, K\(^1\), RI Graham\(^1\), W Mushobozi\(^2\), J Cory\(^2\) and D Grzywacz\(^1\), (1)Lancaster University, (2)Eco Agri Consult Ltd., (3)Simon Fraser University, (4)University of Greenwich. Dynamics of baculovirus infections in migratory populations of the African armyworm (Spodoptera exempta) in Tanzania.
4:40 PM OOS 28-10 Ashander, J\(^1\), M Krkosek\(^2\) and MA Lewis\(^3\), (1)University of California, Davis, (2)University of Otago, (3)University of Alberta. Aquaculture-induced changes to dynamics of a migratory host and specialist parasite: a case study of pink salmon and sea lice.

100

ESA 96th Annual Meeting, August 7 - 12, 2011, Austin Convention Center
OOS 29 - From Visible Next Steps to a Visionary Future: How Can Different Approaches to Agriculture Reduce Nitrogen and Phosphorus Losses Over a Decade or a Century?

12A, Austin Convention Center

Organized by: N Gurwick (ngurwick@ucsusa.org), KP Stillerman
Moderator: S Tartowski

This session will assess the potential to reduce nutrient export from agriculture, including field-based and hydroponic systems, by using best practices in the current food production system and by making longer-term transformative changes to agroecosystem management.


1:50 PM  OOS 29-2  Castellano, M1, P Kleinman2 and AN Sharples3, (1)Iowa State University, (2)USDA Agricultural Research Service, (3)University of Arkansas. Managing agricultural P to protect water quality - obvious priorities and obscure necessities.

2:10 PM  OOS 29-3  Parr, M1, S Snapp2 and J Grossman 1, (1) NCSU, (2)Michigan State University. Sustainable nutrient management and agrobiodiversity in Africa.


2:50 PM  OOS 29-5  Fredrickson, E1 and S Tartowski2, (1)USDA Agricultural Research Service, (2)USDA-ARS. Rising nutrient exports from U.S. livestock production and opportunities for reducing losses.

3:10 PM  Break


4:00 PM  OOS 29-8  Morris, T1, S Friedman2 and T Blackmer3, (1)University of Connecticut, (2)Environmental Defense Fund, (3)Iowa Soybean Association. Adaptive Management and Other Lessons from the On-Farm Network.

4:20 PM  OOS 29-9  Gurwich, NP, Union of Concerned Scientists. Policy opportunities for reducing nutrient losses from agriculture.

OOS 30 - We are all Connected: From Environmental Justice Education and Local Community Involvement to Earth Stewardship

14, Austin Convention Center

Organized by: LM Jablonski (jablonski@udayton.edu), AE Pérez-Quintero
Moderator: LM Jablonski

Engaging, educating and partnering with diverse local communities (urban, rural, cultural, religious, indigenous) for environmental justice, active eco-citizenship and earth stewardship will foster improved policies for earth stewardship.

1:30 PM  OOS 30-1  Pérez-Quintero, AE1 and LM Jablonski2, (1) University of Puerto Rico, (2)Marianist Environmental Education Center. Thinking globally, acting locally - what does this mean for today's ecologists?.

1:50 PM  OOS 30-2  Hitzhusen, GF, The Ohio State University. Stewardship: Best practices and stumbling blocks for connecting faith communities to local and global environmental issues.

2:10 PM  OOS 30-3  Moorhead, B, Texas Impact. Sustainable communities, sustainable faith: Challenges and opportunities in engaging the general public through religious environmental programs.


2:50 PM  OOS 30-5  Miesel, JR1, LM Jablonski2, GA Middendorf3 and CH Nilon4, (1)University of Wisconsin-Madison, (2)Marianist Environmental Education Center, (3) Howard University, (4)University of Missouri. Making the connections through curriculum changes: Developing environmental justice courses for graduate students in ecology & environmental sciences.

3:10 PM  Break

3:20 PM  OOS 30-6  Marshall, K1, TS Chan2 and M Gonzalez-Meler3, (1)University of Illinois at Chicago, (2)Eden Place Nature Center, (3)University of Illinois - Chicago. From Chicago's Urban Ecosystems to a Global Vision.


4:00 PM  OOS 30-8  Figueroa, RM, University of North Texas. Moving health science and ecology towards environmental justice by concerns for participation, heritage, and reconciliation: A multi-case, multi-scalar, and transdisciplinary education approach.

4:20 PM  OOS 30-9  Sanfrenzeno-Barnhard, C, University of Puerto Rico. Sustainable nutrient and other lessons from the on-farm network.

4:40 PM  OOS 30-10  Williams, Y, University of Maryland Baltimore County. Comparing vegetation diversity for vacant lot systems in Southwest Baltimore City neighborhoods.

OOS 31 - Measuring and Modeling Roots, the Rhizosphere, and Microbial Processes Belowground

15, Austin Convention Center

Organized by: ML McCormack (mlm572@psu.edu), DM Eissenstat
Moderator: R Norby

By presenting both field based and modeling research across disciplines this session aims to broaden the dialogue between belowground field ecologists and ecological modelers; strengthening the connection between belowground processes and their descriptions or treatments within ecosystem and landscape scale models.

1:30 PM  OOS 31-1  Hobbie, EA1, A Ouiimet2, EAG Schuur3, JM Trappe4, K Bendiksen2 and E Ohenoja4, (1)Complex Systems Research Center, (2)University of New Hampshire, (3)University of Florida, (4)Oregon State University, (5)University of Oslo, (6)University of Oulu. Radiocarbon evidence for the mining of organic nitrogen from soil by mycorrhizal fungi.

1:50 PM  OOS 31-2  Hobbie, JE, Marine Biological Laboratory. The free-living microbial biomass in soil is unsupported by the measured inputs of carbon: How do microbes survive and why should ecologists care.

2:10 PM  OOS 31-3  Hofmockel, KS1 and DR Zak2, (1)Iowa State University, (2)University of Michigan. Soil organic N cycling under elevated CO2 and O3: Relationships among functional gene abundance, enzyme activity, and substrate concentration.

2:30 PM  OOS 31-4  Adair, EC1 and WJ Parton2, (1)National Center

2:50 PM OOS 31-5 Phillips, RP1, AC Finzi2, IC Meier1 and ES Bernhardt3, (1)Indiana University, (2)Bostom University, (3)Duke University. Fungi decrease the sequestration of root-derived C under elevated CO2.

3:10 PM Break


3:40 PM OOS 31-7 Guo, D, Peking University. Linking root traits with ecosystem processes.

4:00 PM OOS 31-8 Iversen, CM1, JK Keller2 and CT Garten Jr.1, (1)Oak Ridge National Laboratory, (2)Chapman University. The consequences of deeper rooting distributions under elevated [CO2]: Testing a conceptual model.

4:20 PM OOS 31-9 McCormack, ML1, TS Adams2 and D Eisenstat2, (1)Pennsylvania State University, (2)The Pennsylvania State University. Patterns of fine root turnover in temperate trees.

4:40 PM OOS 31-10 Dybzinski, R, CE Farrior and SW Pacala, Princeton University. Roots are weapons: Game theory of fine-root investment from a whole-plant perspective; theoretical predictions and empirical challenges.

**OOS 32 - Evolutionary Processes in Ecological Networks**

16A, Austin Convention Center

Organized by: JA Dunne (jduune@santafe.edu), ND Martinez

Moderator: Al Dell

This session presents research that integrates evolutionary processes and concepts into the study of the structure and dynamics of complex ecological networks, with topics that span multiple scales of analysis, a variety of methods, and empirically-based as well as theoretical approaches.

1:30 PM OOS 32-1 Dunne, JA1, CC Labandeira2 and RJ Williams2, (1)Santa Fe Institute, (2)Smithsonian Institution, (3)Microsoft Research Ltd.. The organization of highly resolved, multi-habitat species interactions in an Eocene paleo-food web.


2:30 PM OOS 32-4 Stanczenko, PPA, University of Chicago. Active reallocation of food-web interactions under environmental change.

2:50 PM OOS 32-5 Valdivinos, FS1, JD Flores2 and R Ramos-Jiliberto1, (1)Centro Nacional del Medio Ambiente, Universidad de Chile, (2)The University of South Dakota. Adaptive behavior in pollination networks: Relevance for network robustness against species extinctions.

3:10 PM Break

3:20 PM OOS 32-6 Romanuk, TN, Dalhousie University. Assembly of complex ecological networks by species invasion.


4:00 PM OOS 32-8 Guill, C, University of Göttingen. Network structure and extinction statistics of evolving ecological networks.

4:20 PM OOS 32-9 Poisot, T1, M Lounnas1, PH Thrall2 and M Hochberg1, (1)Université Montpellier 2, (2)CSIRO Plant Industry. Emerging complexity: Evolutionary and ecological processes shaping interaction networks.

4:40 PM OOS 32-10 Saavedra, S1, DB Stouffer2, B Uzzi1 and J Bascompte2, (1)Northwestern Institute on Complex Systems, (2)Estación Biológica de Doñana, CSIC. From species survival to community persistence in mutualistic networks.

**COS 69 - Aquatic Ecology**

Ballroom B, Austin Convention Center

1:30 PM COS 69-1 Julian, JP1, AJ Elmore2 and SM Guinn2, (1)University of Oklahoma, (2)University of Maryland Center for Environmental Science. Where do streams really begin? An ecoregion perspective in the Mid-Atlantic US.

1:50 PM COS 69-2 Schmitz, JE1, JA Rusak2 and SC Hotchkiss3, (1)University of Wisconsin - Madison, (2)Dorset Environmental Science Centre, (3)University of Wisconsin. Differential responses of north-temperate lake phytoplankton communities to multiple stressors are mediated by landscape position.

2:10 PM COS 69-3 Zhang, Y1, JS Richardson2, D Dudgeon3 and M Scoggins4, (1)Texas State University at San Marcos, (2)University of British Columbia, (3)The University of Hong Kong, (4)City of Austin. Anthropogenic land-use disturbances impact on aquatic biodiversity in lotic ecosystems across geographic regions.


2:50 PM COS 69-5 Klinzing, DN, Eastern Washington University. Assessment of Cow Creek following riparian restoration.

3:10 PM Break


3:40 PM COS 69-7 Carey, CC1, KL Cottingham2, KC Weathers3, JA Brentrup2, NM Ruppertsberger4, HA Ewing4 and NG Hairston Jr.1, (1)Cornell University, (2)Dartmouth College, (3) Cary Institute of Ecosystem Studies, (4)Bates College. Cyanobacteria are not all bad: Gloeotrichia echinulata may stimulate plankton food webs in nutrient-limited freshwater ecosystems.

4:00 PM COS 69-8 Scarborough, B1, JP Grover2, BW Brooks2, DL Roelke2 and KN Prussor2, (1)University of Texas at Arlington, (2)Baylor University, (3)Texas A&M University. The role of life history of the golden alga Prymnesium parvum on acute toxicity to fish (Pimephales promelas).

4:20 PM COS 69-9 Stone, AG1, PC Hanson2, L Winslow2 and S Carpenter2, (1)University of Wisconsin-Madison, (2)University of Wisconsin. Spatial and temporal variability of algal fluorescence in eutrophic Lake Mendota.

4:40 PM COS 69-10 Miller, TR1, KD McMahan2 and S Deuschaston3, (1)University of Wisconsin - Milwaukee, (2)University of Wisconsin - Madison, (3)University of Wisconsin. Freshwater harmful algal blooms: Beyond biomass as a predictor of toxicity.
**COS 70 - Behavior: Foraging and Diet I**

4, Austin Convention Center

1:30 PM  COS 70-1  Donaldson-Matasci, MC and A Dornhaus, University of Arizona. The benefits of communication in honeybees depend on ecological context.

1:50 PM  COS 70-2  Lichtenberg, EM and JC Nieh, University of California, San Diego. Cost-effective eavesdropping between competing bee species: Empirical and theoretical support.

2:10 PM  COS 70-3  Yanoviak, S1, N Clay2, C Silveri3 and S King1, (1)University of Arkansas at Little Rock, (2)University of Oklahoma, (3)University of Arkansas. Canopy substrates influence foraging patterns in arboreal ant communities.

2:30 PM  COS 70-4  Lanan, MC, A Dornhaus, GM Fitzpatrick and JL Bronstein, University of Arizona. Foraging strategy, community structure, and symmetry breaking in desert ants.

2:50 PM  COS 70-5  Bockoven, AA and MD Eubanks, Texas A&M University. Potential causes and consequences of colony-level variation in foraging behavior of the red imported fire ant (Solenopsis invicta).

3:10 PM  Break


3:40 PM  COS 70-7  Sword, GA1, J Buhl2, MJ Hansen2, S Bazaz2, I Couzin4 and SJ Simpson2, (1)Texas A&M University, (2)The University of Sydney, (3)Oxford University, (4)Princeton University. Locust cannibalism: Group dynamics and individual benefits.

4:00 PM  COS 70-8  Moore, M, CR Burt, SA Hastings, TD Whitney and GC Chang, Gonzaga University. Does being part of a group improve the survival of larval lady beetles?


4:40 PM  COS 70-10  Clissold, FJ, N Coggan and SJ Simpson, The University of Sydney. Reversing the temperature-size rule: Herbivore use dynamic thermoregulatory behaviour to alter host plant quality.

**COS 71 - Predation and Predator-Prey Interactions I**

5, Austin Convention Center

1:30 PM  COS 71-1  Sargent, LW and DM Lodge, University of Notre Dame. A novel environment drives modification of predator avoidance behavior in invasive rusty crayfish (Orconectes rusticus).

1:50 PM  COS 71-2  Bartholomew, A and K Ebeid, American University of Sharjah. Space-size relative to prey width (Sp/Py) and total cover in an area (Cy/At) influence the habitat choices of desert beetles in the field and laboratory freshwater angelfish Pterophyllum scalare in a similar manner.

2:10 PM  COS 71-3  Wilder, SM1 and SJ Simpson2, (1)University of Sydney, (2)The University of Sydney. Manipulating the nutrient content of carnivorous arthropods.

2:30 PM  COS 71-4  Benincà, E1, V Dakos2, EH van Nes2, J Huisman1 and M Scheffer2, (1)University of Amsterdam, (2)Wageningen University. Resonance of plankton communities with temperature fluctuations.


**COS 72 - Biodiversity: Effects of Global Change**

6A, Austin Convention Center

1:30 PM  COS 72-1  Clark, JS, Duke University. Why the explanation for diversity lies at the individual scale, and why it is relevant for global change.


2:10 PM  COS 72-3  Fitzpatrick, MC, University of Maryland Center for Environmental Science. Modeling the impacts of 120,000 years of climate change on global biodiversity hotspots.

2:30 PM  COS 72-4  Morelli, TL, University of California. Meadows and mammals: The effect of a century of change on Belting's ground squirrels in California.

2:50 PM  COS 72-5  Winfree, R1, C Kremen2, J Dushoff3 and NM Williams4, (1)Rutgers University, (2)University of California, Berkeley, (3)McMaster University, (4)University of California-Davis. Pollinator community disassembly across land use gradients.

3:10 PM  Break

3:20 PM  COS 72-6  Badik, KJ1, A Shapiro2, MM Bonilla3, JP Jahner1 and M Forister1, (1)University of Nevada, Reno, (2)University of California, Davis. Butterfly richness predicted by temporal patterns of precipitation in California.

3:40 PM  COS 72-7  Cariveau, DP and R Winfree, Rutgers University. Response diversity as a mechanism for stabilizing pollinator communities and pollination function against land-use change.

4:00 PM  COS 72-8  Sylvain, ZA and DH Wall, Colorado State University. Scale-dependent responses of soil invertebrate communities to altered soil moisture regimes across a regional precipitation gradient.

4:20 PM  COS 72-9  Verspagn, JMH1, DB van de Waal1, JF Finke1, V Vournazou1, AK Immers1, WEA Kardinaal1, L Tonk1, S Becker2, PM Visser1, E van Donk2 and J Huisman1, (1)Universiteit van Amsterdam, (2)Netherlands Institute for Biodiversity in the Environment (NIOO).
1:30 pm-5 pm
of Ecology (NIOO-KNAW). Reversal in competitive dominance of a toxic versus nontoxic cyanobacterium in response to rising CO₂.

2:40 PM COS 72-10 Donohue, T¹, NE O’Connor² and MC Emmerson², (1)Trinity College Dublin, (2)Queen’s University Belfast. Species loss initiates multifaceted and cascading instability in a natural food web.

COS 73 - Biogeochemistry: Biogeo Patterns along Environmental Gradients II
68, Austin Convention Center

1:30 PM COS 73-1 Hinckley, ES¹, RT Barnes², M Williams¹ and SP Anderson¹, (1)University of Colorado, (2)Rice University. The fate of reactive nitrogen differs by hillslope aspect in montane forests of the Colorado Front Range, U.S.

1:50 PM COS 73-2 Yelenik, SG¹, SS Perakis² and DE Hibbs³, (1) Oregon State University, (2)US Geological Survey, (3) Department of Forest Ecosystems and Society. Regional constraints to N₂ fixation in post-fire forest succession.

2:10 PM COS 73-3 Sullivan, BW¹, MK Nasto¹, SC Hart², BA Hungate¹ and RA Parnell¹, (1)Northern Arizona University, (2)University of California, Merced. Soil fluxes of CO₂, CH₄ and N₂O after fertilization across a three million year old soil age gradient.


2:50 PM COS 73-5 Perakis, S¹ and ER Sinkhorn², (1)US Geological Survey, (2)Oregon State University. Biogeochemistry of a temperate forest nitrogen gradient.

3:10 PM Break

3:20 PM COS 73-6 Castro, S¹, MW Chandler², N Ureña³ and TV Dietch², (1)University of Vermont, (2)Earthwatch Institute, (3)Earthwatch Institute, Costa Rica. Nitrogen-based fertilizer application on coffee agroecosystems: Effect on soil nutrients and possible long term impact on productivity.

3:40 PM COS 73-7 Colgan, MS¹ and GP Asner², (1)Stanford University, (2)Carnegie Institution. Topo-edaphic controls over woody biomass in South African savannas.

4:00 PM COS 73-8 Clay, NA, DA Donoso and M Kaspari, University of Oklahoma. Urine as an important sodium source increases decomposition in a Na-poor but not Na-rich tropical forest.

4:20 PM COS 73-9 von Haden, AC and ME Dornbush, University of Wisconsin-Green Bay. Above- and below-ground partitioning in tallgrass prairie along a landscape-scale soil moisture continuum: Implications for carbon sequestration.


COS 74 - Climate Change: Ranges and Phenology
8, Austin Convention Center

1:30 PM COS 74-1 McKellar, AE¹, P Marra², SJ Hannon³, CE Studds² and LM Ratcliffe¹, (1)Queen’s University, (2)Smithsonian Migratory Bird Center, (3)University of Alberta. Winter rainfall predicts phenology on an east-west axis in widely separated populations of a migratory songbird.

1:50 PM COS 74-2 Hille Ris Lammers, J and KR Ford, University of Washington. Transient dynamics during climate change induced range shifts.

2:10 PM COS 74-3 Courter, JR¹, RJ Johnson¹, KG Hubbard² and WC Bridges¹, (1)Clemson University. (2)University of Nebraska-Lincoln. Assessing the effects of climate change on bird phenology at broad temporal and spatial scales.

2:30 PM COS 74-4 Erb, LP, C Ray and R Guralnick, University of Colorado at Boulder. Climatic drivers of pika population density in the Southern Rocky Mountains.

2:50 PM COS 74-5 Ellwood, ER¹, RB Primack¹ and JS Dukes², (1)Boston University, (2)Purdue University. Measuring the effect of climate change on fern phenology and ecophysiology using historical and experimental methods.

3:10 PM Break

3:20 PM COS 74-6 Ettinger, AK, KR Ford and J HilleRisLambers, University of Washington. Impacts of climate and competition on altitudinal range limits of Pacific Northwest conifers.

3:40 PM COS 74-7 Record, S¹, MC Fitzpatrick², AM Ellison³ and AO Finley⁴, (1)Harvard Forest, Harvard University, (2)University of Maryland Center for Environmental Science, (3)Harvard University, (4)Michigan State University. Exploring spatial autocorrelation and spatial random effects in tree species distribution models with the forest inventory and analysis data.

4:00 PM COS 74-8 Nagy, L, University of Bayreuth. Extreme weather events alter leaf phenology and growth of different Fagus sylvatica provenances.

4:20 PM COS 74-9 Robertson, A¹, N Takebayashi² and MS Olson³, (1)University of Alaska, (2)University of Alaska Fairbanks, (3)Texas Tech University. Migration potential of a North-American boreal forest tree species, Populus balsamifera, in a changing climate.

4:40 PM COS 74-10 Hurlbert, AH and LZ Liang, University of North Carolina. Using citizen science efforts to examine spatiotemporal variation in avian migration phenology.

COS 75 - Community Pattern and Dynamics III
9AB, Austin Convention Center

1:30 PM COS 75-1 Bell, DM and JS Clark, Duke University. The continuum of masting behavior and its relation to seed predation and survival in temperate trees.

1:50 PM COS 75-2 Hayden, MK¹, JJ Battles¹ and JC Stella², (1)University of California, Berkeley, (2)State University of New York College of Environmental Science and Forestry. Experimental evidence of interacting drivers controlling pioneer riparian tree establishment in floodplain refugia.

2:10 PM COS 75-3 Coop, JD, Western State College of Colorado. Accelerating aspen dieback and understory community dynamics in the upper Gunnison Basin, Colorado.

2:30 PM COS 75-4 Rozendaal, DM and RK Kobe, Michigan State University. Canopy defoliation by forest tent caterpillar strongly increased resource availability and seedling growth in northern hardwood forests of Michigan.

2:50 PM COS 75-5 McMahon, S, Smithsonian Institution Global Earth Observatory. Near-term projections of long-lived forest systems: Using integral projection models to predict demographic change in dynamic environments.

3:10 PM Break

3:20 PM COS 75-6 Messier, C, Université du Québec à Montréal. Interannual variation in competitive interactions from natural and anthropogenic disturbances in a temperate forest tree species: Implications for ecological interpretation.

3:40 PM COS 75-7 Chisholm, RA, Smithsonian Tropical Research Institute. Theoretical models of forest communities: Neutral theory plus.

4:00 PM COS 75-8 Ayal, Y, Ben Gurion University of the Negev.
Earth Stewardship: Preserving and enhancing earth's life support systems

1:30 pm-5 pm

COS 78 - Invasion: Dynamics, Population Processes
10B, Austin Convention Center

1:30 PM COS 78-1 Parker, JD1, M Torchin2 and RA Hufbauer3, (1)Smithsonian Institution, (2)Smithsonian Tropical Research Institute, (3)Colorado State University. Are invaders different: comparing performance metrics among some of the world’s worst invaders in their home and away range.

1:50 PM COS 78-2 Eppinga, MB1 and J Molofsky2, (1)Utrecht University, (2)University of Vermont. The ecology and evolution of reed canarygrass.

2:10 PM COS 78-3 Blair, AC1, DM Blumenthal2 and RA Hufbauer3, (1)St. Ambrose University, (2)USDA-ARS, (3)Colorado State University. An experimental test of the role of hybridization in the invasion of diffuse knapweed (Centaurea diffusa Lam.).


2:50 PM COS 78-5 Nuñez, MA, The University of Tennessee. Multiple hypotheses explain Pinaceae invasion on Isla Victoria, Argentina.

3:10 PM Break
1:30 pm-5 pm

3:20 PM COS 78-6 Lucardi, RD1, GN Ervin1, LE Wallace1 and CT Bryson2, (1)Mississippi State University, (2)USDA-ARS. Population genetic analysis of an exotic species: Congocassia (Imperata cylindrica (L.) P. Beauv.) in Mississippi and Alabama.

3:40 PM COS 78-7 Delgado, D, R Arce-Nazario and C Restrepo, University of Puerto Rico-Rio Piedras. Understanding the large-scale pattern of exotic vine spread: Do power and telephone networks function as corridors aiding exotic vine invasion?

4:00 PM COS 78-8 Schmale, GD, LL Battaglia and DJ Gibson, Southern Illinois University. Population persistence of non-native invasive plants.

4:20 PM COS 78-9 Felker-Quinn, E1, JK Bailey2 and J Schweitzer3, (1)University of Tennessee - Knoxville, (2)University of Tasmania, (3)University of Tennessee, Knoxville. Invasive Ailanthus altissima displays population and family level differentiation, but no latitudinal cline, for performance traits.

4:40 PM COS 78-10 Bhagat, Y, A Koster and CR Ruetz III, Grand Valley State University. Differential habitat use by two Ponto-Caspian invaders in coastal areas of the Laurentian Great Lakes.

COS 79 - Physiological Ecology II

12B, Austin Convention Center

1:30 PM COS 79-1 Sword Sayer, MA, SJ Zarnoch and JD Haywood, USDA Forest Service. Physiological mechanisms of sustained growth despite crown scorch in a young longleaf pine plantation.

1:50 PM COS 79-2 Palow, DT1, K Nolting2 and K Kitajima1, (1)University of Florida, (2)Michigan State University. Soil type specialization and functional traits in Inga (Fabaceae): Comparison between sapling and adult stages.

2:10 PM COS 79-3 Pangle, RE1, JM Limousin1, N Gehres1, PJ Hudson1, AL Boutz1, WT Pockman1 and NG McDowell2, (1)University of New Mexico, (2)Los Alamos National Laboratory. Variation in canopy gas exchange and hydraulic conductance following three years of experimental rainfall manipulation in a pithon-juniper woodland.

2:30 PM COS 79-4 Hudson, PJ and WT Pockman, University of New Mexico. Comparative hydraulic performance of pithon and juniper in a rainfall manipulation experiment.

2:50 PM COS 79-5 Plaut, JA1, NG McDowell2 and WT Pockman1, (1)University of New Mexico, (2)Los Alamos National Laboratory. The implications of isohydric and anisohydric regulation of leaf water potential under current and future precipitation regimes.

3:10 PM Break

3:20 PM COS 79-6 Schafer, KV, Rutgers University Newark. Canopy stomatal conductance under drought, disturbance and death.

3:40 PM COS 79-7 Lachenbruch, B1, DM Barnard2, FC Meinzer3 and K McCulloh4, (1)Oregon State University, (2)Colorado State University, (3)USDA Forest Service, (4)Oregon State University. Coordinated adjustments in Douglas-fir and ponderosa pine xylem efficiency, safety, and capacitance along a gradient of increasing aridity in Oregon.

4:00 PM COS 79-8 Jaikumar, NS and S Snapp, Michigan State University. Photosynthesis in Perennial Cereals: How do perennial cereals balance seed production and long term survival?

4:20 PM COS 79-9 Shiflett, SA and DR Young, Virginia Commonwealth University. Light use and water relations of three evergreen shrubs in an eastern temperate forest understory.

COS 80 - Fire

13, Austin Convention Center

1:30 PM COS 80-1 Cansler, CA and D McKenzie, University of Washington. Drivers of Burn Severity Patterns in the Northern Cascade Range, Washington, USA.

1:50 PM COS 80-2 Dewar, JL1, DA Falk1, CD Allen2, RR Parmenter3, TW Swetnam1 and CH Baisan1, (1)University of Arizona, (2)Jemez Mountains Field Station, (3)Valles Caldera Trust. Top-down and bottom-up control of fire regimes in montane grasslands of the Valles Caldera, New Mexico, USA.

2:10 PM COS 80-3 Higuera, PE1, M Chipman2, J Barnes3, P Duffy4 and FS Hu3, (1)University of Idaho, (2)University of Illinois, (3)National Park Service, (4)Neptune and Company, Inc, (5)University of Illinois, Urbana-Champaign. Interannual- to millennial-scale interactions among climate, vegetation, and fire in tundra ecosystems of Alaska, USA.

2:30 PM COS 80-4 Menges, ES1, J Olano2 and K Main1, (1)Archbold Biological Station, (2)Universidad de Valladolid. Frequent fire or mowing inhibits resprouting vigor in dominant shrubs of Florida scrub.

2:50 PM COS 80-5 Horn, KJ1, J Wilkinson1, RS White1 and SB St. Clair2, (1)Brigham Young University - Provo, (2)Brigham Young University. Fire results in increased physiological vigor for surviving Joshua trees (Yucca brevifolia) and creosote bushes (Larrea tridentata) in the Mojave Desert.

3:10 PM Break

3:20 PM COS 80-6 Ellair, DP and WJ Platt, Louisiana State University. Fuel composition influences fire temperature, residence time, and understory hardwood survival in pine savannas.

3:40 PM COS 80-7 Quinones-Magalhaes, RM and D Schwill, Texas Tech University. Leaf traits and litter flammability: Understanding multi-species mixtures.

4:00 PM COS 80-8 Alexander, HD1, MC Mack1, S Goetz2, MM Loranty3, PSA Beck2, and K Earl1, (1)University of Florida, (2)Woods Hole Research Center. Stand age and tree density effects on carbon accumulation patterns in post-fire Cajander larch (Larix cajanderi) forests of Far Northeastern Siberia.

4:20 PM COS 80-9 Pearce-Duvet, JM1, X Arnan2, A Rodrigo3, R Boulay1 and X Cerdá1, (1)Estación Biológica de Doñana - CSIC, (2)Centre de Recerca Ecològica i Aplicacions Forestals (CREAF). The effect of fire on resource discovery in Mediterranean ant communities.

4:40 PM COS 80-10 Knops, JMH1, W Li2 and X Zuo3, (1)University of Nebraska, (2)Lanzhou University, (3)Cold and Arid Regions of Environmental and Engineering Research Institute, Chinese Academy of Sciences. Vegetation changes in infertile grasslands occur only after decades of fire frequency differences.

COS 81 - Spatial Analysis and GIS

18A, Austin Convention Center

1:30 PM COS 81-1 Watling, J1, Y Espiribano1, LA Brandt2, SS Romáñach3, LG Pearlstine4, RJ Fletcher Jr.1 and FJ Mazzotti1, (1)University of Florida, (2)U.S. Fish and Wildlife Service, (3)US Geological Survey, (4)National Park Service. Alternative climate inputs can change the spatial signature of predictions in climate envelope models.

1:50 PM COS 81-2 Roll, U1, L Stone1 and A Solow2, (1)Tel-Aviv University, (2)Woods Hole Oceanographic Institution. Analyzing climate-change induced range shifts by modeling range boundaries of British birds.
**COS 83 - Population Dynamics: Modeling**

18C, Austin Convention Center

1:30 PM COS 83-1 Polivka, KM1, G Dwyer2, KM Sirianni1, JL Novak1 and CJ Mehmel1, (1)PNW Research Station USDA Forest Service, (2)University of Chicago. Models and experiments suggest that pre-outbreak infection rate, population size, and temperature affect the efficacy of pesticide delivery of nucleopolyhedrovirus.

3:00 PM COS 83-5 Hastings, A, University of California, Davis. Subsidies primarily affect transient responses, not equilibrium behavior.

3:40 PM COS 83-7 Sun, M, Texas A&M University. Application of matrix models to climate effect on duck breeding populations.

4:26 PM COS 83-9 Bento, Al, MJ Crawley2 and T Coulson2, (1)Imperial College London, (2)Imperial College, London. The effects of local weather patterns on Soay sheep dynamics.

**COS 82 - Life History Theory and Evolution**

18B, Austin Convention Center

1:30 PM COS 82-1 Larios, E and DL Venable, University of Arizona. Natural selection on seed size in a desert annual plant: The role of water availability and plant competition.

1:50 PM COS 82-2 Ledder, G, University of Nebraska-Lincoln. A theoretical investigation of masting as a response to seed herbivory.

2:10 PM COS 82-3 McKinney, AM and DW Inouye, University of Maryland. Flowering decisions in Veratrum tenuepatulum: A clonal mast-flowering herb with monocarpic ramets.

2:30 PM COS 82-4 Park, AW, Odum School of Ecology, University of Georgia. Sex in an uncertain world: Unpredictable environments restore competitive balance between sexually and asexually reproducing populations.

2:50 PM COS 82-5 Adams, BJ1, BN Adhikari1, BL Simmons2, BA Ball1, DH Wall2 and RA Virginia4, (1)Brigham Young University, (2)Colorado State University, (3)Arizona State University at the West Campus, (4)Dartmouth College. Evolutionary and ecological stoichiometry link nutrient availability to nematode life history and genome evolution.

3:10 PM Break

3:20 PM COS 82-6 Scharf, I1, B Kramer2 and S Foitzik1, (1) Johannes Gutenberg University Mainz, (2)Max Planck Institute for Demographic Research. The evolution of colony size in cavity-dwelling ants: The interplay between colony size and different life-history traits.

**COS 84 - Sustainability**

18D, Austin Convention Center

1:30 PM COS 84-1 Wolf, AA1 and SC Reed2, (1)USGS/Carnegie Institution, (2)USGS. Biofuel production potential in the southwestern U.S.
1:30 pm-5 pm; 4:30 pm-6:30 pm


2:10 PM COS 84-3 Whittinghill, LJ and B Rowe, Michigan State University. The role of green roof technology in urban agriculture.

2:30 PM COS 84-4 Wilberding, S, Pennsylvania State University. Green infrastructure: Assessing a novel method to reducing urban flood susceptibility and pollution.


3:10 PM Break

3:20 PM COS 84-6 Schoenbaechler, CA and CG Guthrie, Texas Water Development Board. Environmental flows in Texas: Senate Bill 3 intent and practice.

3:40 PM COS 84-7 Guthrie, CG and CA Schoenbaechler, Texas Water Development Board. Texas Senate Bill 3 approaches to determining freshwater inflow recommendations for Texas estuaries.

4:00 PM COS 84-8 Brauman, KA and J Foley, University of Minnesota. Assessing local benefits and impacts from global patterns in agricultural water use.

4:20 PM COS 84-9 Best, EP, CT Nietch and HW Thurston, U.S. Environmental Protection Agency, National Risk Management Laboratory. Sustainable water management in the Ohio River Basin taking ecosystem services into consideration.

Wildlife Research Unit. Large-scale conservation planning: Trading meadowlarks for woodpeckers.

4:20 PM

PS 33 - Habitat Structure, Fragmentation, Connectivity
Exhibit Hall 3, Austin Convention Center

PS 33-1 Grimsley, AA and GR Huxel, University of Arkansas. Correlation of habitat factors and presence or absence of eastern collared lizards.

PS 33-2 Murphy, ML1, MF Allen2 and CW Barrows3, (1)University of California Riverside, (2)University of Colorado, (3)University of California at Riverside, (4)University of California at Riverside. Evaluating wildlife corridor linkages: Do freeway underpasses connect the Peninsular and Transverse mountain ranges?

PS 33-3 Tarsi, K1, KF Davies2, S Sarre3, C Margules4 and J Meyers4, (1)University of Colorado at Boulder, (2)University of Colorado, (3)University of California, (4)CSIRO. Dispersal drive extinction risk for lizards in a 25 year fragmentation experiment?

PS 33-4 Fagan, ME and RS DeFries, Columbia University. The effect of tree plantation structure and composition on matrix permeability for tropical forest understory birds: Are native tree species always better?

PS 33-5 Baczensky, KP and KV Root, Bowling Green State University. Assessing amphibian species in wetlands in an urban-rural matrix.


PS 34 - Behavior
Exhibit Hall 3, Austin Convention Center

PS 34-7 Locklin, JL1 and SJ Trumble2, (1)Temple College, (2)Baylor University. A preliminary assessment of lipid content and body mass of the monarch butterfly (Danaus plexippus) (Lepidoptera: Danaidae) during the fall migration in Texas.

PS 34-8 Brazil-Sousa, C1, MP Albrecht2, R Iglesias-Rios1 and R Svanbäck2, (1)Universidade Federal do Rio de Janeiro, (2)Limnology. Individual foraging specialization in tropical fishes is affected by niche breadth, trophic position, and dominance of food items.

PS 34-9 Arcila Hernandez, LM1, A Ravenscraft2, G Miller3 and M Frederickson1, (1)University of Toronto, (2)Stanford University, (3)Harvard University. The macronutrient requirements of a tropical arboreal ant.

PS 34-10 Harris, CJ1, MO Lammers2 and LM Munger2, (1)University of Hawaii, Honolulu, HI, (2)University of Hawaii. Acoustic
monitoring of Hawaiian spinner dolphins (Stenella Longirostris) in West Oahu, Hawaii.

PS 34-11 Brown, H, JD Fore and DB Noltie, University of Missouri. How pebble size affects log perch (Percina caprodes) foraging behavior.

PS 34-12 Levine, TD1, GW Gerald2 and HB Hansen2, (1)Murray State University, (2)Nebraska Wesleyan University. Effect of enhanced shell structure on functional burrowing traits and dislodgement force in Potamalus alatus.

PS 34-13 Belinsky, KL and KA Schmidt, Texas Tech University. Voices in the dark: Predation risk as a cost of dusk singing in a songbird.


PS 34-15 Harwood, GP and L Avilés, University of British Columbia. Comparing cooperative hunting capabilities of social and sub-social spiders.

PS 34-16 Day, RE, AV Greene and PA Saunders, Ashland University. Rapid assessment method for density of green fluorescent protein-labeled Escherichia coli important to observing small Daphnia.

PS 34-17 Glover, RE and PA Saunders, Ashland University. Assessing the seasonal onset of daily horizontal migration behavior of Daphnia dentifera in Sites Lake, OH.

PS 34-18 Weyland, DM1, D Minier2 and HB Shaffer3, (1)Texas State University, (2)University of California, Davis, (3)University of California - Davis. Impacts of an invasive turtle species (Trachemys scripta) on basking behavior of the western pond turtle (Emys marmorata) in an urban waterway.

PS 34-19 Furusawa, H1, Y Ibara1, A Soemantri1 and T Ishida1, (1)The University of Tokyo, (2)Diponegoro University. Effects of consanguineous marriages on offspring survival among Sambanese in Indonesia.

PS 34-20 Block, JE1, TD Levine2 and G Gerald2, (1)Murray State University, (2)Murray State University, (3)Nebraska Wesleyan University. Temperature effects on burrowing behavior of Potamalis alatus, the Pinkheelsplitter, a freshwater mussel abundant in Kentucky Lake.

PS 34-21 Swatek, CA, JS Gibson and RB Cocrotl, University of Missouri. Use of an amplitude gradient during vibration localization by a small plant-dwelling insect.

PS 34-22 Camponizzi, AJ, Texas A&M University. Influence of personal information, public information, and extra-pair paternity on breeding site fidelity in a songbird.

PS 34-23 Stewart, ML1, LD Hayes2, RA Vasquez3 and M Soto Gamboa4, (1)University of Louisiana at Monroe, (2)The University of Louisiana at Monroe, (3)Instituto de Ecologia y Biodiversidad, (4)Instituto de Ecologia y Evolucion., Intraspecific variation in alarm calls of a social subterranean rodent, Spalacopus cyanus.

PS 34-24 Grotte, R, University of Texas at San Antonio. Spatial differences in worker behaviors within nest for S. invicta.

PS 34-25 Utsumi, SA1 and AF Cibils2, (1)Michigan State University, (2)New Mexico State University. Behavioral syndromes of dairy cattle (Bos taurus) across familiar and unfamiliar foraging environments.

PS 35 - Predation and Predator-Prey Interactions

Exhibit Hall 3, Austin Convention Center


PS 35-28 Moyer, AT and B Luttbeg, Oklahoma State University. The effects of short term, and long term exposure to elevated cadmium levels on predator avoidance behavior in southern leopard frog (Rana sphenocephala) tadpoles.

PS 35-29 Patten, MV, EA Pardini and TM Knight, Washington University in St. Louis. Escape in space: Effects of density and distance from invasive vegetation on post-dispersal seed-consumption of congeneric lupines.

PS 35-30 Mattson, EE, VHW Rudolf and CJ Dibble, Rice University. Ontogenetic niche shifts, juvenile bottlenecks, and the dynamics of predator-prey systems.

PS 35-31 Hnuelos, AC and JC Trexler, Florida International University. Assessing relative predation risk for small fish in dry-season refuges of a freshwater oligotrophic wetland.

PS 36 - Species Interactions

Exhibit Hall 3, Austin Convention Center

PS 36-32 Caruso, T1, K Barto1, F Buscot2, M Fischer3, C Herbst4, TS Maier5, T Meiners1, C Mueller5, E Obermaier4, D Prati3, S Socher1, I Sonnemann1, N Waeschke1, T Wubet2, S Wurst1 and MC Rilling1, (1)Freie Universitaet Berlin, (2)Helmholtz Centre for Environmental Research, (3)University of Bern, (4)University of Wuerzburg, (5)Bielefeld University. Choosing and using diversity indices: perspectives for ecological applications from a large scale field experiment.

PS 36-33 Costa, ZI and JR Vonesh, Virginia Commonwealth University. Non-lethal effects of dragonfly predators on interactions between the tadpoles of two Neotropical hylid frogs.

PS 36-34 Horner, JD, JC Steele, C Underwood and D Lingamfelter, TCU. Age-related changes in pitcher characteristics and prey capture of seasonal cohorts of Sarracenia alata.

PS 36-35 Joffe, N, Rider University. An investigation of Ambystoma maculatum within Oophila ambystomatis as a possible unique species.

PS 36-36 Rutishauser, S1, SA Schnitzer1, J Mascaro1, S Letcher1, W P Caron1, (1)University of Wisconsin - Milwaukee, (2)Carnegie Institution for Science, (3)Organization of Tropical Studies, (4)University of Pittsburgh. Does vegetative colonization contribute to increasing liana abundance and biomass in tropical forests?.

PS 36-37 Ponsio, LC and CL Boggs, Stanford University. Disturbance-mediated changes in nectar availability alter pollinator population and foraging dynamics.

PS 37 - Mutualism and Facilitation

Exhibit Hall 3, Austin Convention Center

PS 37-38 Styrsky, JD and K Marvin, Lynchburg College. Ant-acacia-inhabiting Eustala spiders (Araneaeidae) potentially employ chemical camouflage to avoid ant aggression.

PS 37-39 Turner, KM and ME Frederickson, University of Toronto. Partner benefits and partner choice in a temperate ant- seed interaction.

PS 37-40 Fleming-Davies, AE, University of Chicago. Benefits of extraloral nectar to ants in a facultative ant-plant mutualism.

PS 37-41 Poulos, JM1, EW Schupp1 and SM Ostoj1, (1)Utah State University, (2)United States Geological Survey. Life-stage conflicts and the shifting balance between interference and facilitation: A case study with Penstemon palmeri and shrubs.

PS 37-42 Goergen, EM, University of Nevada - Reno. Abundance
of fungal endophytes in two common perennial grasses of the semiarid sagebrush steppe.

PS 37-43 Creed, Jr., RP1, KJ Farrell1, BL Brown2, DA Young1 and JD Lomonaco1, (1)Appalachian State University, (2)Clemson University. Preventing overexploitation in a mutualism: Partner control in the crayfish-branchiobdellid symbiosis.

PS 37-44 Frater, FN and WS Harpole, Iowa State University. Plant-mycorrhizal relationships and the influence of resource stoichiometry.

PS 38 - Plant-Insect Interactions
Exhibit Hall 3, Austin Convention Center


PS 38-46 Yule, K, TEX Miller and JA Rudgers, Rice University. A vertically transmitted symbiont affects host population dynamics.


PS 38-48 Mason, PA and MS Singer, Wesleyan University. Caterpillars optimize defense via host plant mixing.


PS 38-50 Zemenick, KA, University of Michigan. The indirect effects of a keystone ant-hemipteran mutualism on coffee berry load.

PS 38-51 Garcia, LC and MD Eubanks, Texas A&M University. The effect of ethylene in developing fruit on herbivore performance.

PS 38-52 Bernardo, M, Wesleyan University. Dietary anti-oxidants as a first line of defense against parasitoid infection in Gramma incrupta.


PS 38-54 Kula, A, MR Dudash and CB Fenster, University of Maryland. Temporal synchrony of Silene stellata and its pollinating seed predator, Hadena ectyta, over three years.

PS 39 - Pollination
Exhibit Hall 3, Austin Convention Center


PS 39-56 Kimoto, C1, SJ DeBano1, H Schmalz2, RV Taylor3, PL Kennedy1, T DelCurto1, S Wyffels1 and T Johnson1, (1)Oregon State University, (2)University of Idaho, (3)The Nature Conservancy. Effect of livestock grazing intensity on native bee communities of a Pacific Northwest Bunchgrass Prairie.

PS 39-57 Hannon Williams, LE and DL Finke, University of Missouri. Breeding system and potential pollinators of the desert shrub Krameria erecta (Krameriacae).

PS 39-58 Waters, SM, S Eshe and J HilleRisLambers, University of Washington. Floral neighborhood and pollinator functional group affect the outcome of pollinator-mediated interactions between native and exotic plants.
herbivores: Evidence for a hypersensitive response in eastern hemlocks.


PS 41-75  Mundim, FM1, HL Vasconcelos2, EM Bruna1 and EHM Vieira-Neto1, (1)University of Florida, (2)Universidade Federal de Uberlândia. Effects of attack frequency on the tolerance to herbivory of Neotropical savanna trees.

PS 41-76  Wason, EL1, AA Agrawal4 and MD Hunter2, (1)University of Michigan, (2)Cornell University. Plants make scents: Latitudinal and intraspecific variation in plant volatile organic chemical emission.

PS 41-77  Heath, JJ1, D Cipollini1, A Kessler2 and JO Stireman II1, (1)Wright State University, (2)Cornell University. Testing optimal defense theory in Solidago altissima.

PS 42 - Physiological Ecology
Exhibit Hall 3, Austin Convention Center

PS 42-78  Mack, L, U Chung and SH Kim, University of Washington. Two cherry cultivars' response to changes in temperature in Washington D.C.’s Tidal Basin.

PS 42-79  Sloat, LL1, CA Lamanna1, G Aldridge2, BJ Enquist3, AN Henderson1, DW Inouye2, MJ Stansberry5, KD Whitney5 and I Billck6, (1)University of Arizona, (2)University of Maryland, (3)University of Arizona and The Santa Fe Institute, (4)Kenyon College, (5)Rice University, (6)Rocky Mountain Biological Laboratory. A comprehensive functional trait database for the plants of the Rocky Mountain Biological Laboratory.


PS 42-81  Lunch, CK1, AM LaFountain2, HA Frank2 and ZG Cardon1, (1)Marine Biological Laboratory, (2)University of Connecticut. Photosynthesis on land: Photoprotection in terrestrial and aquatic green algae.


PS 42-83  Renninger, HJ1 and KV Schafer2, (1)Rutgers University, (2)Rutgers University Newark. Comparison of heat balance (Cermak) and thermal dissipation (Granier) sap flow measurements in ring-porous oaks and a pine species.

PS 42-84  Meiner, FC1, K McCulloh2, J Sperry3, B Lachenbruch2, SL Voelker2, DR Woodruff1 and JC Domec4, (1)USDA Forest Service, (2)Oregon State University, (3)University of Utah, (4)North Carolina State University. Comparative hydraulic architecture of early and late successional tropical tree species.

PS 42-85  Woodruff, DR1, FC Meiner1 and DM Johnson2, (1)USDA Forest Service, (2)Ohio University. Temporal variation in storage of nonstructural carbohydrates along a height gradient in Douglas-fir trees.

PS 42-86  Bretfeld, M1, SB Franklin1, D Beverly1 and RM Hubbard2, (1)University of Northern Colorado, (2)USDA Forest Service. Quantifying clonal integration in Populus tremuloides via root sap flow.

PS 42-87  Thomas, SM1, MM Enriches2, CK Lunch1, AM LaFountain2, HA Frank2, LA Lewis2 and ZG Cardon1, (1)Marine Biological Laboratory, (2)University of Connecticut. Comparative photophysiology of green algae isolated from desert microbiotic crusts and their close aquatic relatives.

PS 42-88  Krynsky, LS1, JG Boyles2, RO Teskey3 and DP Aubrey3, (1)USDA Forest Service, (2)Department of Zoology and Entomology, (3)University of Georgia. Spatial and temporal patterns of xylem sap pH derived from stems and twigs of Populus deltoides L.

PS 42-89  Gris6, DJ1 and CT Lee2, (1)Texas A&M-Corpus Christi, (2)Texas A&M-Galveston. Differences in photosynthetic rates of between winter-active and summer-active Helianthus annuus on the Gulf Coast.

PS 42-90  Matzner, SL1, EJ Richards2 and JP Sparks3, (1)Augustana College, (2)Boyce Thompson Institute, (3)Cornell University. Investigating epigenetic regulation of water-use related genes in tomato.

PS 42-91  Hesseling, SM1, RA Koch1, RM McCormack1, EW James1, JS McLachlan1 and MJ Blum2, (1)University of Notre Dame, (2)Tulane University. Variation in physiological response of Schoenoplectus americanus populations to salt stress across space and time.

PS 42-92  Yang, J1, RO Teskey2 and C Wang1, (1)Northeast Forestry University, (2)University of Georgia. Stem CO2 efflux of ten species in temperate forests in northeastern China.

PS 42-93  Mitchell, RJ1, B Mortazavi2, JJ O’Brien3, JD McGee4, JJ Hendricks5, KA Kuehn5, RO Teskey6 and DP Aubrey6, (1)Joseph W. Jones Ecological Research Center, (2)University of Alabama and Dauphin Island Sea Lab, (3)USDA Forest Service, (4)University of West Georgia, (5)University of Southern Mississippi, (6)University of Georgia. Stored carbohydrates decouple current photosynthesis from soil CO2 efflux in frequently disturbed ecosystems.

PS 42-94  Boyce, RL, J Shouse and RD Durtsche, Northern Kentucky University. Response of daily transpiration of woody plants to soil water availability and vapor pressure deficit.

PS 42-95  Pivovaroff, A and L Santiago, University of California, Riverside. Decoupled stem and leaf hydraulic conductance in California chapparal and coastal sage scrub plant species.

PS 42-96  Duarte, A, RS Luna and FW Weckerly, Texas State University - San Marcos. Rumen-reticulum capacity and fill in female white-tailed deer: Meeting demands in a stochastic environment.

PS 42-97  Dell, AL, S Pawar and VM Savage, UCLA. Understanding variation in the temperature dependence of physiological and ecological traits.

PS 42-98  Mollik, MAH, Peoples Integrated Alliance. Observations on the traditional phytotherapy among the inhabitants of Betagi upazila in Barguna district, Bangladesh.

PS 43 - Seed Production, Dispersal, and Predation
Exhibit Hall 3, Austin Convention Center

PS 43-99  Noss, CF and DJ Levey, University of Florida. Does gut passage affect seed predation in wild chilies (Capsicum annuum)?

PS 43-100  Minor, DM and RK Kobe, Michigan State University. Soil nutrient influence on tropical palm reproduction.


PS 43-102  Dalgleish, HJ, JT Shukle and RK Swihart, Purdue University. The effects of weevil seed damage on germination, seedling vigor, and population growth of pure and hybrid American chestnut.

PS 44 - Disease and Epidemiology
Exhibit Hall 3, Austin Convention Center

PS 44-103  Czarnecki, C1, M Palace1, E Linder1, P Ingraham2, W Salas2, C Yuan3, M Routhier1, N Torbick2, D Bartlett1, R
WEDNESDAY

4:30 pm-6:30 pm


PS 44-104 Castorena, C1 and K Koelle2, (1)Duke, (2)Duke University. The implications of social contact structure for the economics of disease control.

PS 44-105 Scholle, SO and K Koelle, Duke University. The effect of disease dynamics on viral evolutionary rates: A modeling study to consider ecological determinants of substitution rate variation in chikungunya virus.

PS 44-106 Goodman, R1, YT Ararso1 and DL Miller2, (1)Hampden-Sydney College, (2)University of Georgia. Presence of Ranavirus and the fungus Batrachochytrium dendrobatidis in reptiles and amphibians sharing three water bodies in Virginia.

PS 44-107 Korfel, CA and TE Hetherington, The Ohio State University. Studies of Batrachochytrium dendrobatidis in amphibian populations in central Ohio 2010: Seasonal patterns, taxonomic distribution, and habitat.


PS 44-109 Parks, AM1, MA Jenkins1, KE Woeste2 and ME Ostry3, (1)Purdue University, (2)USDA Forest Service, North Central Research Station, Hardwood Tree Improvement and Recreation Center, (3)USDA Forest Service. Recruitment history, mortality, and contemporary health of butternut Juglans cinerea populations in Great Smoky Mountains National Park.

PS 44-110 Rúa, MA1, RL McCulley2 and CE Mitchell3, (1)University of North Carolina, Chapel Hill, (2)University of Kentucky, (3)University of North Carolina. Host genotype alters endophyte effects in viral infected grasses.

PS 44-111 Holme, P1, S Lee1, LE Rocha1 and F Liljeros2, (1)Umeå University, (2)Stockholm University. Temporal network structure and its implication for disease dynamics and control.

PS 44-112 Sieracki, JL and JM Rossenbroek, University of Toledo. Modeling the spread of viral hemorrhagic septicemia virus (VHSV) via Great Lakes shipping.

PS 44-113 Heckman, RW1, JP Wright2 and CE Mitchell1, (1)University of North Carolina, (2)Duke University. The effects of soil nutrients on foliar herbivory and disease on native and exotic old field species.

PS 45 - Microbial Ecology

Exhibit Hall 3, Austin Convention Center

PS 45-114 Moorhead, DL1, I Bertrand2, G Lashermes2 and S Recous2, (1)University of Toledo, (2)Institut National de la Recherche Agronomique. A modeling analysis of the transition between microbial and litter quality controls on decomposition.

PS 45-115 Kisselle, KW, KE Reed, AJ Horton, L St. Clair and R Stone, Austin College. Effects of plant species and soil characteristics on rhizosphere microbial community structure in North Texas prairies.

PS 45-116 Carrino-Kyker, SR1, KA Smemo2 and DJ Burke2, (1)Case Western Reserve University, (2)The Holden Arboretum. Metagenomic analysis of microbial community structure and metabolic diversity in experimental vernal pools with and without NO3 addition.

PS 45-117 Kluber, LA1, DJ Burke2, SR Carrino-Kyker1, JL DeForest3,

HL Elliot3, CR Hewins2, AN Shaw2 and KA Smemo2, (1)Case Western Reserve University, (2)The Holden Arboretum, (3)Ohio University. What’s P got to do with it? Mycorrhizal and biochemical response to P and lime additions in acidic hardwood forests.

PS 45-118 Hiripitiyage, YD, S Hsu, AN Golphin, LG Leff and CB Blackwood, Kent State University. Bacterial cheaters, and investors: Non - polymer degraders, extracellular enzyme producers, and their roles in leaf decomposition.

PS 45-119 McAllister, SA, BJ Bohannan, SD Bridgham and Q Jin, University of Oregon. Microbial community structure and ecosystem function: Linking methane production rate to methanogen community structure in wetland soils.

PS 45-120 Manis, EE1, S Ghosh1, LT Johnson2, TV Royer2 and LG Leff1, (1)Kent State University, (2)Indiana University. Temporal variations in the denitrifying community of agriculturally impacted streams.

PS 45-121 Gsell, TC and JA Yunger, Governors State University. Patterns of microbes within caves and across regions: Similarities where microbes are most stable deep in the aphytic zone.

PS 46 - Soil Ecology

Exhibit Hall 3, Austin Convention Center

PS 46-122 Alster, C1, E Esch1, DL Hernandez2, MJ McKone1 and P Camilli2, (1)Carleton College, (2)Bowdoin College. Soil carbon and nitrogen accumulation in a 15-year prairie restoration experiment.

PS 46-123 Li, Y and X Zhao, Cold and Arid Regions of Environmental and Engineering Research Institute, Chinese Academy of Sciences. Soil carbon sequestration in sand-fixation plantation of Pinus sylvestris var. Mongolica and response of soil respiration to drought and wet conditions.

PS 46-124 Chen, Y1 and Y Li2, (1)Lanzhou Jiaotong University, (2)Cold and Arid Regions of Environmental and Engineering Research Institute, Chinese Academy of Sciences. Light fraction and total organic carbon and nitrogen stores in desertified sandy grassland soil as affected by grazing and livestock exclusion.

PS 46-125 Sucre, EB and ZH Leggett, Weyerhaeuser Company. Impacts of managing loblolly pine plantations for biofuels production on site productivity and sustainability.

PS 46-126 Fruchter, J1 and LL Battaglia2, (1)Southern Illinois University at Carbondale, (2)Southern Illinois University. Do peat accumulation and loss rates within soil profiles vary across depths in floating marshes?

PS 46-127 Levi, EM1, SR Archer1, C Rasmussen2, HL Throop2 and DB Hewins2, (1)University of Arizona, (2)New Mexico State University. Decomposition and soil aggregate formation in a shrub-invaded Sonoran Desert grassland.


PS 46-129 Bernard, MJ1, K Szlavecz1, S Pitt1, L Xia1, CH Chang1, MK McCormick1, J O'Neill2 and DF Whigham2, (1)Johns Hopkins University, (2)Smithsonian Environmental Research Center. Effectiveness of electroshocking and subsurface barriers when manipulating earthworm populations.

PS 46-130 Park, BB1, J Eo2 and KC Park2, (1)Korea Forest Research Institute, (2)Rural Development Administration. Short-term effects of organic waste amendments on the food web in soils under eggplant cultivation.

PS 46-131 Dang, Y1, W Ren2, B Tao2, C Lu2 and H Tian2, (1)Auburn University, (2)Northwest Agriculture and Forestry University, (2)Auburn University. Changes in terrestrial productivity and soil carbon storage induced by climate change.

**PS 47 - Mycorrhizae**

Exhibit Hall 3, Austin Convention Center

PS 47-132 Martell-Pina, E¹, J O’Shaughnessy² and L Egerton-Warburton², (1)University of Texas El Paso, (2)Chicago Botanic Garden. *Plant protection from soil pathogens by arbuscular mycorrhizal fungal communities*.

PS 47-133 Bunch, WD and RP Shefferson, University of Georgia. *Physiographic links in the mycorrhizal host specialization of a rare orchid, Cypripedium acaule*.

PS 47-134 Kartzinel, TR, WD Bunch, C Cowden, DW Trapnell and RP Shefferson, University of Georgia. *Diverse suites of mycorrhizal fungi vary among populations of the rare Neotropical lady’s slipper orchid, Paphiopedilum longifolium*.

PS 47-135 Burke, DJ, The Holden Arboretum. *Plants and parenthood: Do plants facilitate the success of their own offspring through a shared mycorrhizal network?*.

PS 47-136 Twanabasu, BR¹, K Stevens¹, D Kandalepas² and GP Shaffer³, (1)University of North Texas, (2)Louisiana State University, (3)Southeastern Louisiana University. *Effects of water quality, hydrology, sedimentation, and simulated hurricane on Arbuscular Mycorrhiza (AM) and Dark Septate Endophyte (DSE) colonization in wetland plants of coastal marsh*.

**PS 48 - Ecoinformatics**

Exhibit Hall 3, Austin Convention Center

PS 48-137 Power, JH, U.S. EPA. *Functional data analysis: An approach for environmental ordination and matching discrete with continuous observations*.


PS 48-139 White, EP¹, B Morris¹, SKM Ernest¹, KM Thibault¹, AH Hurlbert² and AJ Kerkhof³, (1)Utah State University, (2)University of North Carolina, (3)Kenyon College. *EcologicalData.org: Ecoinformatics tools for finding and using ecological data*.

PS 48-140 Berukoff, S, NEON Inc., NEON ecological data products.

PS 48-141 Spiess, D, NEON, Inc. (National Ecological Observatory Network). *How NEON is integrating the use of PDAs in collecting ecological field data*.

**PS 49 - Environmental Gradients**

Exhibit Hall 3, Austin Convention Center

PS 49-142 Goad, RK¹, SG Baer², L Johnson² and BR Maricle³, (1)Southern Illinois University Carbondale, (2)Kansas State University, (3)Fort Hays State University. *Patterns in aboveground net primary productivity in prairie reciprocally restored with dominant grasses from across a precipitation gradient*.

PS 49-143 Boughton, EH¹, PF Quintana-Ascencio², PJ Bohlen² and H Swain¹, (1)Archbold Biological Station, (2)University of Central Florida. *Assessing trade-offs among ecosystem services in a payment-for-water services program on Florida ranchlands*.

PS 49-144 Koepke, DF and TE Kolb, Northern Arizona University. *Inter- and intraspecific variation in vulnerability to cavitation of northern Arizona conifers along an elevation gradient*.

PS 49-145 Del Toro, I¹ and AM Ellison², (1)University of Massachusetts at Amherst, (2)Harvard Forest (Harvard University). *Ant species diversity along an elevation gradient in the Northeastern United States can be used to predict species diversity across a latitudinal gradient*.

**PS 50 - Evolution**

Exhibit Hall 3, Austin Convention Center

PS 50-147 Carlson, BE, KH Brossman, LN Swierk and T Langkilde, Penn State University. *A tail of two nuts: Aquatic tail size carries over but does not impair terrestrial locomotion in eastern nuts (Notophthalmus v. viridescens)*.

PS 50-148 Boeger, MRT, L Larcher and MM Marques, Universidade Federal do Paraná. *Biomass allocation and shade tolerance in seedlings tree species in a subtropical forest*.

PS 50-149 Ivey, CT, California State University, Chico. *Selection for mating system, flowering time, and antiherbivore defense traits in Mimulus guttatus*.

PS 50-150 Huang, Y¹, K Krakos¹ and PC Hoch², (1)Washington University in Saint Louis, (2)Missouri Botanical Garden. *Comparative Reproductive Biology of Oenothera suffulta subsp. suffulta, and O. suffulta subsp. nealleyi*.

PS 50-151 Farallo, VR¹ and MRJ Forstner², (1)Ohio University, (2)Texas State University-San Marcos. *Predation and the maintenance of color polymorphism in a habitat specialist squamate*.

PS 50-152 Heiling, JM, CE Parent, J Falk and DL Bolnick, University of Texas at Austin. *Ecological history and adaptive future: A study of adaptation to stress in Tribolium castaneum*.

PS 50-153 De Hoyos, O¹, S van Nouhuys¹ and RF Medina¹, (1)Texas A&M University, (2)University of Helsinki. *Comparing population structures of a generalist and a specialist parasitoid in the Åland Islands, Finland*.

PS 50-154 Feist, SM, WE Peterman, RD Semlitsch and LS Eggert, University of Missouri. *Connecting the dots: Genetic differentiation among conservation areas*.


PS 50-156 Boeger, WA, RO Ribeiro, R Baggio, F Marteleto, L Zagonel, M Tschá, L Patella, RP de Azambuja and A Ostrensky, Universidade Federal do Paraná. *Fish genetics and hydroelectric powerplants in large Neotropical rivers*.

PS 50-157 Ramos-Chavez, JC¹, L Hamdan² and EJ Walsh², (1)University of Texas at El Paso, (2)The University of Texas at El Paso. *Cosmopolitanism in asexuals? An ecological and phylogenetic investigation of populations of the bdelloid rotifer Phylodina megalotrocha found in freshwater habitats in the Chihuahuan Desert*.

PS 50-158 Snoek, ME¹, DD Murphy², JS Wilson² and M Forister⁴, (1)University Nevada Reno, (2)University of Nevada, (3)University of Nevada Reno, (4)University of Nevada, Reno. *Isolation in the Desert: A Phylogenetic Study of the Pallid Dotted-Blue (Euphilotes pallescens)*.

PS 50-159 Reyes, D¹ and EJ Walsh², (1)University of Texas at El Paso, (2)The University of Texas at El Paso. *Cryptic speciation and co-occurrence of lineages in the monogonont rotifer Epiphanes chihuahuaensis*.

PS 50-160 Falk, JJ¹, CE Parent¹, DA Agashe² and DI Bolnick¹, (1)University of Texas at Austin, (2)Harvard University. *Adaption to a novel food resource fails to initiate reproductive isolation in laboratory populations of Tribolium castaneum*.
4:30 pm-6:30 pm
Exhibit Hall 3, Austin Convention Center

PS 51-161 Botts, Jr., EC, University of Texas at San Antonio. Comparing competition and solar radiation exposure as restricting factors in the growth of an understory plant.


PS 51-163 McKone, MJ1, IC Holmen1, HC Lyons1, KM Nachbar1, GR Wheeler1, JW Moore2, CW Habrion3 and M Neiman4, (1) Carleton College, (2)Simon Fraser University, (3)Siena College, (4)University of Iowa. Decline in abundance of a Costa Rican poison-dart frog (Oophaga pumilio) following rapid loss of an understory plant (Araceae: Dieffenbachia sp.) used for tadpole rearing.

PS 51-164 Rivera, M, RK Taylor, LC Barrett, C Speights, JN Hunt and DJ Grisé, Texas A&M-Corpus Christi. Life history characteristics of two Gulf Coast Helianthus species restricted to soil types.

**PS 52 - Population Dynamics**
Exhibit Hall 3, Austin Convention Center

PS 52-165 Williams, JL1 and TEX Miller2, (1)National Center for Ecological Analysis and Synthesis, (2)Rice University. To flower or not to flower: Optimal reproductive strategies in perennial plants.

PS 52-166 Nonaka, E1 and SM White2, (1)Umea University, (2)Centre for Ecology & Hydrology. Spatial patterns of host-parasitoid coevolution on environmental gradients.

PS 52-167 Strahan, RT, DC Laughlin and MM Moore, Northern Arizona University. Using functional traits to predict demographic parameters of herbaceous perennial plants.

PS 52-168 Hakes, AS1, N Underwood1, SL Halpern2 and B Inouye1, (1)Florida State University, (2)Pacific University. Effects of insect damage and plant density on the spatial patterns of plant populations.

PS 52-169 Vieira-Neto, EHM1, HL Vasconcelos2, EM Bruna1, AN Costa2 and FM Mundim1, (1)University of Florida, (2)Universidade Federal de Uberlândia. How proximity to roads influence the local spatial dynamics and population growth rates of a Neotropical herbivore?.

PS 52-170 Dumoulin, CE, Northwestern University and Chicago Botanic Garden (currently at the University of Tennessee). Nine out of ten breeding systems agree: Self-compatible strategies are disadvantageous in fragmented habitats.

PS 52-171 Stehia, CR, A Bowman, PH Crowley and DN McLetchie, University of Kentucky. Effects of population size and spatial configuration on the maintenance of the sexes in a clonal organism.

PS 52-172 Cochran-Stafira, DL and T Tatum Parker, Saint Xavier University. Genetic variation and environmental heterogeneity. Studies on a metapopulation of the bdelloid rotifer Habrotricha rosa.

**PS 53 - Remote Sensing and Image Analysis**
Exhibit Hall 3, Austin Convention Center

PS 53-173 Marin, RA1 and CE Tweedie2, (1)University of Texas El Paso, (2)University of Texas at El Paso. Land cover classification of a northern Chihuahuan Desert mountain ecosystem using IKONOS satellite imagery.

PS 53-174 Souther, TJ1, RG Kreza1, MC Mentzer1, BD Kloepel1 and RE Emanuel2, (1)Western Carolina University, (2)North Carolina State University. Secondary forest succession quantification using LIDAR analysis in the southern Appalachians.


PS 53-177 Kulawardhana, RW1, RA Washington-Allen1, E Schall2, MA Austin1, SC Popescu1 and MC Reeves2, (1)Texas A & M University, (2)Texas A & M University, (3)USFS Rocky Mountain Research Station – LANDFIRE. A 2-year dataset to characterize the vegetation productivity of US rangelands.

PS 53-178 Gomezdelcampo, E and LM Bartholomew, Bowling Green State University. Detecting terrestrial cyanobacteria using Landsat imagery and the Phycocyanin Content algorithm.

PS 53-179 Leasure, DR, University of Arkansas. Remote sensing and GIS to model endangered American burying beetle abundance across a landscape and to determine the optimal spatial scale for habitat samples.

PS 53-180 Delgado, A, Texas A&M University. Characterizing the effects of wind erosion on vegetation and microtopography in the Chihuahuan Desert.


**PS 54 - Sampling**
Exhibit Hall 3, Austin Convention Center

PS 54-182 Durán, J, JL Morse, RM Schmidt, JBurtis and PM Groffman, Cary Institute of Ecosystem Studies. Comparison of in situ incubation methods to estimate N mineralization rates in a northern hardwood forest.

PS 54-183 Bilka, RH1, AC Krist2 and EP Levri1, (1)Penn State Altoona, (2)University of Wyoming. Mass-length regressions for different clones of the New Zealand mud snail (Potamopyrgus antipodarum).

PS 54-184 Girdler, EB1 and NB Pavlovic2, (1)Kalamazoo College, (2)US Geological Survey. Nested species-area data sets reveal “breaks” in slope which may indicate scale of heterogeneity perceived by plant communities.

PS 54-185 Donatelli, JM1, DJ Gibson2, SG Baer3 and A AbuGhazaleh1, (1)Southern Illinois University Carbondale, (2)Southern Illinois University. Forage quality of Andropogon gerardii across a precipitation gradient.

PS 54-186 Francisco, LB1, TD Levine2 and DS White1, (1)Murray State University, (2)Murray State University. Comparing two zooplankton sampling methods for long-term community and population monitoring.

**PS 55 - Stable Isotope Applications**
Exhibit Hall 3, Austin Convention Center


PS 55-188 Benson, BE and K Vulinic, Delaware State University. The bats of the Delmarva Peninsula: Refining the technique of stable hydrogen isotope analysis to determine bat origin and movement.
PS 55-189 Kui, L, F Li, JB West and GW Moore, Texas A&M University. *Clonal intergration of Arundo donax in the riparian zone.*

PS 55-190 Sullivan, A, J Bump, L Kruger and RO Peterson, Michigan Technological University. *A stable isotope method to delineate bat hibernacula catchment areas.*

PS 55-191 Li, F, L Kui, JB West and GW Moore, Texas A&M University. *Causes and consequences of variable access to shallow groundwater by Arundo donax in a Rio Grande riparian zone.*

PS 55-192 Baker, LF¹, CB Edge¹, JF Mudge¹, D Thompson², J Houlanan¹ and KA Kidd¹, (1)University of New Brunswick, (2)Canadian Forest Service. *Resilience of wetland food webs to the effects of agricultural contaminants.*

5 pm-6:30 pm

**ESA Musicians Central**
Registration Lobby, Austin Convention Center

6:30 pm-8 pm

**Bringing Athens, Georgia to Austin** *(Odum School of Ecology)*
Ballroom C, Austin Convention Center

**Colorado State University Ecologists**
Travis III, Radisson Hotel

**ESA Diversity Mixer**
Ballroom F, Austin Convention Center

**ESA Natural History Section Mixer**
Old Pecan St, Radisson Hotel

**ESA Plant Population Ecology Business Meeting**
Travis II, Radisson Hotel

**ESA Physiological Ecology Section Mixer and Business Meeting**
Ballroom G, Austin Convention Center

**ESA South American Chapter Business Meeting**
Austin Suite, Austin Convention Center

**The Nature Conservancy Reception**
18B, Austin Convention Center

4:30 pm-6:30 pm; 5 pm-8 pm; 8 pm-10 pm

**SS 17 - Town Hall Meeting with the US Department of Energy-Office of Biological and Environmental Research**
4, Austin Convention Center

Organized by: D Stover, P Horan

The result of this Town Hall meeting is to engage the ESA community in DOE’s new Terrestrial Ecosystem Science program activities and new program vision while highlighting new program efforts such as the Next Generation Ecosystem Experiment in the Arctic, Ameriflux, and proposed activities in the Amazon.

**SS 18 - PALEON - A Paleoecological Observatory Network to Assess Terrestrial Ecosystem Models**
5, Austin Convention Center

This special session will provide background on current activities in PALEON, then open a conversation about how we might engage the broader communities in paleoecological, statistical, and ecosystem modeling research.

**WK 35 - Stewardship of Urban Systems: ULTRA Workshop**
19B, Austin Convention Center

Organized by: G Hess, PS Warren, M Katti

This two-hour, evening workshop follows a full day of presentations from the Urban Ecosystems Long Term Research Area program established by the National Science Foundation and the US Forest Service. ULTRA participants, and other interested parties, will discuss potential collaboration and cross-fertilization of research in preparation for long-term opportunities.

**WK 36 - The active ecologist: Developing a Guide For How Ecologists And Communities Can Best Collaborate For A Healthier Environment**
19A, Austin Convention Center

Organized by: AE Pérez-Quintero (anaelisa@comunidadesgaia.org), KA Marshall-Gillespie, S Gabrielson

Moderator: LB Lastra-Díaz

The active ecologist collaborates and incorporates local community concerns and ideas in determining how they do research and communicate scientific knowledge. Panel presentations followed by interactive discussion as we identify best practises for working with communities impacted by environmental injustice and give feedback on a draft guide for ecologists.

S Almanza, PODER–Honoring our Ancestors: a discussion of our relationships to nature

R Nicholas, University of Michigan–Ecological & Human Dimensions of Tribal and State/Natural Resource Management

K Ozer, National Family Farm Coalition–Organizing for food sovereignty within the US bringing in models/experiences within communities in North America (US/Canada/Mexico)

Thursday, August 11
Field Trips, Business Meetings, and Receptions

7 am-8 am
ESA Awards Committee Business Meeting
Austin Suite, Austin Convention Center

8 am-9 am
Discovering NEON Science and Education in Collaboration with Minority-serving Institutions.
Part 2 (by invitation only)
ML 12-level 2, Austin Convention Center

11:30 am-1:15 pm
ESA Diversity Luncheon
Ballroom F, Austin Convention Center
Careers in Ecology: The Ceiling and Other Challenges—Carreras en Ecología: El Techo de Cristal y Otros Desafíos
Ticket $25 includes lunch
Join us for the 7th ESA Diversity Luncheon featuring the Summary of the WAMIE Report by Meg Lowman. Also included will be a panel of Latina Scientists to discuss their challenges as women in ecology. The women on the panel are: Sonia Ortega, Colibrí Sanfiorenzo-Barnhard, Ana Elisa Perez, and Erica Fernandez.

4 pm-5 pm
ESA SEEDS Closing
19B, Austin Convention Center

5 pm-6:30 pm
Musicians Central
Registration Lobby, Austin Convention Center

8 pm-10 pm
An Austin Night for Nature
ACL Moody Theater

Thursday Sessions

7 am-8 am
ESA Awards Committee Business Meeting
Austin Suite, Austin Convention Center

8 am-9 am
Discovering NEON Science and Education in Collaboration with Minority-serving Institutions.
Part 2 (by invitation only)
ML 12-level 2, Austin Convention Center

8 am-11:30 am
SYMP 16 - Invasive Species with Cross-Border Spread: Negotiating the International Divide
Ballroom C, Austin Convention Center
Organized by: K Cuddington, JL Lockwood, MF Hoopes
Endorsed by: Canada Chapter
Moderator: K Cuddington
There are unique difficulties associated with the detection, prediction and management of cross-border invasive species. Speakers from both sides of the US/Canadian border will address aspects of species invasion from their particular national perspective. The goal of the symposium is to identify common issues related to international politics and economics.

8:00 AM SYMP 16-1 Stohlgren, TJ\textsuperscript{1}, J Arneich\textsuperscript{2} and JT Morisette\textsuperscript{3}, (1)US Geological Survey, Fort Collins Science Center, (2)United States Geological Survey, (3)USGS Fort Collins Science Center. Predicting kudzu in the US and Canada in response to climate change and other factors.
8:20 AM SYMP 16-2 Sage, RF and HA Coiner, University of Toronto. Physiological controls over the northern range limit of kudzu (Pueraria montana var. lobata): Implications for predicting its future spread.

8:40 AM SYMP 16-3 Grosholz, T, University of California. Coastal marine invasions spanning the US/Canada border.
9:00 AM SYMP 16-4 Byers, JE, University of Georgia. Retention, range limits, and invasions in advective environments: Is Atlantic Canada naturally better protected from marine invasions?
9:40 AM Break
9:50 AM SYMP 16-5 Tharayil, N\textsuperscript{1} and P Alpert\textsuperscript{2}, (1)Clemson University, (2)University of Massachusetts. Does plant invasion result in convergence of soil chemistries across ecosystems: A case study with Japanese knotweed invasion in eastern United States.
10:10 AM SYMP 16-6 Bourchier, RS and BH Van Hezewijk, Agriculture and AgriFood Canada. Chasing after the world’s largest female on both sides of the border, Polygonum cuspidatum/Fallopia japonica.
10:30 AM SYMP 16-7 Colunga-Garcia, M\textsuperscript{1}, F Koch\textsuperscript{2}, RA Haack\textsuperscript{3} and RA Magarey\textsuperscript{2}, (1)Michigan State University, (2)North Carolina State University, (3)US Forest Service, Northern Research Station. US imports, trade regulations, and the emerald ash borer.
10:50 AM SYMP 16-8 Yemshanov, D\textsuperscript{1}, F Koch\textsuperscript{2}, B Lyons\textsuperscript{1}, MJ Ducey\textsuperscript{3} and K Koehler\textsuperscript{4}, (1)Canadian Forest Service, (2) North Carolina State University, (3)The University of New Hampshire, (4)Canadian Food Inspection Agency. Pathways and vectors of human-mediated spread of emerald ash borer in Canada.
11:10 AM Discussion

SYMP 17 - Revolutionary Ecology: Defining and Conducting Stewardship and Action as Ecologists and Global Citizens
Ballroom G, Austin Convention Center
Organized by: MJ Chappell (m.jahi.chappell@vancouver.wsu.edu), C Sanfiorenzo-Barnhard, M Armstrong
Endorsed by: Student Section, R-PUI section, Environmental Justice, Agroecology Section, Applied Ecology Section, Human Ecology
Moderator: R Colón-Rivera

8:40 AM SYMP 16-3 Grosholz, T, University of California. Coastal marine invasions spanning the US/Canada border.
9:00 AM SYMP 16-4 Byers, JE, University of Georgia. Retention, range limits, and invasions in advective environments: Is Atlantic Canada naturally better protected from marine invasions?
9:40 AM Break
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10:30 AM SYMP 16-7 Colunga-Garcia, M\textsuperscript{1}, F Koch\textsuperscript{2}, RA Haack\textsuperscript{3} and RA Magarey\textsuperscript{2}, (1)Michigan State University, (2)North Carolina State University, (3)US Forest Service, Northern Research Station. US imports, trade regulations, and the emerald ash borer.
10:50 AM SYMP 16-8 Yemshanov, D\textsuperscript{1}, F Koch\textsuperscript{2}, B Lyons\textsuperscript{1}, MJ Ducey\textsuperscript{3} and K Koehler\textsuperscript{4}, (1)Canadian Forest Service, (2) North Carolina State University, (3)The University of New Hampshire, (4)Canadian Food Inspection Agency. Pathways and vectors of human-mediated spread of emerald ash borer in Canada.
11:10 AM Discussion
If ecologists are to use our expertise for stewardship, we must embrace action ecology, which means collectively defining and taking appropriate collaborative actions, and also questioning ourselves as researchers and stewards in the iterative process of action research: “Research that produces nothing but books will not suffice” (Lewin, 1946).

8:00 AM Introductory Remarks


8:30 AM SYMP 17-2 Bezner-Kerr, R1, S Snapp2, L Shumba3, Z Nkhonya3, R Msach3 and E Chione3, (1)University of Western Ontario, (2)Michigan State University, (3) Ekwendeni Hospital. The challenges of promoting agrodiversity during a new Green Revolution: Learning from and working with farming communities in northern Malawi.

8:55 AM SYMP 17-3 Ozer, K1 and D Holf2, (1)National Family Farm Coalition, (2)Montana farmer & Via Campesina. The approaches being undertaken to promote food sovereignty in the US and within the North American region of Via Campesina (Mexico and Canada).

9:20 AM Break


9:55 AM SYMP 17-5 Ramos, Jr., J, Arizona State University. Chutes and ladders on students’ pathways for to planetary stewardship.

10:20 AM SYMP 17-6 Hargrove, EC, University of North Texas. Stewardship vs. citizenship.

10:45 AM Panel Discussion

11:20 AM Concluding Remarks

SYMP 18 - The Ecological Consequences of Intraspecific Variation
Ballroom E, Austin Convention Center

Organized by: M Novak (mnovak1@usc.edu), DI Bolnick
Endorsed by: Theoretical Ecology Section
Moderator: M Novak

No population is homogeneous. Can ecologists safely ignore intraspecific variation? This symposium will synthesize recent conceptual advances in the study of individual variation, highlight the novel insights of recent empirical experiments and observations, and help translate newly developed mathematical theory into testable hypotheses for future empirical study.

8:00 AM Introductory Remarks

8:10 AM SYMP 18-1 Lankau, RA, University of Georgia. Intraspecific trade-offs in competitive ability and the coexistence of competitors.

8:30 AM SYMP 18-2 Vasseur, DA1, P Amarasekare2, VHW Rudolf3 and J Levine1, (1)Yale University, (2)University of California, Los Angeles, (3)Rice University, (4)University of California, Santa Barbara. Eco-evolutionary dynamics of coexistence via neighbor-dependent selection.

8:50 AM SYMP 18-3 Hughes, AR1, JJ Stachowicz2, S Kann2 and R Grosberg3, (1)Florida State University, (2)University of California, Davis, (3)Department of Ecology and Evolution, University of California, Davis. Population and community effects of marine plant genetic diversity.


9:30 AM Break

9:45 AM SYMP 18-5 Meyers, LA, The University of Texas at Austin. Contact networks and the spread of disease: The epidemiological consequences of individual variation in movement and behavior.

10:05 AM SYMP 18-6 Tinker, MT1, P Guimarães Jr.2 and M Novak3, (1)Center for Ocean Health, (2)Universidade de São Paulo, (3)University of California, Santa Cruz. The structure and mechanisms of intraspecific diet polymorphism.

10:25 AM SYMP 18-7 Schreiber, S1, R Buerger2 and DI Bolnick3, (1) University of California, Davis, (2)University of Vienna, (3)University of Texas at Austin. The community effects of phenotypic and genetic variation within a predator population.

10:45 AM SYMP 18-8 Bolnick, DI1, P Amarasekare2, MS Araújo3, R Bürger1, J Levine5, M Novak6, VHW Rudolf2, S Schreiber3, MC Urban3 and DA Vasseur10, (1)University of Texas at Austin, (2)University of California, Los Angeles, (3)Universidade Estadual de Campinas, (4)University of Vienna, (5)University of California, Santa Barbara, (6) University of California, Santa Cruz, (7)Rice University, (8)University of California, Davis, (9)University of Connecticut, (10)Yale University. Why does intraspecific trait variation matter in ecology?

11:05 AM Panel Discussion

OOS 33 - Sustaining Rangelands in the Southern Great Plains: Adapting to and Mitigating for Climate Change
16B, Austin Convention Center

Organized by: WE Rogers (wer@tamu.edu)
Moderator: WE Rogers

Because sustainability of the U.S. Southern Great Plains rangeland ecosystems is threatened by woody encroachment and is further complicated by predicted climate change scenarios that potentially have tremendous ecological, economic, and social consequences, this session examines the capacity for agricultural production to plan for and adapt to ecological change.

8:00 AM OOS 33-1 Wilcox, B, Texas A&M University. Sustaining the Southern Great Plains Rangelands in the face of changing climatic conditions: an overview of the problem.

8:20 AM OOS 33-2 Schwinning, S and KD Eggemeyer, Texas State University. Soil depth changes everything: How limitations of ecosystem water storage govern the ecology of trees in grassland.

8:40 AM OOS 33-3 Engle, D, SD Fuhlendorf, BW Allred, D Elmore and CB Zou, Oklahoma State University. Recoupling fire and grazing interactions to restore rangelands degraded by woody plant encroachment and climate change: a patch-burning approach to management.

9:00 AM OOS 33-4 Briggs, JM and JM Blair, Kansas State University. Assessing the ecological impacts of changing climate and land-cover in tallgrass prairie.


9:40 AM Break

9:50 AM OOS 33-6 Jackson, RB and JH Kim, Duke University. How climate change and climate policy could alter rangeland ecosystems.

10:10 AM OOS 33-7 Luo, Y, University of Oklahoma. Predicting future states of ecosystems in the southern Great Plains.

10:30 AM OOS 33-8 Huber-Sannwald, E1, M Ribeiro Palacios2, RM
OOS 34 - Microbial Ecology Using Metagenomics
17A, Austin Convention Center
Organized by: EL Aronson (emmala@sas.upenn.edu), N Zimmerman
Moderator: A Macrae-Crerar

This Session Explores How the Field of Microbial Ecology is Benefiting from the Advent of Metagenomics, the Study of the Genetic and/or Phenotypic Characteristics of an Entire Environmental Sample.

8:00 AM OOS 34-1 Klatt, CG1, MN Parenteau2, SM Boomer3, Z Jay1, SR Miller2, JM Wood1, DA Bryant3, WP Inskoep1 and DM Ward1, (1)Montana State University, (2)NASA Ames Research Center, (3)Western Oregon University, (4)University of Montana, (5)The Pennsylvania State University. Linking the microbial community structures and functions of hot spring phototrophic bacterial mats with comparative metagenomics.

8:20 AM OOS 34-2 Lennon, JT1 and SE Jones2, (1)Michigan State University, (2)University of Notre Dame. Metagenomics of dormancy and implications for the maintenance of microbial diversity.

8:40 AM OOS 34-3 Izard, J, The Forsyth Institute. Human oral microbiota as an example of microbiota diversity associated with tissue characteristics.

9:00 AM OOS 34-4 Daly, RA1, DC Bradbury1, HC Lim2, P Zhang3, CA Osborne1, J Wan2, TK Tokunaga2, Z He1, J Zou3, EL Brodie4 and MK Firestone1, (1)University of California, Berkeley, (2)Lawrence Berkeley National Laboratory, (3)University of Oklahoma. Cross-site comparison of three terrestrial-subsurface bacterial assemblages using PhyloChip and GeoChip microarrays.

9:20 AM OOS 34-5 Aronson, EL1, EA Dubinsky2, GL Andersen2 and B Helliker1, (1)University of Pennsylvania, (2)Lawrence Berkeley National Laboratory. Investigation of the microbial community and methane cycle of a pine forest soil using Phylochips and qPCR.

9:40 AM Break

9:50 AM OOS 34-6 Zimmerman, N and PM Vitousek, Stanford University. Fungi in the Jungles: Endophytic fungal diversity at the landscape scale.


10:30 AM OOS 34-8 Firestone, MK1, DC Bradbury2, R Daly1, K DeAngelis3 and SA Pacella4, (1)University of California, Berkeley, (2)University of California at Berkeley, (3)Lawrence Berkeley National Laboratory, (4)University of California. How will expanding taxonomic and functional molecular characterization of complex soil microbial assemblages advance our understanding of microbial ecology?


OOS 35 - Forest Migration and Expansion in an Era of Global Change: Integrating Predictions and Observations. 17B, Austin Convention Center
Organized by: M Anand
Moderator: M Anand

We examine the rate and extent of forest migration and expansion due to global ecological changes.

8:00 AM OOS 35-1 Beckage, B1, L Gross2 and S Kauffman1, (1)University of Vermont, (2)University of Tennessee. Inherent limits to prediction and implications for projecting forest response to climate change.

8:20 AM OOS 35-2 Silva, LC1 and M Anand2, (1)University of California, (2)University of Guelph. Forest expansion across biomes: The role of climate change and related forces.

8:40 AM OOS 35-3 Ibanez, I and S Neumann, University of Michigan. Life on the frontier: Assessing tree competitive interactions at their migratory front.

9:00 AM OOS 35-4 Caplat, P1, R Nathan2 and YM Buckley3, (1)CSIRO, (2)The Hebrew University of Jerusalem, (3)University of Queensland. Testing forest inventories to assess tree range shifts in the eastern United States.

9:40 AM Break


10:50 AM OOS 35-9 Henne, BD, C Calbo and W Tinner, University of Bern. Forest expansion and collapse on the Mediterranean coast: Combining paleoecology and dynamic modeling to understand past change and predict future impacts.

11:10 AM OOS 35-10 Fischelli, N, L Freligh and PB Reich, University of Minnesota. Climate, environment, and biotic interactions drive tree regeneration abundance trends in ecotonal temperate-boreal forests.
OOS 36 - Large-Scale Manipulative Experiments in the Tropics: Population, Community, and Ecosystem Level Responses
12A, Austin Convention Center
Organized by: DC Garcia-Montiel (dgarcia@ites.upr.edu)
Moderator: DC Garcia-Montiel
This symposium brings together ecologists to synthesize current status and challenges of large-scale manipulative experiments in the tropics from a broad range of perspectives, with especial emphasis on their role establishing basic understanding of mechanisms underlying patterns of ecosystem dynamics.
8:00 AM OOS 36-1 Harms, KE1, JB Yavitt2, MN Garcia3, MKaspardi4 and SJ Wright5, (1)Louisiana State University, (2)Cornell University, (3)Smithsonian Tropical Research Institute, (4)University of Oklahoma. Limitation by multiple nutrients revealed by a long-term, large-scale nutrient augmentation experiment in lowland Panama.
8:40 AM OOS 36-3 Brando, PM1, DC Nepstad1, SL Lewis2, O Phillips3, EA Davidson3 and GMFVD Heijden1, (1)Instituto de Pesquisa Ambiental da Amazônia (Amazon Institute for Environmental Research), (2)University of Leeds, (3)The Woods Hole Research Center, Massachusetts, (4)University of Sheffield. Local and regional carbon consequences of severe droughts in Amazonia: Results from a large-scale partial throughfall experiment and field-plots experiencing droughts.
9:00 AM OOS 36-4 Balch, JK1, DC Nepstad2, LM Curran3, PM Brando3, O Portela4, PGP dos Santos4, JD Reuning-Scherer5 and O Carvalho5, (1)National Center for Ecological Analysis & Synthesis, (2)Instituto de Pesquisa Ambiental da Amazônia (Amazon Institute of Environmental Research), (3)Stanford University, (4)Universidade Federal do Pará, (5)Yale University. Size, species, and fire behavior predict tree and liana mortality from experimental burns in the Brazilian Amazon.
9:40 AM Break
9:50 AM OOS 36-6 Silver, W1 and T CTE Team2, (1)University of California, (2)Luquillo LTER. Long term biogeochemical dynamics following a hurricane manipulation experiment in a humid tropical forest in Puerto Rico.
10:10 AM OOS 36-7 González, G1, DJ Lodge2, SA Cantrell3 and B Richardson4, (1)USDA -Forest Service, (2)USDA-Forest Service, (3)Universidad del Turabo, (4)Luquillo Experimental Forest LTER, Puerto Rico. A canopy trimming experiment in Puerto Rico: Effects on invertebrates, microbes and decay.
10:30 AM OOS 36-8 Willig, MR1, CP Bloch2 and SJ Presley1, (1)University of Connecticut, (2)Bridgewater State College. Experimental decoupling of the effects of hurricane disturbance on tropical gastropod populations and communities.
10:50 AM OOS 36-9 McDowell, WH1, DF Cusack2, D Figueroa-Nieves1 and JD Potter1, (1)University of New Hampshire, (2)UC - Los Angeles. Forest nitrogen saturation and stream nitrogen enrichment: Are there landscape-scale responses to increased N levels in the tropics?
11:10 AM OOS 36-10 Muthukrishnan, R and P Fong, UCLA. Tropical coral reefs shift to greater algal abundance in response to multiple anthropogenic stresses but show resilience when environmental conditions recover.

OOS 37 - Droughts and Downpours: The Effect of Experimentally Altered Precipitation Patterns on Plant Function and Community Structure
14, Austin Convention Center
Organized by: V Rodgers (vrogers@babson.edu), SS Hoeppner
Moderator: V Rodgers
In this session, we will present findings from several rainfall manipulation experiments to evaluate the sensitivity of plant functions and plant community composition to altered precipitation regimes and other climate change factors to draw inferences about future challenges in ecosystem management.
8:00 AM OOS 37-1 Avolio, ML and MD Smith, Yale University. Genotypes of a dominant tallgrass species vary in their response to changes in precipitation means and variability.
8:20 AM OOS 37-2 Smith, NG and JS Dukes, Purdue University. The interactive effect of precipitation on photosynthetic response and acclimation to temperature in two deciduous tree seedlings at the Boston Area Climate Experiment (BACE).
8:40 AM OOS 37-3 Hoeppner, SS1, G Pold2 and JS Dukes3, (1)Purdue University, West Lafayette, IN, (2)McGill University, (3)Purdue University. Mortality, leaf drop, and growth: Tree seedling drought stress and warming responses in the Boston Area Climate Experiment.
9:00 AM OOS 37-4 Wagner, R1, MW Kaye1, J Kaye1 and M Abrams2, (1)Pennsylvania State University, (2)The Pennsylvania State University. Growth and physiological responses of deciduous tree seedlings to three years of increased temperature and precipitation treatments.
9:20 AM OOS 37-5 Jentsch, A, J Walter, K Grant, L Nagy, J Kreiling and C Beierkuhnlein, University of Bayreuth. Sensitivity of plant functions (i.e. growth, photosynthesis, phenology) and community composition in temperate grassland to severe drought.
9:40 AM Break
9:50 AM OOS 37-6 Koerner, SE and SL Collins, University of New Mexico. Interactive effects of drought grazing and fire on grasslands community dynamics: a cross-continental comparison.
10:10 AM OOS 37-7 Heisler-White, JL1, JA Morgan2, EG Pendall1, D Blumenthal2 and DG Williams1, (1)University of Wyoming, (2)USDA-ARS. Precipitation dynamics in a mixed grass prairie: Manipulations and interactions with warming and CO2.
10:30 AM OOS 37-8 Miglietta, F1, G Alberti2, MF Cotrufo3, I Inglimam5, H Marjanovic5, DR LeCain6, A Zaldie1 and A Peressotti2, (1)CNR-IBIMET, (2)University of Udine, (3)Colorado State University, (4)Second University of Naples, (5)Forest Research Institute Jastrebarsko, (6)USDA-ARS. Linking water and carbon in Mediterranean ecosystems: The MIND project and beyond.
8 am-11:30 am

10:50 AM OOS 37-9 Pockman, WT1, J Plaut1, RE Pangle1, JM Limousin1, PJ Hudson2, EA Yepez3, N Gehres1, AL Boutz1, SL Collins1 and N McDowell4, (1)University of New Mexico, (2)University of New Mexico-Albuquerque, (3)Instituto Tecnológico de Sonora, (4)Los Alamos National Laboratory. Differential responses of pinon and juniper in a rainfall manipulation experiment in central New Mexico, USA.

11:10 AM OOS 37-10 Beard, KH1 and A Kulmatiski2, (1)Utah State University, (2)University of Alaska Anchorage. Fewer larger precipitation events increase infiltration and root growth but not aboveground production of trees or grasses in a subtropical savanna.

OOS 38 - Holistic Invasion Ecology: Moving Beyond Reductionism

15, Austin Convention Center

Organized by: JN Barney (jnbarney@vt.edu)

Moderator: TH Whitlow

This session will critically examine the conceptual foundation of invasion ecology by evaluating the historical context, identifying current misdirection, and offering novel solutions.

8:00 AM OOS 38-1 Davis, MA, Macalester College. The historical landscape of invasion ecology.

8:20 AM OOS 38-2 Dukes, JS, Purdue University. Plant invasion across space and time: Factors affecting success and impacts of invasive plants.

8:40 AM OOS 38-3 Blossey, B, Cornell University. The status of explaining plant invasions: Hypothesis overload.

9:00 AM OOS 38-4 Pyseck, P, Institute of Botany, Academy of Sciences of the Czech Republic. Species invasiveness and community invasibility: Can they be reconciled?

9:20 AM OOS 38-5 Barney, JN, Virginia Polytechnic Institute and State University. A phas-t-er framework for integrating invasions: The state factor model.

9:40 AM Break

9:50 AM OOS 38-6 Catford, JA1, R Janssone2 and C Nilsson2, (1)University of Melbourne, (2)Umeå University. Integrating hypotheses of invasion ecology into a single theoretical framework.


11:10 AM OOS 38-10 Fridley, J1 and DF Sax2, (1)Syracuse University, (2)Brown University. Revisiting a Darwinian framework for invasion biology: Global invasion patterns and the evolutionary sophistication of regional biotas.

COS 86 - Urban Ecosystems I

Ballroom B, Austin Convention Center

8:00 AM COS 86-1 Rondon, J1, M Newhouse2 and C Holzapfel1, (1)Rutgers University Newark, (2)NJ Meadowlands Commission. Urban green spaces: Traps or havens for migratory birds?

8:20 AM COS 86-2 Auwae, R, University of Hawai at Manoa. Why are total soil respiration measurements higher in urban forests than rural forests.

8:40 AM COS 86-3 Scott, B, AH Baldwin and PT Leinsham, University of Maryland. Wetland detritus effects survival, development and overall population performance of the northern house mosquito Culex pipiens.

9:00 AM COS 86-4 Gardiner, MM and SP Prajonz, The Ohio State University OARDC (Wooster). Arthropod communities and arthropod-mediated ecosystem services in urban vacant lands.

9:20 AM COS 86-5 Tenneson, KR, University of Washington. Understanding urban forest structure of residential landscapes in the Seattle metropolitan urban(izing) region.

9:40 AM Break


10:10 AM COS 86-7 Lerman, SB1, PS Warren1 and E Shochat2, (1)University of Massachusetts, (2)Arizona State University. Foraging decisions, bird community structure, and residential landscapes: A mechanistic approach to explain the decline of urban bird diversity.

10:30 AM COS 86-8 Raciti, SM, LR Hutrya, P Rao and AC Finzi, Boston University. The importance of definition and scale: Soil and vegetation carbon across an urban to rural gradient.

10:50 AM COS 86-9 Clock, ME1, P Weis2, C Holzapfel3 and FJ Gallagher4, (1)Rutgers University, Newark, (2)UMDNJ New Jersey Medical School, (3)Rutgers University Newark, (4)Rutgers University. Trophic transfer of heavy metals and avian feeding ecology in an urban brownfield.

11:10 AM COS 86-10 Magle, SB1, K Salamack2, KR Crooks3 and R Reading3, (1)Lincoln Park Zoo, (2)Wildlife Habitat Council, (3)Colorado State University, (4)Denver Zoological Foundation. Effects of a highly interactive species, the black-tailed prairie dog, on urban avian diversity.

COS 87 - Soil Ecology

Ballroom F, Austin Convention Center

8:00 AM COS 87-1 Piñeiro, G1, S Manzonii, JH Kim2, EG Jobbagg3, MS Torn4, WJ Riley4, A Porporato2 and RB, Jackson2, (1)Universidad de Buenos Aires/CONICET., (2) Duke University, (3)Universidad Nacional de San Luis, (4)Lawrence Berkeley National Laboratory. Power laws are better than exponential decay models for representing litter and soil organic matter decomposition.

8:20 AM COS 87-2 Smith, JG1, HL Throop1, TJ Valeone2, SKM Ernest3 and JH Brown4, (1)New Mexico State University, (2)Saint Louis University, (3)Utah State University, (4) University of New Mexico. Small mammal activities decrease soil organic carbon storage in dryland ecosystems.

8:40 AM COS 87-3 Ernakovich, JG1, FJ Calderon2 and MD Wallenstein1, (1)Colorado State University, (2)USDA-ARS Central Great Plains Research Station. Assessing the vulnerability of permafrost carbon stocks: The importance of considering soil organic matter chemistry and microbial community traits.

9:00 AM COS 87-4 Bach, EM and KS Hofmockel, Iowa State University. Consideration of soil aggregate habitat on extracellular enzyme activity in prairie and conventional agriculture.

9:20 AM COS 87-5 Leggett, ZH1, EB Sucre1 and F Sanchez2,
Earth Stewardship: Preserving and enhancing earth’s life support systems

10:50 AM COS 88-9 DeLong, J.P. and D.A. Vasseur, Yale University.

9:50 AM COS 87-6 Campos-Herrera, R., E. Pathak1, F.E. El-Borai2, R.J. Stuart1, C. Gutierrez3, J.H. Graham1 and L.W. Duncan3, (1) University of Florida, (2) Faculty of Agriculture, Zagazig University, (3) Consejo Superior de Investigaciones Cientificas (CSIC), Instituto de Ciencias Agrarias (ICA). Entomopathogenic nematodes and the molecular assessment of soil food webs in space and time.

10:30 AM COS 88-8 Montgomery, R.A.

10:10 AM COS 88-7 Luttbeg, B.

9:40 AM Break

11:10 AM COS 88-10 Eklöv, P. and R. Svanbäck2, (1) Upssala University, (2) Department of Ecology and Genetics/Limnology. Size-related competition and predation risk drive shifts in trophic traits.

COS 89 - Biogeochemistry: Experimental Climate Change Effects on Biogeo Processes

5, Austin Convention Center

8:00 AM COS 89-1 Maso, M., ME Gallagher2 and WC Hockaday3, (1) Rice University, Houston, TX, (2) Rice University, (3) Baylor University. Making and interpreting high precision ecosystem oxidative ratio measurements.


8:40 AM COS 89-3 Barthel, M., A. Hammerle1, P. Sturm1, L. Gentsch1 and A. Knöbl2, (1) ETH Zurich, (2) Georg-August University Göttingen. Identifying mechanisms controlling the coupling between photosynthesis and soil respiration under control and drought conditions using a 13CO2 canopy pulse labeling.

9:00 AM COS 89-4 Reimann, AB and PH Templer, Boston University. The impacts of a reduced winter snowpack on soil respiration in a mixed-deciduous northern forest.

9:20 AM COS 89-5 Hall, S.J. and W. Silver2, (1) University of California-Berkeley, (2) University of California. When wet gets wetter: Soil moisture and decreased redox potential constrain greenhouse gas fluxes from a humid tropical forest soil.

9:40 AM Break

COS 88 - Predation and Predator-Prey Interactions II

4, Austin Convention Center

8:00 AM COS 88-1 Bourdeau, P., KL Pangle2 and SD Peacock1, (1) Michigan State University, (2) The Ohio State University. Non-consumptive predator effects in a pelagic food-web: Species- and developmental stage-level variation in behavioral responses to an invasive predator within a zooplankton assemblage.

8:20 AM COS 88-2 Messinger, SM and AM Ostling, University of Michigan. The evolutionary effects of spatial structure and its impact on predator-prey persistence.

8:40 AM COS 88-3 Hatton, I., McGill University. The predator-prey power law of African ecosystems.

9:00 AM COS 88-4 Zanette, L.Y., MC Allen1, AF White1 and M Clinchey2, (1) University of Western Ontario, (2) University of Victoria. Fear kills: Anti-predator behavioural responses reduce the number of offspring songbirds produce per year.


9:40 AM Break


10:10 AM COS 88-7 Luttbeg, B1, GC Trussell2 and CM Matassa2, (1) Oklahoma State University, (2) Northeastern University. How do marine snails (Nacella lapillus) respond to the frequency of high predation risk and how should we expect them respond?

10:30 AM COS 88-8 Montgomery, RA1, G Roloff1, JA Vucetich2, KF Millenbah1 and RO Peterson2, (1) Michigan State University, (2) Michigan Technological University. Selecting substandard prey in spatial dimensions.


8 am-11:30 am
8 am-11:30 am

**COS 90 - Biogeochemistry: Linking Community Structure and Ecosystem Function**
6A, Austin Convention Center

- **8:00 AM** COS 90-1 Todd-Brown, KE¹ and SD Allison², (1) University of California, Irvine, (2)University of California. *Microbial cost of carbon degrading extracellular enzymes: A microcosm and mechanistic modeling approach.*
- **8:20 AM** COS 90-2 Beversdorf, LJ¹, TR Miller² and KD McMahon³, (1)University of Wisconsin - Madison, (2) University of Wisconsin - Milwaukee. *Identifying linkages between the nitrogen cycle, cyanobacterial community structure, and cyanotoxin production in a eutrophic lake.*
- **8:40 AM** COS 90-3 Brower, SC, LG Leff and X Mou, Kent State University. *The role of gene diversity in the function of denitrifying assemblages in freshwaters wetlands.*
- **9:00 AM** COS 90-4 Mehring, AS¹, DW Kemp¹, DD Bosch², R Lowrance³, G Vellidis¹ and CM Pringle¹, (1)University of Georgia, (2)USDA Agricultural Research Service. *Another function for cypress knees?: Extension of oxic periods in blackwater swamps by bryophytes growing on bald cypress (Taxodium distichum).*
- **9:20 AM** COS 90-5 Moura, C¹, TE Dawson² and JS Pereira³, (1) Instituto Superior de Agronomia - Technical University of Lisbon, (2)UC Berkeley, (3)Instituto Superior de Agronomia. *Potential effects of sowed, biodiverse pastures into hydraulic failure and carbon starvation hypotheses.*
- **9:40 AM** Break
- **9:50 AM** COS 90-6 Mullin, LP, GW Koch and TE Kolb, Northern Arizona University. *The interaction of tree size and restoration thinning on growth and use of summer precipitation in northern Arizona ponderosa pines.*
- **10:10 AM** COS 90-7 Oberle, B¹ and A Zanne², (1)University of Missouri St. Louis, (2)University of Missouri, St. Louis. *Plant traits and decomposition rates: Potential influences for forest carbon flux and fungal communities.*
- **10:30 AM** COS 90-8 Lemos, PC and AC Finzi, Boston University. *The decline of a northeastern foundation species (Tsuga canadensis) and its implications for forest carbon storage capacity.*
- **11:10 AM** COS 90-10 Graham, SE, J O’Brien, AR McIntosh, T Burrell and JS Harding, University of Canterbury. *Nutrient-enriched food webs have more competition and less diversity.*

**COS 91 - Climate Change: Plants I**
6B, Austin Convention Center

- **8:00 AM** COS 91-1 Adams, HD¹, DD Breshears², MJ Germino³, GA Barron-Gafford¹, CB Zou¹ and TE Huxman¹, (1) University of Arizona, (2)The University of Arizona, (3)Idaho State University, (4)Oklahoma State University. *Experimental evaluation of interrelated physiological mechanisms of tree drought mortality: Reduced non-structural carbohydrates with drought-induced tree death.*
- **8:20 AM** COS 91-2 Sevanto, S¹, NG McDowell², LT Dickman¹, CW Meyer¹, RE Pangle², KC Hirth³ and W Pockman², (1) Los Alamos National Laboratory, (2)University of New Mexico, (3)US Forest Service. *How do trees die?: Insights into hydraulic failure and carbon starvation hypotheses.*
- **8:40 AM** COS 91-3 Marchin, RM¹, LE Bostic², AA Wines³, RR Dunn² and WA Hofmann¹, (1)North Carolina State University, (2)NCSU. *Experimental warming alters vapor pressure deficit: Quantifying the direct and indirect effects of warming on trees.*
- **9:00 AM** COS 91-4 Kane, JM and TE Kolb, Northern Arizona University. *Site and species differences in tree mortality in southwestern mixed-conifer forests of northern Arizona.*
- **9:20 AM** COS 91-5 McKenzie, DA, University of Wyoming. *Growth of western red cedar (Thuja plicata) in relation to past climate and topographic variability.*

9:40 AM Break

**COS 92 - Community Pattern and Dynamics IV**
8, Austin Convention Center

- **8:00 AM** COS 92-1 Murrell, E and SA Juliano, Illinois State University. *Do tradeoffs among colonization ability, competitive ability, and predation resistance govern succession in an aquatic insect community?*
- **8:20 AM** COS 92-2 Schalk, CM, Texas A&M University. *Ecosystem structure of tadpoles along environmental gradients in the Bolivian Gran Chaco.*
- **8:40 AM** COS 92-3 Kneitel, JM, RC Croel and H Blair, California State University, Sacramento. *Many paths to the Dark side: Context-dependent turbidity effects in California vernal pools.*
- **9:00 AM** COS 92-4 Christensen, PJ and BJ Goodwin, University of North Dakota. *The relative impacts of the surrounding landscape and local variables on aquatic macroinvertebrate communities of the Prairie Pothole Region in North Dakota.*
- **9:20 AM** COS 92-5 Michel, MJ and J Knouft, Saint Louis University. *Spatial and environmental determinants of the community-aggregated traits of a local stream fish assemblage.*

- **9:40 AM** COS 92-6 Provete, DB¹, T Gonçalves-Souza², DC Rossa-Feres² and IA Martins³, (1)Universidade Federal de Goiás, (2)State University of São Paulo, (3)Universidade de Taubaté. *Predaceous insects do not influence space use by anuran larvae in ponds: The role of environment and scale.*
- **10:10 AM** COS 92-7 Richter, FA, City of Austin. *Correlations between hydrology, benthic macroinvertebrate, and diatom metrics for Central Texas streams.*
- **10:30 AM** COS 92-8 McCall, BD and SC Penning, University of Houston. *Geographic variation in the structure of salt marsh arthropod communities.*
- **10:50 AM** COS 92-9 Miller, DA¹, CS Brehme², JE Hines³ and JD Nichols³, (1)USGS - Patuxent Wildlife Research Center, (2)Western Ecological Research Center, (3)USGS...

11:10 AM COS 92-10 Ryan, ME1 and P. Chesson2, (1)Western Washington University, (2)University of Arizona. Environment-contest interactions in an invaded amphibian assemblage.

COS 93 - Community Disturbance and Recovery II
9AB, Austin Convention Center

8:00 AM COS 93-1 Mueller, RC1, J Rodrigues2, K Nusslein3, V Pellizari4, B Feigl4, J Tiedje5 and B Bohannan1, (1) University of Oregon, (2)University of Texas, Arlington, (3)University of Massachusetts, Amherst, (4)University of Sao Paulo, Brazil, (5)Michigan State University. Arbuscular mycorrhizal diversity along a deforestation gradient in the Amazon rainforest.

8:20 AM COS 93-2 Buma, BJ1 and CA Wessman2, (1)University of Colorado, Boulder, (2)University of Colorado. Compounding disturbances and their impact on regeneration of subalpine tree species.

8:40 AM COS 93-3 Barker Plotkin, AA1, DR Foster1 and J Carlsson2, (1)Harvard University, (2)Fire Ecologist. Forest development 20 years after simulated hurricane in central New England.

9:00 AM COS 93-4 Dent, DH1, SJ DeWalt2 and JS Denslow3, (1) Smithsonian Tropical Research Institute, (2)Clemson University, (3)Institute of Pacific Island Forestry. Successional trajectories of regenerating tropical forests in central Panama.

9:20 AM COS 93-5 Dwyer, JM1, RJ Hobbs2 and MM Mayfield3, (1)The University of Western Australia, (2)University of Western Australia, (3)The University of Queensland. Shifts in species and functional diversity along environmental gradients in a threatened Australian annual plant community.

9:40 AM Break

9:50 AM COS 93-6 Bissett, SN1, S Brantley2, DR Young1, CWV Wolner3 and LJ Moore4, (1)Virginia Commonwealth University, (2)Coweta Hydrologic Lab, (3)University of Virginia, (4)University of North Carolina-Chapel Hill. Plant community feedbacks on barrier island geomorphology in response to climate change.

10:10 AM COS 93-7 Yao, J, JD White and DB Murray, Baylor University. Fire disturbance impacts on woodland dynamics.

10:30 AM COS 93-8 Metz, MR1, MM Beh1, KM Frangioso1, RK Meentemeyer2 and DM Rizzo2, (1)University of California, Davis, (2)University of North Carolina, Charlotte. Wildfire influences forest disease dynamics through selective host mortality and pathogen suppression: sudden oak death in Big Sur, CA.

10:50 AM COS 93-9 Armesto, JJ1, A Gaxiola1, MA Bustamante-Sanchez2, B Salgado1 and F Perez3, (1)IEB, Universidad de Chile, CASEB, P. Universidad Catolica de Chile, (2)Universidad de Concepcion, (3)Pontificia Universidad Catolica de Chile. Shade tolerance patterns in Chilean trees: Relevance in the context of disturbance regimes and consequences for forest management.

11:10 AM COS 93-10 Klooster, WS1, CP Herms2, KS Knight3, DA Herms4 and J Cardina1, (1)The Ohio State University/OARDRC, (2)Ohio State University/OARDRC, (3)USDA Forest Service, (4)The Ohio State University/OARDRC. Characterizing canopy gap dynamics using hemispherical photography in emerald ash borer-impacted forests.

COS 94 - Herbivory: Plant Defenses
9C, Austin Convention Center

8:00 AM COS 94-1 McCall, AC, KM Espy and G Adams, Denison University. Can inducible changes in flowers deter florivores and is this dependent on petal color?.

8:20 AM COS 94-2 Whitehead, SR and MD Bowers, University of Colorado at Boulder. Are ripe fruit secondary compounds a consequence of foliar defense? Patterns of intraspecific chemical variation in Lonicera x bella (Caprifoliaceae).

8:40 AM COS 94-3 Chislock, MF1, O Sarnelle2 and AE Wilson3, (1)Auburn University, (2)Michigan State University. Are cyanobacteria-tolerant Daphnia pulicaria genotypes functionally redundant?.

9:00 AM COS 94-4 Nabby, PD1, JA Zavala2 and EH Delucia1, (1)University of Illinois,(2)Facultad de Agronomía, UBA-CONICET. Herbivore induction of jasmonate-dependent defenses reduces photosynthesis in Nicotiana attenuata.

9:20 AM COS 94-5 Wieski, K and S Pennings, University of Houston. Induced resistance but not tolerance to herbivory of a saltmarsh shrub changes along a latitudinal gradient.

9:40 AM Break

9:50 AM COS 94-6 Trowbridge, AM1, RW Daly1, D Helmgid, HD Adams2, DD Breshears3 and RK Monson4, (1)University of Colorado, (2)University of Arizona, (3)The University of Arizona, (4)University of Colorado, Boulder. Abiotic and biotic controls over monoperoxene concentrations and emissions: Potential in facilitating herbivore-parasitoid interactions in a pinyon-juniper forest.

10:10 AM COS 94-7 Turley, NE1, WC Odei1, H Schaefer2, G Everwand3, MJ Crawley4 and M Johnson1, (1)North Carolina State University, (2)Harvard University, (3)Georg-August University Göttingen, (4)Imperial College, London. Rapid evolution in plants following experimental removal of herbivores.

10:30 AM COS 94-8 Pearse, IS1, AL Hipp2 and R Karban3, (1)University of California - Davis, (2)The Morton Arboretum, (3)University of California at Davis. Global patterns of leaf defenses in oak species: Herbivores, leaf phenology, and climate.

10:50 AM COS 94-9 Haak, DC and LC Moyle, Indiana University. Biogeography and the evolution of inducible plant defenses in wild tomatoes.

11:10 AM COS 94-10 Fine, PV1, GPA Lamarre2 and C Baraloto3, (1)University of California, Berkeley, (2)Université Antilles Guyane, (3)UMR EcoFog. Herbivory, growth strategies and habitat specialization in tropical tree lineages: Implications for Amazonian beta-diversity.

COS 95 - Invasion: Invasibility, Stability, and Diversity
10A, Austin Convention Center

8:00 AM COS 95-1 Questad, EJ1, JM Thaxton2 and S Cordell1, (1)USDA Forest Service, (2)University of Puerto Rico. Invasion and native species loss through local extinction.

8:20 AM COS 95-2 Byun, C1, S De Blois3 and J Brisson2, (1)McGill University, (2)Université de Montréal. Can life history traits and community assembly predict biological resistance to invasion? An experiment with common reed.

8:40 AM COS 95-3 Martin, PH1 and CD Canham2, (1)Colorado State University, (2)Cary Institute of Ecosystem Studies. Life histories, natural disturbance and human land use determine long-term invasion dynamics of forests by exotic invasive tree species.

9:00 AM COS 95-4 Schneider, HE and EB Allen, University of California, Riverside. Erodium cicutarium, an invasive annual forb in the Colorado Desert, experiences increased...
8 am-11:30 am

Benefits of water and nitrogen over native annual forbs.

9:20 AM COS 95-5 Bell, MD and EB Allen, University of California, Riverside. The interaction of soil surface gravel content and nitrogen deposition on the competitiveness of the invasive grasses Schismus arabicus and Schismus barbatus in the northwest Sonoran Desert.

9:40 AM Break

9:50 AM COS 95-6 Duncan, MB, RG Bramblett, AV Zale and TH Haddix, (1)Montana Cooperative Fishery Research Unit, (2)Montana Fish, Wildlife & Parks. Structural differences between fish assemblages in natural and altered major rivers.

10:10 AM COS 95-7 Alofs, KM and DA Jackson, University of Toronto. Fish community composition influences the establishment of introduced species in Ontario lakes.

10:30 AM COS 95-8 Tan, J and L. Jiang, Georgia Institute of Technology. Phylogenetic relatedness between resident and invading species, not phylogenetic diversity of resident communities, affects their invasibility.

10:50 AM COS 95-9 González-Moreno, P1, J Pino2, D Carreras3, C Basnou2 and M Vilà1, (1)Estación Biológica de Doñana (EBD-CSIC), (2)Autonomous University of Barcelona, (3)Observatori Socioambiental de Menorca. Coastal habitats in Islands are less invaded by alien plants than in their mainland counterpart.

11:10 AM COS 95-10 Tea, K and WD Bowman, University of Colorado. Plant invasion influenced by spatial heterogeneity of soil nutrients.

COS 96 - Disease and Epidemiology III

10B, Austin Convention Center

8:00 AM COS 96-1 Moore, SM, RJ Eisen2 and P Mead2, (1)National Center for Atmospheric Research, (2)Centers for Disease Control and Prevention. Climate variability and the seasonality of Lyme Disease.

8:20 AM COS 96-2 Swei, A1, CJ Briggs2, RS Lane3 and RS Ostfeld1, (1)Cary Institute of Ecosystem Studies, (2)University of California, Santa Barbara, (3)University of California - Berkeley. The dual role of lizards in Lyme disease ecology in the far western United States.

8:40 AM COS 96-3 Koelle, K and DA Rasmussen, Duke University. The effect of epidemiological model structure on patterns of viral diversity.

9:00 AM COS 96-4 McCallum, HI1, ME Jones2, N Beeton2, RK Hamede2 and JD Bashford2, (1)Griffith University, (2)University of Tasmania. Modeling to evaluate management strategies for Tasmanian devil facial tumor disease.

9:20 AM COS 96-5 Jones, ME1, RK Hamede1, A Kreiss2, K Belov3, AM Pearse4 and HI McCallum5, (1)University of Tasmania, (2)Menzies Research Institute Tasmania, (3)The University of Sydney, (4)Tasmanian Department of Primary Industry, Parks, Water and Environment, (5)Griffith University. Reduced impact of Tasmanian devil facial tumor disease at the current disease front.

9:40 AM Break

9:50 AM COS 96-6 Hersh, MH1, M Tibbetts2, M Strauss2, RS Ostfeld3 and F Keening2, (1)Bard College and Cary Institute of Ecosystem Studies, (2)Bard College, (3)Cary Institute of Ecosystem Studies. The ecology of an emerging tick-borne pathogen, Babesia microti: How host quality affects disease risk.

10:10 AM COS 96-7 Calabrese, JM1, J Brunner2 and RS Ostfeld3, (1)Smithsonian Conservation Biology Institute, (2)Institute of Ecosystem Studies, (3)Cary Institute of Ecosystem Studies. Tick accumulation on vertebrate hosts: Differential susceptibility or just bad luck?

10:30 AM COS 96-8 Luis, AD, Colorado State University. A comparison of bats and rodents as hosts for zoonotic viruses: What characteristics make a good reservoir host?

10:50 AM COS 96-9 Pollina, EC, JP Sparks and AG Power, Cornell University. Effects of elevated CO2 and ozone on the spillover potential and dilution potential of an insect transmitted plant virus.

11:10 AM COS 96-10 Mata, TM1, BW Falk2 and M Holyoak2, (1)University of California, (2)University of California, Davis. Barley yellow dwarf virus and its vectors differentially affect native and invasive perennial grasses in California’s coastal prairie.

COS 97 - Statistics

12B, Austin Convention Center

8:00 AM COS 97-1 Abadi, F, University of Cape Town. Combining population counts and demographic data to estimate vital rates of wildlife populations.


8:40 AM COS 97-3 Cade, BS, U. S. Geological Survey. Quantile equivalence for evaluating habitat management or restoration objectives.

9:00 AM COS 97-4 Brooks, ME1, M McCoy2 and BM Bolker3, (1)University of Florida, (2)Virginia Commonwealth University and University of Florida, (3)McMaster University. A method for detecting among-individual differences in growth rate without marking individuals.

9:20 AM COS 97-5 Mudge, JF, TJ Barrett, KR Munkittrick and J Houlanah, University of New Brunswick. Implications of using an optimal alpha approach for statistical hypothesis tests in ecology.

9:40 AM Break


10:10 AM COS 97-7 Knapo, J1 and P de Valpine2, (1)University of California, Berkeley, (2)University of California - Berkeley. Fitting complex population models by combining particle filters with markov chain Monte Carlo.

10:30 AM COS 97-8 Minchin, PR1 and J Oksanen2, (1)Southern Illinois University Edwardsville, (2)University of Oulu. When weakness is a strength: The importance of primary tier-treatment in nonmetric multidimensional scaling ordination of community data with high beta diversity.


11:10 AM COS 97-10 Green, MB1, DC Buso2, JL Campbell3, CR Levine4, GE Likens2 and RD Yanai1, (1)Plymouth State University, (2)Cary Institute of Ecosystem Studies, (3)USDA Forest Service, (4)SUNY College of Environmental Science and Forestry. Long-term trends in uncertainty of element fluxes at the Hubbard Brook Experimental Forest.
COS 98 - Population Dynamics and Regulation II
13, Austin Convention Center

8:00 AM COS 98-1 McCaffery, RM and K Lips, University of Maryland. Survival in two neotropical frog species prior to a disease outbreak.

8:20 AM COS 98-2 Brouwer, N1 and S Kalisz2, (1)University of Pittsburgh, (2)University of Pittsburgh. Herbivory and dormancy generate cyclic dynamics in a population of perennial forest herbs.

8:40 AM COS 98-3 Hultine, KR, Northern Arizona University. Herbivory-induced mortality increases with radial growth in a dominant riparian phreatophyte.

9:00 AM COS 98-4 Linnerud, M1, BE Sæther1, V Grøtøn1, DG Noble2 and RP Freckleton3, (1)Norwegian University of Science and Technology, (2)British Trust for Ornithology, (3)University of Sheffield. Interspecific differences in population dynamics produce Taylor’s power law for the scaling of the variance to the mean population size of British birds.

9:20 AM COS 98-5 Budy, P, C Luecke and GP Thiede, Utah State University. Why does population structure fluctuate in lentic Arctic char populations while abundance remains stable?

9:40 AM Break

9:50 AM COS 98-6 Schmidt, KA, Texas Tech University. Prospecting and philopatry to safe sites produces site-dependent population regulation.

10:10 AM COS 98-7 Ferguson, JM, University of Florida. A new analysis on environmental autocorrelation values in animal populations.


10:50 AM COS 98-9 Amarasakere, P, University of California, Los Angeles. Predicting the risk of extinction due to climate warming in echoterrorns.

11:10 AM COS 98-10 Walsh, RP and HJ Michaels, Bowling Green State University. Population Dynamics of the long-lived terrestrial Orchid, Cypripedium candidum.

COS 99 - Ecosystem Function I
16A, Austin Convention Center

8:00 AM COS 99-1 Cormann, J1, E Carlson2, S Chandra3, M Dix4, E Rejmánková5, A Roegner5, J Vésséla5 and J Elser1, (1)Arizona State University, (2)University of California, Davis, (3)University of Nevada, Reno, (4)Universidad del Valle de Guatemala, (5)University of South Bohemia. Temporal dynamics of phytoplankton resource limitation, community composition, and toxin production in a large, deep, tropical lake.

8:20 AM COS 99-2 Cable, JM1, K Ogle2, GA Barron-Gafford3, LP Bentley3, RL Scott4 and TE Huxman4, (1)University of Alaska, (2)Arizona State University, (3)University of Arizona, (4)USDA-ARS. Shrub encroachment lengthens the memory of soil respiration to antecedent soil conditions.

8:40 AM COS 99-3 Barron-Gafford, GA1, JM Cable2, LP Bentley3, RL Scott4, TE Huxman4 and K Ogle4, (1)University of Arizona, (2)University of Alaska, (3)USDA-ARS, (4)Arizona State University. Quantifying endogenous and exogenous legacy effects (ecological memory) of soil respiratory efflux in response to abiotic and biotic drivers in a semiarid shrubland.

9:00 AM COS 99-4 Gallagher, ME1, CA Masiello1, WC Hockaday2, JA Baldock3, S Snapp4 and C McSwiney5, (1)Rice University, (2)Baylor University, (3)CSIRO Land and Water, (4)Michigan State University, (5)Kellogg Biological Station. Estimating oxidative ratio in US agricultural ecosystems.

9:20 AM COS 99-5 Fox, RJ1, TR Fisher1, TM Kana1, AB Gustafson1 and TE Jordan2, (1)Horn Point Laboratory, University of Maryland Center for Environmental Science, (2)Smithsonian Institution. High-precision determination of the N/Ar ratio in soil gases for measuring denitrification.

9:40 AM COS 99-6 Jordan, TE1, AL Bullock1, DC Brenner1, TR Fisher2, AB Gustafson2, RJ Fox2 and JJ Miklas1, (1)Smithsonian Institution, (2)Horn Point Laboratory, University of Maryland Center for Environmental Science. The search for the missing nitrogen: Estimating denitrification in whole watersheds from N2 fluxes through agricultural drainage ditches.

10:10 AM COS 99-7 Anderson-Teixeira, KJ1, M Masters1, M Zer1, CK Black2 and EH DeLucia1, (1)University of Illinois, (2)University of Illinois at Urbana-Champaign. Enhanced belowground carbon cycling in perennial bioenergy crops.

10:30 AM COS 99-8 Raich, JW, Iowa State University. Temporal patterns of soil respiration in tropical forest plantations in lowland Costa Rica.

10:50 AM COS 99-9 Stoy, PC1, GG Katul2, JY Juang3, KA Novick4, MBS Siqueira5, S Dore6, TE Kolb6, MC Montes-Helu6 and RL Scott7, (1)Montana State University, (2)Duke University, (3)National Taiwan University, (4)USDA-Forest Service, (5)Universidade de Brasilia, (6)Northwestern Michigan College and (7)University of Arizona. Nitrous oxide fluxes through terrestrial ecosystems tend to coin the land surface: Mechanisms controlling radiometric surface temperature change in managed ecosystems.

11:10 AM COS 99-10 Schedlauer, JL1, SF Oberbauer2, G Starr3 and KL Jimenez4, (1)West Chester University, (2)Florida International University, (3)University of Alabama, (4)University of Wisconsin. Latent and sensible heat fluxes in a short hydroperiod Everglades wetland.

COS 100 - Distributions and Range Limits
18A, Austin Convention Center

8:00 AM COS 100-1 Ries, L1, JB Turner1, K Oberhauser2, R Betaldenn, T Mueller1 and LG Crozier2, (1)University of Maryland, (2)University of Minnesota, (3)NOAA Fisheries. The value of mechanistic models for understanding species’ ranges.

8:20 AM COS 100-2 McGill, BJ1 and MM Humphreys2, (1)University of Maine, (2)McGill University. Liebig’s law meets species ranges - a new species distribution model.

8:40 AM COS 100-3 Serra-Diaz, JM1, T Keenan2, M Ninyerola1, F Lloret3, S Sabate1 and CA Gradia2, (1)Universitat Autonoma de Barcelona, (2)Harvard University, (3)CREAF-Autonomous University of Barcelona, (4)Universitat de Barcelona, (5)Universidade de Barcelona. Informative incongruences between niche based models and process based models.

9:00 AM COS 100-4 Strauss, SY1 and NI Cacho2, (1)University of California, Davis, (2)UC Davis. Technology of enemies and conspicuosity in edaphic adaptation.

9:20 AM COS 100-5 Cacho, NI1 and SY Strauss2, (1)UC Davis, (2)University of California, Davis. The role of competition in serpentine specialization in a clade of Californian mustards.

9:40 AM Break

9:50 AM COS 100-6 Prigge, BA1, TR Huggins2, R Sharifi1 and PW Rundel1, (1)University of California, Los Angeles, (2)University of California Los Angeles. Bottom-up effects of
8 am-11:30 am

emphasizing propagule pressure and abiotic variation
exotic-plant invaded ecosystems: Field-testing a new model
Predicting variable reinvasion pressure in restorations of
native seeding techniques in degraded prairies
The Nature Conservancy, (2)University of Washington.
and seed bank dynamics
colonization on a reclaimed anthracite mine: Seed rain
KM Klemow, Wilkes University.
across a precipitation gradient
and diversity on restored prairie community structure
in the conterminous U.S
(1)Wageningen University, (2)University of Wisconsin.
Evolution of plant form and function
leaf acclimation to light availability: Implications for the
of El Rosario.
Functional traits and tradeoffs determine drought tolerance
(1)Wageningen University, (2)University of Wisconsin.
Conservation in Brazil’s northern Atlantic forest
MZ Cardoso, Federal University of Rio Grande do Norte.
Ecotourism and Environmental Awareness
protected areas
(1)US Army Corps of Engineers, (2)US Army
Maximizing return on conservation investment
Opportunities for cost-sharing in
(1)University of

8:20 AM COS 102-2 Armsworth, PR1, J Booth2, L Cantu-Salazar3, ZG Davies4, M Parnell5 and R Stoneman6, (1)University of Tennessee, (2)Sheffield Hallam University, (3)University of Sheffield, (4)University of Kent, (5)En:Mapping, (6)Yorkshire Wildlife Trust. Opportunities for cost-sharing in conservation: Spatial variation in volunteering effort on protected areas.

8:40 AM COS 102-3 Carter, NH, J’ Liu, SJ Riley, H Campa III and A Shortridge, Michigan State University. Integrating natural and human dimensions to advance tiger conservation in South Asia.

9:00 AM COS 102-4 Dorning, MA, DA Shoemaker, W Tang and RK Meentemeyer, University of North Carolina at Charlotte. Simulating land change scenarios to resolve urbanization-conservation conflicts at the edge of metropolis.

9:20 AM COS 102-5 Schloss, CA1, M Case1, J Delap1, DM Evans1, SA Hall2, J Langdon3, ER Larson1, J1 Lawler1, B McRae2 and H Papendick1, (1)University of Washington, (2)The Nature Conservancy. Systematic conservation planning for an uncertain future: An evaluation of an abiotic facet-based approach in the Columbia Plateau Ecoregion.

9:40 AM Break


10:10 AM COS 102-7 Rowland, J, University of North Texas. Environmental values and assisted colonization: A reply to Sandler.


10:50 AM COS 102-9 Andersen, R, Fordham University. Images and Narratives of Sustainable Travel: Communicating Ecotourism and Environmental Awareness.


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COS 101 - Restoration Ecology I

18B, Austin Convention Center

8:00 AM COS 101-1 Espeland, EK1, D Hammond2, M Horning3 and R Johnson4, (1)USDA ARS PMRU, (2)Agnes Scott College, (3)USDA Forest Service, (4)USDA Agricultural Research Service. Maternal effects in Poa secunda: Implications for the production of restoration seed.


8:40 AM COS 101-3 Willand, JE, SG Baer, DJ Gibson and RP Klopf, Southern Illinois University Carbondale. Temporal changes in seed and bud banks as sources of new propagules during prairie restoration.

9:00 AM COS 101-4 Baer, SG, DJ Gibson, RP Klopf, AM Lambert, LK Reed, JE Willand and BR Wodika, Southern Illinois University. Hierarchical consequences of cultivar and local propagules on community assembly and ecosystem functioning in restoration.

9:20 AM COS 101-5 Schaber, PG1, TM Saeielli2, GJ Hawley2, JM Halman2 and KM Gurney3, (1)USDA Forest Service, (2)University of Vermont, (3)The American Chestnut Foundation. Not cold hardness as a factor influencing the restoration of American chestnut in the northeastern United States.

9:40 AM Break


10:30 AM COS 101-8 Sworen, G, M Haas, A Cheehan and KM Klemow, Wilkes University. Inhibition of woody colonization on a reclaimed anthracite mine: Seed rain and seed bank dynamics.

10:50 AM COS 101-9 Hamman, ST1, JD Bakker2 and EG Delvin1, (1)The Nature Conservancy, (2)University of Washington. Determining the most efficient and effective large-scale native seedling techniques in degraded prairies.

11:10 AM COS 101-10 Gabler, CA and E Siemann, Rice University. Predicting variable reinvasion pressure in restorations of exotic-plant invaded ecosystems: Field-testing a new model emphasizing propagule pressure and abiotic variation.

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COS 102 - Conservation Planning, Policy, and Theory II

18C, Austin Convention Center

8:00 AM COS 102-1 Petersen, BC, Michigan State University. Tradeoffs in incorporating conservation science into efforts advancing climate change adaptation: The case of Australia’s Great Eastern Ranges Initiative.

8:20 AM COS 102-2 Armsworth, PR1, J Booth2, L Cantu-Salazar3, ZG Davies4, M Parnell5 and R Stoneman6, (1)University of Tennessee, (2)Sheffield Hallam University, (3)University of Sheffield, (4)University of Kent, (5)En:Mapping, (6)Yorkshire Wildlife Trust. Opportunities for cost-sharing in conservation: Spatial variation in volunteering effort on protected areas.

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9:20 AM COS 102-5 Schloss, CA1, M Case1, J Delap1, DM Evans1, SA Hall2, J Langdon3, ER Larson1, J1 Lawler1, B McRae2 and H Papendick1, (1)University of Washington, (2)The Nature Conservancy. Systematic conservation planning for an uncertain future: An evaluation of an abiotic facet-based approach in the Columbia Plateau Ecoregion.

9:40 AM Break


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10:50 AM COS 102-9 Andersen, R, Fordham University. Images and Narratives of Sustainable Travel: Communicating Ecotourism and Environmental Awareness.


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COS 103 - Physiological Ecology III

18D, Austin Convention Center

8:00 AM COS 103-1 Posada, JM, AC Rey and R Fayad, University of El Rosario. A simple theoretical framework to explain leaf acclimation to light availability: Implications for the evolution of plant form and function.

8:20 AM COS 103-2 Pasquini, SC1, SJ Wright2 and LS Santiago1, (1)University of California, (2)Smithsonian Tropical Research Institute. Are lianas physiologically and morphologically different from trees at the seedling stage? An evaluation using a long-term nutrient enrichment study.

8:40 AM COS 103-3 Poorter, L1, L Markestijn2 and F Sterck1, (1)Wageningen University, (2)University of Wisconsin. Functional traits and tradeoffs determine drought tolerance and niche differentiation of tropical tree species.

9:00 AM COS 103-4 Goldsmith, GR1, KA Simonin2 and TE Dawson3, (1)University of California, Berkeley, (2)The University of Sydney, (3)UC Berkeley. Drought impacts tropical montane plant growth and physiology.

9:20 AM COS 103-5 Zinnert, JC1, J Nelson2, JE Anderson1 and DR Young3, (1)US Army Corps of Engineers, (2)US Army
Earth Stewardship: Preserving and enhancing earth’s life support systems

Organized by: J Talbot, G Wang, SR Dooley

This workshop is designed for graduate students to learn techniques for writing successful research grant proposals in the ecological sciences. The workshop will feature a panel that includes a funding agency representative, proposal reviewers, and awardees who will discuss strategies for preparing an innovative, highly competitive, and complete proposal package.

Speakers:
S Twombly, National Science Foundation

Moderator: C Duke

This symposium explores the emerging field of warfare ecology, which seeks to understand the environmental origins and consequences of armed conflict, and apply this knowledge in ways that support peace, security, and sustainability.

Organized by: C Duke (csduke@esa.org), E Meléndez, J Porter

Endorsed by: Science Committee

Moderator: C Duke

Evolutionary processes and paradigms are rarely explicitly accounted for or integrated into US environmental policy. This symposium addresses why and how evolution can inform policy to improve environmental stewardship.

ESA Diversity Luncheon
Ballroom F, Austin Convention Center

WK 37 - Things They Don't Typically Teach You in Grad School: Peer-Review Inside-Out--FREE
5, Austin Convention Center

Organized by: R Salguero-Gomez (salguero@sas.upenn.edu), N Zimmerman, J Ramos Jr., S Silver

Moderator: R Salguero-Gomez

Reviewing manuscripts is a crucial, but often untaught component of being a research scientist. In this workshop, the editors-in-chief of the most prestigious journals in ecology will provide insight into the review process and participants will gain techniques to objectively and efficiently review other papers and improve their own.

Speakers:
DR Strong, University of California, Davis
P Craze, University of Sussex
M Hutchings, University of Sussex
M Holyoak, University of California, Davis
AM Ellison, Harvard University
EA Johnson, University of Calgary
D Peters, USDA Agricultural Research Service
MA McPeek, Dartmouth College
CW Osenberg, University of Florida

WK 38 - Show me the money: How to write successful student grant proposals--FREE
4, Austin Convention Center

Organized by: J Talbot, G Wang, SR Dooley

This workshop is designed for graduate students to learn techniques for writing successful research grant proposals in the ecological sciences. The workshop will feature a panel that includes a funding agency representative, proposal reviewers, and awardees who will discuss strategies for preparing an innovative, highly competitive, and complete proposal package.

Speakers:
S Twombly, National Science Foundation

SYMP 19 - Integrating Evolution into Policy: Improved Science-Based Decision-Making for Environmental Stewardship
Ballroom C, Austin Convention Center

Organized by: CE Ridley (ridley.caroline@epa.gov)

Moderator: CE Ridley

SYMP 19 - Integrating Evolution into Policy: Improved Science-Based Decision-Making for Environmental Stewardship
Ballroom C, Austin Convention Center

SYMP 19 - Integrating Evolution into Policy: Improved Science-Based Decision-Making for Environmental Stewardship
Ballroom C, Austin Convention Center

SYMP 20 - Warfare Ecology: Impacts of Conflict on Environmental Security and Stewardship
Ballroom G, Austin Convention Center

Organized by: C Duke (csduke@esa.org), E Meléndez, J Porter

Endorsed by: Science Committee

Moderator: C Duke

This symposium explores the emerging field of warfare ecology, which seeks to understand the environmental origins and consequences of armed conflict, and apply this knowledge in ways that support peace, security, and sustainability.

THURSDAY

1:30 pm-5 pm

SYMP 19 - Integrating Evolution into Policy: Improved Science-Based Decision-Making for Environmental Stewardship
Ballroom C, Austin Convention Center

Organized by: CE Ridley (ridley.caroline@epa.gov)

Moderator: CE Ridley

SYMP 19 - Integrating Evolution into Policy: Improved Science-Based Decision-Making for Environmental Stewardship
Ballroom C, Austin Convention Center

SYMP 19 - Integrating Evolution into Policy: Improved Science-Based Decision-Making for Environmental Stewardship
Ballroom C, Austin Convention Center

SYMP 20 - Warfare Ecology: Impacts of Conflict on Environmental Security and Stewardship
Ballroom G, Austin Convention Center

Organized by: C Duke (csduke@esa.org), E Meléndez, J Porter

Endorsed by: Science Committee

Moderator: C Duke

This symposium explores the emerging field of warfare ecology, which seeks to understand the environmental origins and consequences of armed conflict, and apply this knowledge in ways that support peace, security, and sustainability.

现代社会的哲学意义和社会价值

从而，通过上述的分析和讨论，我们可以看出，现代社会的哲学意义和社会价值是不可忽视的。它在推动我们进行哲学思考和理论探索的同时，也促使我们更加深度地思考和理解我们的社会和世界。
THURSDAY

1:30 pm-5 pm

2:30 PM SYMP 20-4 Rey, M, Michigan State University. An overview of current US Department of Defense initiatives to reduce mission conflicts with endangered species conservation.

2:50 PM Break

3:00 PM SYMP 20-5 Doe, W, Colorado State University. The ecology of military lands in the US: Conflicts and collaboration in warfare preparations.


3:40 PM SYMP 20-7 Meléndez, E, University of Puerto Rico. Professional training and graduate education needs for warfare ecology.

4:00 PM SYMP 20-8 Liotta, PH, United States Military Academy. Policy implications of warfare ecology.

4:20 PM Discussion

SYMP 21 - Connecting the Dots from Polar and Hot Desert Ecosystems: What Climate Changes in Extreme Environments Tell Us

Ballroom E, Austin Convention Center

Organized by: UN Nielsen, DH Wall

Moderator: UN Nielsen

In extreme ecosystems, climate change impacts are magnified. Using knowledge gained from these rapidly changing ecosystems can prove valuable for predicting changes in other ecosystems. This symposium presents a synthesis integrating scientific disciplines across three ecosystems that have similarities in temperature and moisture effects.

1:30 PM Introductory Remarks

1:35 PM SYMP 21-1 Peters, D, USDA Agricultural Research Service. Responses to climate change in hot desert ecosystems: Connecting local to global scales.

2:05 PM SYMP 21-2 Convey, P, British Antarctic Survey. Impacts of climate change on biota in the Arctic and Antarctic.


2:45 PM SYMP 21-4 Barrett, JE, BJ Adams, BA Ball, UN Nielsen, RA Virginia and DH Wall, (1)Virginia Tech, (2)Brigham Young University, (3)Arizona State University at the West Campus, (4)Colorado State University, (5)Dartmouth College. Influence of climate variation on soil ecosystems of the McMurdo Dry Valleys, Antarctica.

3:05 PM Break

3:15 PM SYMP 21-5 Gooseff, MN, Pennsylvania State University. How are polar ecosystems responding to changing climate? The role of hydrology in mediation and facilitation.

3:35 PM SYMP 21-6 Wall, DH, BJ Adams, UN Nielsen, and RA Virginia, (1)Colorado State University, (2)Brigham Young University, (3)Dartmouth College. Can climate change in extreme ecosystems inform future scenarios of soil biodiversity.

3:55 PM SYMP 21-7 Schlesinger, WH, Cary Institute of Ecosystem Studies. Summary and envoi: Why dry, low productivity systems matter?.

4:15 PM Discussion

OOS 39 - Pair Power: Collaboration with ESA's Next Generation of Ecologists (i.e. undergraduates) as Evidence of Earth Stewardship

16B, Austin Convention Center

Organized by: R Burks (burksr@southwestern.edu)

Moderator: AC McCall

Organized by the Researchers at Primarily Undergraduate Institutions Section (R-PUI), this novel session will feature pair presentations given by undergraduate researchers with their mentors that touch on multiple aspects of earth stewardship.

1:30 PM OOS 39-1 Avery, I, and AC McCall, Denison University. Do changes in temperature correlate with changes in butterfly communities over a 30-year period in California?

1:50 PM OOS 39-2 Davis, MA, and A Colehour, Macalester College. The role of dispersal limitation and site invasibility in the spread of garlic mustard.

2:10 PM OOS 39-3 Herron, SM, and J Byers, Ferris State University. An experimental analysis of foraging and aggressive behavior between mosquitofish and bluegill.

3:10 PM Break

3:20 PM OOS 39-6 Haberman, KL, and JD Lewis, Western Oregon University. Response of invertebrate communities to dike removal in the Salmon River estuary: A model for undergraduate involvement in estuarine research.

3:40 PM OOS 39-7 Itz, B, and WJ Quinn, St. Edward’s University. Interactions between spotted knapweed (Centaurea stoebe), predatory biocontrol insects, and landscape effects in Boulder County, Colorado.

4:00 PM OOS 39-8 Cromartie, WI, Richard Stockton College. Collaborative research on trends in biodiversity in the NJ Pine Barrens.


OOS 40 - Nitrogen Deposition Alters Terrestrial Biodiversity: Patterns, Causes and Potential Consequences

17A, Austin Convention Center

Organized by: WD Bowman

Moderator: WD Bowman

This session will explore the patterns of changes in biodiversity in terrestrial ecosystems and the potential consequences for those changes, including ecosystem function, plant-consumer interactions, community invasibility, and disease dynamics.

1:30 PM OOS 40-1 Clark, C, AAAS. Patterns of species loss associated with N deposition. Thresholds and reversibility.

1:50 PM OOS 40-2 Nemerget, D, J Jennett, L Philippot, K Schimel, TR Seastedt, PG Taylor, AR Townsend, C Washenberger, WR Wieder, and DR Zak, (1)University of Colorado, (2)INRA-Université de Bourgogne, (3)
Earth Stewardship: Preserving and enhancing earth's life support systems

OOS 40-3 Stevens, CJ, The Open University. Ecosystem responses of European semi-natural habitats to nitrogen deposition.

OOS 40-4 Suding, KN1, EC Farrer2, S Hicks3, A Porras-Alfaro4 and MJ Spasojevic5, (1)University of California at Berkeley, (2)University of California, Berkeley, (3)University of New Mexico, (4)Western Illinois University, (5)University of California Davis. Winners and losers in response to nitrogen deposition: The roles of resource competition, abundance, and microbial interactions in diversity decline.

OOS 40-5 Throop, HL1 and M Lerdau2, (1)New Mexico State University, (2)University of Virginia. Is nitrogen deposition manna for herbivores?

3:10 PM Break

3:20 PM OOS 40-6 Allen, EB1, LE Rao2 and RJ Steers2, (1)University of California, Riverside, (2)University of California, Riverside. Linking N deposition to invasive plant biomass, fires, and diversity loss in the California deserts.

3:40 PM OOS 40-7 Johnson, PT1 and AR Townsend2, (1)University of Colorado, (2)University of Colorado, Boulder. Understanding the link between changing nutrient cycles and the risk of infectious disease.

4:00 PM OOS 40-8 Entwistle, EE and DR Zak, University of Michigan. Elevated atmospheric N deposition alters composition of forest floor fungal communities.

4:20 PM OOS 40-9 Tulloss, EM and ML Cadenasso, UC Davis. Nitrogen deposition and early growth of native and exotic grasses of the California oak savanna.

4:40 PM OOS 40-10 Gan, H, MD Hunter and DR Zak, University of Michigan. Chronic atmospheric N deposition decreases microarthropod density in a northern hardwood ecosystem.

OOS 41 - Ecological Applications of Machine Learning

17B, Austin Convention Center

Organized by: BA Han (han@uga.edu), JM Drake

Moderator: BA Han

This session comprises a series of sophisticated and complementary case studies illustrating how complex and previously intractable research questions in a variety of study systems were successfully investigated by applying machine learning tools to ecological data.

1:30 PM OOS 41-1 Maher, SP1, JM Drake1, A Guisan2 and CF Randin3, (1)University of Georgia, (2)University of Lausanne, (3)University of Basel. One-class and two-class classification as methods for ecological niche modeling.

1:50 PM OOS 41-2 Freeman, R, Microsoft Research. Predicting behavior at sea: Machine learning approaches to understanding the behavior of pelagic seabirds.


2:30 PM OOS 41-4 Drake, JM, University of Georgia. Computational methods for identifying structure in ecological networks.

2:50 PM OOS 41-5 Sheldon, D1, E Goldman2, E Childs3, O Poblacion1, JC Miller1, JA Jones1 and TG Dietterich1, (1)Oregon State University, (2)Boston University, (3)Pomona College. Inferring moth emergence from abundance data: A novel mathematical approach using birth-death contingency tables.

3:10 PM Break

3:20 PM OOS 41-6 Vallejo, E, Instituto Tecnolóxico y de Estudios Superiores de Monterrey. Sensor arrays for acoustic monitoring of bird behavior and diversity. Preliminary results on source identification using unsupervised learning methods.

3:40 PM OOS 41-7 Schmidt, JP and JM Drake, University of Georgia. Rare plant to pest plant: Can traits predict where vascular species fall along this continuum?

4:00 PM OOS 41-8 Langford, B, Royal Melbourne Institute of Technology. Using machine learning to predict and reduce spatial error in systematic conservation planning under uncertainty.

4:20 PM OOS 41-9 Davidson, AD, Universidad Nacional Autónoma de México. Multiple ecological pathways to extinction in marine and terrestrial mammals.

OOS 42 - Microbial Responses to Moisture Availability: Scaling up from Physiology to Ecosystem-Level Processes

12A, Austin Convention Center

Organized by: SN Kivlin, CM Boot, SM Schaeffer

Moderator: BG Waring

The overarching goal of this session is to synthesize knowledge gained from model simulations, laboratory incubation experiments, and field studies, to produce a more coherent framework with which to link moisture driven ecophysiology of soil microorganisms to ecosystem level processes.

1:30 PM OOS 42-1 Wallenstein, MD, S Evans and JM Steinweg, Colorado State University. The surprising role of extracellular enzymes in soil microbial responses to altered precipitation patterns.

1:50 PM OOS 42-2 German, DP and SD Allison, University of California. The interaction of substrate concentration and moisture level in decomposition.

2:10 PM OOS 42-3 Schaeffer, SM1, CM Boot2, D Roux-Micholet1 and JP Schimel1, (1)University of California Santa Barbara, (2)Colorado State University. Seasonal drought, microbial threshold responses, and biogeochemical cycles in Mediterranean ecosystems.

2:30 PM OOS 42-4 Manzoni, S1, JP Schimel2 and A Porporato1, (1)Duke University, (2)University of California, Santa Barbara. Physical vs. physiological controls on water-stress in soil microbial communities.

2:50 PM OOS 42-5 Allen, MF, University of California, Riverside. The role of hydraulic lift on mycorrhizal-mediated dynamics.

3:10 PM Break


3:40 PM OOS 42-7 Williams, MA1, M Kakumanu2 and D Beard2, (1)Virginia Tech University, (2)Mississippi State University. Microorganisms, molecules, and moisture: Drought induced soil community dynamics and their impact on ecosystem function.

4:00 PM OOS 42-8 Schimel, JP1, CM Boot2, C Lawrence3, X Li4, D Roux-Michelote5, SM Schaeffer6 and M Wetterstedt7, (1)University of California, Santa Barbara, (2)Colorado State University, (3)University of Colorado, (4)State Key Laboratory of Urban and Regional Ecology, (5)
1:30 pm-5 pm


4:20 PM OOS 42-9 Peralta, AL1, JW Matthews2, E Johnston1, S Ludmer1 and AD Kent1, (1)University of Illinois at Urbana-Champaign, (2)Illinois Natural History Survey. Abiotic controls on community structure and function of nitrogen cycling microorganisms in wetland ecosystems.

4:40 PM OOS 42-10 Stanish, LF1 and D McKnight2, (1)Colorado State University, (2)University of Colorado. Hydrologic controls on diatom community composition in microbial mats in dry valley streams: responses to extreme flows and sustained dessication.

OOS 43 - Novel Applications of High-Frequency Sensor Data in Aquatic Ecosystems: Discoveries from GLEON, the Global Lakes Ecological Observatory Network

14, Austin Convention Center

Organized by: CC Carey, PC Hanson

Moderator: CC Carey

Our session highlights novel approaches to integrate sensor data into ecological research to advance our understanding of aquatic ecosystems.

1:30 PM OOS 43-1 PC Hanson, University of Wisconsin. Dissolved oxygen from 20 lake observatories: Changing drivers from minutes to months.


2:10 PM OOS 43-3 Smyth, RL, Smithsonian Environmental Research Center. Diurnal mixed layer dynamics: Insights from high frequency sensor data.

2:30 PM OOS 43-4 Rose, KC1, CE Williamson1, JE Saros2 and CEH Kissman1, (1)Miami University, (2)University of Maine. Understanding allochthony: New techniques and tools.

2:50 PM OOS 43-5 Brusewitz, DA1, DC Richardson2, KC Rose3, CT Solomon4 and MC Van de Bogert5, (1)University of Texas at Austin, (2)SUNY New Paltz, (3)Miami University, (4)McGill University, (5)University of Wisconsin. Drivers of pelagic metabolism: Evidence from high-frequency free-water measurements in lakes around the globe.

3:10 PM Break

3:20 PM OOS 43-6 Holtgrieve, GW1, S Sadro2, CT Solomon3 and G Koch4, (1)University of Washington, (2)University of California, Santa Barbara, (3)McGill University, (4)Florida International University. Intra-diet patterns in ecosystem respiration revealed using continuous oxygen data from lakes around the globe.

3:40 PM OOS 43-7 Kara, EL1, PC Hanson2, DP Hamilton3, L Winslow2, M Hipsey4, KC Rose5, J Read1, CC Carey6, KD McMahon1, S Bertilsson7, D da Motta Marques8, E Gaiser9, TR Miller11, L Beversdorf1, C Wu1, YF Hsieh2 and T Kratz2, (1)University of Wisconsin-Madison, (2)University of Wisconsin, (3)University of Walkato, (4)University of Western Australia, (5)Miami University, (6)Cornell University, (7)University of Wisconsin - Madison, (8)Uppsala University, (9)Universidade Federal do Rio Grande do Sul, (10)Florida International University, (11)University of Wisconsin - Milwaukee. Time scale dependence in numerical simulations: Predicting physical, chemical, and biological patterns in Lake Mendota, WI from hours to weeks.

4:00 PM OOS 43-8 Weathers, KC1, DC Richardson2, BJ Benson3, K Chiu4, A Zimmerman5 and J Fichter6, (1)Cary Institute of Ecosystem Studies, (2)State University of New York at New Paltz, (3)University of Wisconsin-Madison, (4)SUNY Binghamton, (5)University of Michigan, (6)Lake Sunapee Protective Association. Enhancing human passion and curiosity about lake ecosystem function: A case study of sensors, citizens, and cyberinfrastructure from Lake Sunapee, NH.

OOS 44 - Examining Bottom-up and Top-Down Forces: Bringing together Aquatic and Terrestrial Perspectives

15, Austin Convention Center

Organized by: TC Hanley (torrance.hanley@yale.edu), KJ La Pierre

Moderator: TC Hanley

We aim to bridge the gap between aquatic and terrestrial studies examining the interactive effects of bottom-up and top-down forces by discussing observational, experimental, and theoretical research conducted across a broad range of ecosystems, including grasslands, tundra, rivers, lakes, and salt marshes.

1:30 PM OOS 44-1 Flecker, AS1 and PB McIntyre2, (1)Cornell University, (2)University of Wisconsin. Consumers as ecosystem engineers in freshwater ecosystems: Linking top-down and bottom-up forces.

1:50 PM OOS 44-2 Eby, SL, Princeton University. The impact of burning on herbivore distributions: Examining the roles of bottom-up and top-down processes.

2:10 PM OOS 44-3 Hall, SR1, MP Holland2 and CE Cáceres3, (1)Indiana University, (2)University of Michigan, Ann Arbor, MI, (3)University of Illinois. Cutting the sick and the young: How predators, resources, and stage structure interact to spread disease in hosts.

2:30 PM OOS 44-4 Mooney, KA, RT Pratt and V Hanna, University of California. Plant mediation of tritrophic interactions.

2:50 PM OOS 44-5 La Pierre, KJ and MD Smith, Yale University. The interactive effects of bottom-up and top-down forces vary across a broad grassland productivity gradient.

3:10 PM Break

3:20 PM OOS 44-6 Gough, L, University of Texas at Arlington. Interactions between top-down and bottom-up factors in arctic tundra plant communities.

3:40 PM OOS 44-7 Pennings, S1 and BR Silliman2, (1)University of Houston, (2)University of Florida. Comparing aquatic and terrestrial top-down forces on a single intertidal plant.

4:00 PM OOS 44-8 Bartels, P1, J Cucheronneau2, K Steger1, P Eklöv1, LJ Tranvik1 and H Hillebrand3, (1)Uppsala University, (2)CNRS, UPS, ENFA, (3)University of Oldenburg. Ecology across boundaries: Reciprocal subsidies between aquatic and terrestrial ecosystems structure consumer-resource dynamics.

4:20 PM OOS 44-9 Bracken, MES1 and NHN Low2, (1)Northeastern University, (2)Brown University. Keystones from the bottom up: Loss of rare species disproportionately impacts higher trophic levels.

4:40 PM OOS 44-10 Donihue, CM1, RM Pringle2, J Foufopoulos1, LE McGeoch3 and C Rigonos4, (1)University of Michigan, (2)Stanford University, (3)University of California, Davis, (4)University of California. Interaction cascades in anthropogenic glades: Adding habitat heterogeneity in an otherwise homogenous landscape across multiple spatial scales and trophic levels.
OOS 45 - Aeroecology: An Emerging Discipline
16A, Austin Convention Center
Organized by: TH Kunz (kunz@bu.edu)
Moderator: TH Kunz

This session explores the emerging discipline of aeroecology by reviewing and synthesizing the ecological dynamics of organisms that depend on the aerosphere and innovative technologies for studying volant animals at multiple spatial and temporal scales.

1:30 PM  OOS 45-1  Arnett, E, Bat Conservation International. Impacts of wind-energy development on bats: Challenges and solutions.

1:50 PM  OOS 45-2  Chapman, JW, Rothamsted Research. Flight behaviors promote optimal migration trajectories in high-flying moths.

2:10 PM  OOS 45-3  Chilson, PB1, WF Frick2, JF Kelly3, K Howard4 and TH Kunz5, (1)University of Oklahoma, (2)University of California, Santa Cruz, (3)Ohio Biological Survey & University of Oklahoma, (4)NOAA-NWS-NSSSL, (5)Boston University. Radar aeroecology: The need for cohesive radar studies of organisms in the atmosphere.

2:30 PM  OOS 45-4  Frick, WF1, PB Chilson2, K Howard3, JF Kelly4 and TH Kunz5, (1)University of Oklahoma, (2)University of California, Santa Cruz, (3)Ohio Biological Survey & University of Oklahoma, (4)NOAA-NWS-NSSSL, (5)Boston University. Meteorological drivers of predator-prey interactions in the aerosphere.

2:50 PM  OOS 45-5  Hristov, N1, S Swartz2, MBetke3 and TH Kunz2, (1)Winston-Salem State University, (2)Brown University, (3)Boston University. Integrating novel technologies to understand the fight behavior of bats at different temporal and spatial scales.

3:10 PM  Break

3:20 PM  OOS 45-6  Kelly, JF1, JR Shipley2, WF Frick3, K Howard4, PB Chilson2 and TH Kunz5, (1)Ohio Biological Survey & University of Oklahoma, (2)University of Oklahoma, (3)Ohio Biological Survey & University of Oklahoma, (4)NOAA-NWS-NSSSL, (5)Boston University. Quantifying animal phenology in the aerosphere.

3:40 PM  OOS 45-7  Ruegg, KC, Center for Tropical Research. Connecting the dots in migratory songbird conservation using feathers, isotopes and genetic analysis.

4:00 PM  OOS 45-8  Ulanovsky, N1, R Nathan2, Y Bartan3, G Dell’Omo4, AL Vyssotski5, Y Yovel1 and A Tsoar3, (1)Weizmann Institute of Science, (2)The Hebrew University of Jerusalem, (3)Hebrew University of Jerusalem, (4)Ornis Italica, (5)ETH Zurich. Large-scale navigational map in a flying mammal: Evidence from GPS tracking of Egyptian fruit bats.

4:20 PM  OOS 45-9  Jedlicka, JA1, R Greenberg2 and DK Letourneau3, (1)University of California Santa Cruz, (2)Smithsonian Migratory Bird Center, (3)University of California-Santa Cruz. Asian conservation practices strengthen ecosystem services in California vineyards.

4:40 PM  OOS 45-10  Trakhtenbrot, A1, GGKatu1, and RNathan1, (1)The Hebrew University of Jerusalem, (2)Duke University. Mechanistic modeling of landscape heterogeneity effects on the dispersal of plant seeds by wind.

COS 105 - Behavior: Foraging and Diet
Ballroom F, Austin Convention Center

1:30 PM  COS 105-1  Rushmore, J1, SD Leonhardt2 and CM Drea3, (1)University of Georgia, (2)University of Würzburg. (3)Duke University. Sight or scent: Sensory reliance in detecting food quality by foraging lemurs reflects differing feeding ecologies.

1:50 PM  COS 105-2  Yeager, LA, CA Layman and CM Hammerschlag-Peyer, Florida International University. Foraging trade-offs of a generalist fish predator viewed from the landscape-scale.

2:10 PM  COS 105-3  Boucek, RE, and J Rehape, Florida International University. Resource partitioning among fish mesoconsumers along a marsh-mangrove ecotone: A response to a pulsed seasonal resource subsidy.

2:30 PM  COS 105-4  McMeans, BC, University of Windsor. Slow and stealthy? Evidence for individual differences in marine mammal consumption by Greenland sharks (Somniosus microcephalus) based on stable isotopes and fatty acids.

2:50 PM  COS 105-5  Snowberg, LK1, KM Hendrix2 and DI Bolnick1,
1:30 pm - 5 pm

(1) University of Texas at Austin, (2) New Deal High School. Evidence for population level variability in individual ecological specialization in the Three-spine Stickleback (Gasterosteus aculeatus).

3:10 PM Break


3:40 PM COS 105-7 Lattanzio, MS and DB Miles, Ohio University. Fire and the isotopic niche: Resource polymorphisms and phenotypic divergence among tree lizard populations in response to disturbance.

4:00 PM COS 105-8 Caillaud, D1, MC Crofoot2 and LA Meyers1, (1) The University of Texas at Austin, (2) Smithsonian Tropical Research Institute, Max Planck Institute for Ornithology Princeton University. Foliivores vie for abundant resources: How intrinsic and induced heterogeneities foster competition.

4:20 PM COS 105-9 Beaulieu, M and KW Sockman, University of North Carolina at Chapel Hill. Temporal trophic segregation between Lincoln’s sparrows and White-crowned sparrows in a high elevation habitat.

COS 106 - Abundance and Rarity

4, Austin Convention Center

1:30 PM COS 106-1 Grundel, R, KF Frohnaple and NB Pavlovic, US Geological Survey. Are avian abundance, diversity, and community composition explained by the same types of predictors?


2:10 PM COS 106-3 Miller-Struttmann, N, Washington University in St. Louis. Stress-adaptation and competition for pollinators in Ozark glade endemic plants.

2:30 PM COS 106-4 Dangremond, EM, University of California, Berkeley. Shade and salt tolerance of rare, common and invasive mangroves.

2:50 PM COS 106-5 Bradstreet, JL and DL Rogowski, Texas Tech University. Habitat associations of native and invasive snails in the San Solomon Springs complex.

3:10 PM Break

3:20 PM COS 106-6 Dexter, KG1 and J Chave2, (1) McGill University, (2) Centre National de la Recherche Scientifique. Phylogenetic signal for extinction risk in Amazonian trees.

3:40 PM COS 106-7 Pinsky, ML1, OP Jensen, D Ricard3 and SR Palumbi1, (1) Stanford University, (2) Rutgers University, (3) Dalhousie University. Unexpected patterns of fisheries collapse in the world’s oceans.

4:00 PM COS 106-8 Warren, CC1, JR Ott2 and FW Weckerly1, (1) Texas State University, (2) Texas State University-San Marcos. Behavioral components of detection underlying bias in population estimation of the golden-cheeked warbler, Dendroica chrysoparia.

4:20 PM COS 106-9 Ray, C1, K Swaezea2 and J Wilkening3, (1) University of Colorado-Boulder, (2) Arizona State University, (3) University of Colorado. Signs of demographic change and physiological stress in Rocky Mountain pikas.

COS 107 - Biogeochemistry: New Paradigms in Biogeochem Cycling I

5, Austin Convention Center

1:30 PM COS 107-1 Wieder, WR1, PG Taylor1, CC Cleveland2, D Nemergut3, L Philippot4 and AR Townsend5, (1) Institute of Arctic and Alpine Research, University of Colorado Boulder, (2) University of Montana, (3) University of Colorado, (4) INRA-Univeristé de Bourgogne, (5) University of Colorado, Boulder. Nitrogen cycling in wet tropical forests.

1:50 PM COS 107-2 Battenner, SA1, N Wurzburger2 and L Hedin1, (1) Princeton University, (2) University of Georgia. Nitrogen, phosphorus, and the biogeochemical niche of symbiotic di-nitrogen fixers in tropical rainforests.

2:10 PM COS 107-3 Wurzburger, N1 and LO Hedin2, (1) University of Georgia, (2) Princeton University. Stoichiometry of multiple soil nutrients controls leguminous nitrogen fixation in a tropical forest.

2:30 PM COS 107-4 Taylor, PG1, WR Wieder1, AR Townsend2 and CC Cleveland2, (1) Institute of Arctic and Alpine Research, University of Colorado at Boulder, (2) University of Colorado, Boulder, (3) University of Montana. Organic nitrogen loss dominates nitrogen export from a wet lowland tropical forest watershed.

2:50 PM COS 107-5 Morford, SL, BZ Houlton and RA Dahlgren, University of California, Davis. Bedrock nitrogen contributes to nitrogen fertility and carbon storage across temperate forest ecosystems.

3:10 PM Break

3:20 PM COS 107-6 Yang, WH1, KA Weber2 and WL Silver1, (1) University of California, Berkeley, (2) University of Nebraska. Nitrogen loss from upland soil via anaerobic ammonium oxidation coupled to iron reduction.

3:40 PM COS 107-7 Averill, C1 and AC Finzi2, (1) University of Texas at Austin, (2) Boston University. Using Rayleigh isotope equations to predict Foliar 15Nitrogen signatures and quantify form of plant nitrogen uptake across biomes.

4:00 PM COS 107-8 Houlton, BZ, University of California, Davis. Spatial couplings between nitrogen fixation and denitrification in the terrestrial biosphere: An earth system hypothesis.

4:20 PM COS 107-9 Brookshire, J1, S Gerber2, DNL Menge3 and LO Hedin3, (1) Montana State University, (2) Florida Institute of Food and Agriculture, (3) Princeton University. Large losses of inorganic nitrogen from tropical rainforests suggest a lack of nitrogen limitation.

4:40 PM COS 107-10 Keller, JK and C Anderson, Chapman University. The importance of humic reduction in anaerobic microbial carbon cycling in peatland soils.

COS 108 - Effects of Multiple Global Changes on Communities and Ecosystems

6A, Austin Convention Center

1:30 PM COS 108-1 Terry, RC1, C Li2 and EA Hadly2, (1) University of California Santa Cruz, (2) Stanford University. Predicting species responses to climatic warming: Autoecology, geographic range, and the holocene fossil record.


2:10 PM COS 108-3 Hall, EK1 and TJ Battin2, (1) United States Geological Survey, (2) University of Vienna. To flee or not to flee: The microbial response to changing temperature in a stream environment.

2:30 PM COS 108-4 Freitag, A1, M Hooper2 and D Rittschof1, (1) Duke University, (2) Hooper Seafood. The Geography of Toxins: Mercury and PCBs in the daily catch.
2:50 PM COS 108-5 Boersma, KS, MT Bogan and DA Lytle, Oregon State University. Top predators versus the abiotic environment: What determines community structure in arid-land streams?

3:10 PM Break

3:20 PM COS 108-6 Martone, RG, RW Markel and SJ Dick, University of British Columbia. Assessing the influence of a re-introduced keystone predator on ecosystem resilience: The indirect effects of sea otters on kelp forest food web structure moderates fishing impacts.

3:40 PM COS 108-7 Wragg, PD and D Tilman, University of Minnesota. Experimental warming and planting plant species diversity and composition interactively influence seedling establishment.

4:00 PM COS 108-8 Hines, J1, TJ Mozder2 and MO Gessner3, (1) EAWAG, (2)Smithsonian Environmental Research Center, (3)Leibniz Institute of Freshwater Ecology and Inland Fisheries. Ecosystem response to climate change varies across a latitudinal gradient.

4:20 PM COS 108-9 Fenstermaker, LF1, DA Devitt2, LS Saito3, JA Arnone III1, F Biondi4, BR Riddle2, MJ Walker3, RL Jason1, S Strachan8, B Bird2, G McCurdy1 and B Lyles1, (1)Desert Research Institute, (2)University of Nevada, Las Vegas, (3)University of Nevada, Reno, (4)University of Nevada. Monitoring climate variability and change along two elevation gradients in the Mojave and Great Basin Deserts.

4:40 PM COS 108-10 Concilio, AL and ME Loik, University of California. Effects of global change on elevation populations of Bromus tectorum in the eastern Sierra Nevada, CA.

COS 109 - Climate Change: Plants II

6B, Austin Convention Center

1:30 PM COS 109-1 Hagenah, N1, KP Kirkman1 and MD Smith2, (1)University of KwaZulu-Natal, (2)Yale University. Alterations in rainfall amounts change productivity but not competition of key grasses in southern Africa.

1:50 PM COS 109-2 Hoover, DL1, AK Knapp1 and MD Smith2, (1) Colorado State University, (2)Yale University. Differential sensitivity of co-dominant C4 grasses to increasing temperature and drought.

2:10 PM COS 109-3 Goklany, ME, BR Johnson, T Tomaszewski, L Pleifer-Meister and SD Bridgham, University of Oregon. How will climate change affect the productivity, physicality, and fitness of the invasive grass, agrostis capillaris L., in Pacific Northwest prairies?.

2:30 PM COS 109-4 Copeland, SM1, SP Harrison2 and El Damshcen3, (1)University of California, Davis, (2)University of California - Davis, (3)University of Wisconsin-Madison. Climate tolerance, range position, and soil fertility affects herbaceous species distribution across topographic microclimates.

2:50 PM COS 109-5 Malyshev, AV and HAL Henry, University of Western Ontario. Sub-lethal effects of freezing on growth and nitrogen uptake in Poa pratensis.

3:10 PM Break

3:20 PM COS 109-6 Mayfield, MM1, JM Dwyer2 and JM Levine3, (1)The University of Queensland, (2)The University of Western Australia, (3)University of California, Santa Barbara. Averting risk under variable climate conditions: Temperature cuing and seed bank reliance in native annual plant populations persisting along California’s climate gradient.

3:40 PM COS 109-7 Li, J1, Y Bai1, DR LeCain2, D Blumenthal2

and JA Morgan2, (1)University of Saskatchewan, (2) USDA-ARS. Multiple climate change treatments interact on germination thresholds of native and invasive species in the Mixed-grass Prairie.

4:00 PM COS 109-8 Munson, SM1, J Behnaf1, JA Hubbard2, RH Webb3, S Rutman2 and DE Swann2, (1)USGS - Southwest Biological Science Center, (2)National Park Service, (3)USGS. Forecasting climate change impacts to plant community composition in the Sonoran Desert.

4:20 PM COS 109-9 Katz, DW and I Ibanez, University of Michigan. Is the grass greener on the other side? Plant migration and natural enemy release.

4:40 PM COS 109-10 Whittington, HR, D Tilman and JS Powers, University of Minnesota. Phenology of grassland plants exposed to elevated temperature.

COS 110 - Community Pattern and Dynamics V

8, Austin Convention Center

1:30 PM COS 110-1 Warburton, HJ1, AR McIntosh1, PA McHugh2 and PG Jellyman, (1)University of Canterbury, (2)Oregon Department of Fish and Wildlife. Body mass-abundance relationships in stream ecosystems: The influence of habitat size on community structure and stability.

1:50 PM COS 110-2 Sullivan, L and WS Harpole, Iowa State University. Top-down and bottom-up effects on plant reproduction.

2:10 PM COS 110-3 Prugh, LR1 and J Brashares2, (1)UC Berkeley, (2)University of California, Berkeley. Partitioning the effects of an ecosystem engineer: Kangaroo rats control community structure via multiple pathways.

2:30 PM COS 110-4 Deiner, K1, B Hammock1, RA Knapp2, O Heiri3, A Sivasundar4 and B May5, (1)University of California, Davis, (2)Sierra Nevada Aquatic Research Laboratory, University of California, (3)University of Berne, Switzerland, (4)Institute of Ecology and Evolution, (5)University of California - Davis. Trophic filters in community phylogenetics: An analysis of fish predation on two aquatic midge metacommunities from the Swiss Alps and Sierra Nevada Mountain Range.

2:50 PM COS 110-5 Bardwell, JH, Baylor University. The covariant effects of microclimate and microhabitat factors on turtle basking behavior in Waco Creek, Texas.

3:10 PM Break

3:20 PM COS 110-6 Chamberlain, SA and KD Whitney, Rice University. Mutualist and antagonist arthropod communities of native plants are influenced by proximity to agricultural crops.


4:00 PM COS 110-8 Supp, SR, X Xiao, SKM Ernest and EP White, Utah State University. Experimentally altering biotic interactions has different effects on static and dynamic macroecological patterns.

4:20 PM COS 110-9 Sommers, P and P Chesson, University of Arizona. Predator avoidance behavior increases apparent competition.

4:40 PM COS 110-10 Barabás, G, R D’Andrea and AM Ostling, University of Michigan. Coexistence by virtue of similarity versus dissimilarity: The implications of nonsmooth competition kernels.
1:30 pm-5 pm
COS 111 - Food Webs I
9AB, Austin Convention Center

1:30 PM COS 111-1 Gravel, D¹, EF Canard², F Guichard³ and N Mouquet⁴, (1)Université du Québec à Rimouski, (2) Institut des Sciences de l'Évolution de Montpellier, (3)McGill University, (4)Université Montpellier 2, CNRS. Persistence increases with complexity in spatially structured food webs.

1:50 PM COS 111-2 Joppa, L¹ and RJ Williams², (1)Microsoft Research, (2)Microsoft Research Ltd.. Niche structure and nestedness in mutualistic and antagonistic bipartite networks.

2:10 PM COS 111-3 Stouffer, DB, Estación Biológica de Doñana - CSIC (Spain) and University of Canterbury (New Zealand). Understanding species' roles and dynamic importance in empirical food webs.

2:30 PM COS 111-4 Eklof, AC, University of Chicago. Relevance of evolutionary history for food web structure.

2:50 PM COS 111-5 Golubski, AJ¹ and M Pascual², (1)University of Michigan, (2)University of Michigan AND Howard Hughes Medical Institute. Community-wide consequences of modeling mutualistic benefits as more direct than they are.

3:10 PM Break

3:20 PM COS 111-6 Noble, AE¹ and A Hastings², (1)University of California, (2)University of California, Davis. Resilience and vulnerability in large nonlinear food webs.

3:40 PM COS 111-7 Shevtsov, J¹ and RC Rael², (1)University of Georgia, (2)University of Michigan. Indirect energy flows in model food webs: Effect of system size and connectance.

4:00 PM COS 111-8 Gendusa, TD, MC Wade and RD French, CDM. A case study: Caution when using food web models early in the ecological risk assessment process.


4:40 PM COS 111-10 Krumpins, JA¹, V Krumpins and WH van der Putten², (1)Montclair State University, (2)Rutgers University, (3)Netherlands Institute of Ecology. Modeling microbial communities in soil food webs.

COS 112 - Plant-Insect Interactions II
9C, Austin Convention Center

1:30 PM COS 112-1 Matiella, TJ, The University of Texas San Antonio. Effects of elevated carbon dioxide on milkweed and Monarch Butterfly larvae and adults.

1:50 PM COS 112-2 terHorst, CP and JA Lau, Michigan State University. Direct and indirect evolutionary effects alter ecological plant-herbivore interactions.

2:10 PM COS 112-3 Lehman, FR¹, JE Mohan¹, JM Melillo², JS Clark³ and CF Salk³, (1)University of Georgia, (2)Marine Biological Laboratory, (3)Duke University. Climate warming effect on Acer rubrum seedling susceptibility to foliar herbivory.

2:30 PM COS 112-4 Tariq, M¹, DJ Wright¹, TJIA Bruce² and JT Stealey³, (1)Imperial College London, (2) Rothamsted Research, (3)NERC Centre for Ecology and Hydrology. Drought modifies trophic interactions above and below ground.

2:50 PM COS 112-5 Zhang, S, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing, 100085, P. R, China. From canopy to forest floor: The impacts of ant-aphid mutualism on the ground arthropod community.

3:10 PM Break

3:20 PM COS 112-6 Del-Claro, K, AA Vilela and HM Torezan-Silingardi, Universidade Federal de Uberlândia. Antplant interactions: Migration in herbivore fauna and conditional outcomes related to plant sequential flowering.

3:40 PM COS 112-7 Quintero, C, University of Colorado at Boulder. The importance of plant ontogeny for tri-trophic interactions.

4:00 PM COS 112-8 Swope, SM, USDA ARS. Soil type mediates interactions in a plant-pathogen-seed predator system.

4:20 PM COS 112-9 Stephens, AEA and J Myers, University of British Columbia. Interacting natural enemies: Impact on the host plant.

4:40 PM COS 112-10 McMichael, CC¹, RA Ramirez II², SD Frank³ and MD Eubanks¹, (1)Texas A&M University, (2)Utah State University, (3)North Carolina State University. To lay or not to lay: Aphid induction effects on Spodoptera exigua oviposition preference.

COS 113 - Invasion: Community Effects I
10A, Austin Convention Center

1:30 PM COS 113-1 Brewer, JS, University of Mississippi. Increased disturbance-mediated competition between invasive and native plants: An unintended consequence of managing for increased species diversity.

1:50 PM COS 113-2 Brym, ZT¹ and I Ibanez², (1)Utah State University, (2)University of Michigan. Environmental and biotic controls on the invasion of the exotic shrub Elaeagnus umbellata in a temperate forest.

2:10 PM COS 113-3 Rojas-Sandoval, J¹, EJ Meléndez-Ackerman² and DS Fernandez¹, (1)Center for Applied Tropical Ecology and Conservation, (2)University of Puerto Rico, Rio Piedras, (3)University of Puerto Rico at Humacao. Vegetation community dynamics of a tropical semi-arid system following experimental removals of an exotic grass.

2:30 PM COS 113-4 Jordan, NR¹, L Aldrich-Wolfe², SC Huerd³, DL Larson³ and G Muehlbauer¹, (1)University of Minnesota, (2)Concordia College, (3)US Geological Survey. Effects of invasive and native grassland plant species on diversity and composition of associated communities of arbuscular mycorrhizal fungi.

2:50 PM COS 113-5 Stein, C¹, WS Harpole² and KN Suding¹, (1)University of California at Berkeley, (2)Iowa State University. Threshold dynamics in California grasslands: plant species effects moderate grazing effects to influence invasion success.

3:10 PM Break

3:20 PM COS 113-6 Oftinowski, R and PA Sinkins, Parks Canada. Legacies of exotic plant invasions on the northern prairies: Forty years after cattle grazing in Riding Mountain National Park, Manitoba.

3:40 PM COS 113-7 Powell, KI, JM Chase and TM Knight, Washington University in St. Louis. Synthesizing the effects of plant invasions on diversity at different spatial scales.

4:00 PM COS 113-8 Rubio, A, Texas A&M International University. Passive restoration potential of riparian ecosystems following the manual removal of invasive giant reed (Arundo donax).


4:40 PM COS 113-10 Yurkonis, KA¹, JA Newman² and H Maherali², (1)University of North Dakota, (2)University of Guelph. The source population dictates invasion and invasion impact in the Neotyphodium coenophialum - Festuca arundinacea model system.
Earth Stewardship: Preserving and enhancing earth’s life support systems

1:30 PM COS 114-1 Rasmussen, DA1, O Ratmann2 and K Koelle1, (1)Duke University, (2)Duke. Inferring the population dynamics of multi-strain pathogens from genealogies.

1:50 PM COS 114-2 Haas, SE1, MB Hooten2, DM Rizzo3 and RK Meentemeyer4, (1)University of North Carolina at Charlotte, (2)Colorado State University, (3)University of California Davis, (4)University of North Carolina, Charlotte. Landscape epidemiology of species diversity effects on disease risk in a multihost pathogen invasion.

2:10 PM COS 114-3 Springer, JC1, MT Chansler1, AL Davelos-Baines2 and AM Jarosz1, (1)Michigan State University, (2)University of Wisconsin-LaCrosse. Diversity of vegetative incompatibility groups in Michigan populations of the chestnut blight fungus, Cryphonectria parasitica, 1996 to 2009.

2:30 PM COS 114-4 Civitello, DJ1, JL Hite1, RM Penczykowski2 and SR Hall1, (1)Indiana University, (2)Georgia Institute of Technology. Potassium stimulates fungal epidemics in Daphnia.

2:50 PM COS 114-5 Srygley, R and ST Jaronski, USDA-ARS-NPARL. Adaptive melanism and immunity to fungal infection in the migratory grasshopper.

3:10 PM Break

3:20 PM COS 114-6 Eisenberg, M, The Ohio State University. Exploring cholera dynamics and transmission pathways using identifiability and parameter estimation: Applications to recent and ongoing outbreaks.

3:40 PM COS 114-7 Robertson, SL1 and IM Hamilton2, (1)Mathematical Biosciences Institute, (2)The Ohio State University. The effect of the risk of infectious disease on habitat selection.

4:00 PM COS 114-8 Cattadori, IM1, B Wagner1, L Wodzinski1, B Boag2, A Pathak1, AD Hernandez1 and A Poole1, (1)The Pennsylvania State University, (2)The James Hutton Institute. Strategies of tolerance and resistance in natural host-parasite interactions: an ecological approach.

4:20 PM COS 114-9 Kennedy, DA and G Dwyer, University of Chicago. The roles of multi-level selection and recombination in maintaining genetic diversity in an insect virus.

4:40 PM COS 114-10 Vuong, HB1, D Fonseca2, D Brisson3 and RS Ostfeld4, (1)Rutgers University/Cary Institute of Ecosystem Studies, (2)Rutgers University, (3)University of Pennsylvania, (4)Cary Institute of Ecosystem Studies. Infection prevalence of two vector-borne zoonotic pathogens in the tick vectors across a gradient of reported human incidence rates.


1:50 PM COS 116-2 Goswami, S1, JA Gamon2 and CE Tweedie3, (1)Systems Ecology Lab, University of Texas at El Paso, (2)University of Alberta, (3)University of Texas at El Paso. Surface hydrology of an arctic ecosystem: Multiscale analysis of a flooding and draining experiment using a new spectral index.

2:10 PM COS 116-3 Dahlin, KM1 and GP Asner2, (1)Stanford University, (2)Carnegie Institution. Plant species mapping using integrated airborne lidar and hyperspectral imagery across multiple functional groups.


2:50 PM COS 116-5 Pinto, N1, R Dubayah1, M Simard2, S Saatchi2, B Cook3 and P Siqueira4, (1)University of Maryland, (2)NASA Jet Propulsion Laboratory, (3)NASA Goddard Space Flight Center, (4)University of Massachusetts. Scaling up forest allometry with lidar and radar remote sensing.

3:10 PM Break

3:20 PM COS 116-6 Witté, IA, Centre for forest research, University of Quebec in Montréal. A picture is worth a thousand words: A new index of structural complexity to quantify the effects of management on forest structure.

3:40 PM COS 116-7 Gaughan, AE1, RM Holdo1 and TM Anderson2, (1)University of Missouri, (2)Wake Forest University. Quantifying tree cover in an African savanna using a multi-scale remote sensing approach.

4:00 PM COS 116-8 Henareh Khalyani, A, MJ Falkowski and AL Mayer, Michigan Technological University. Classification of Landsat images based on spectral and topographic variables for land cover change in Zagros forests.

**COS 117 - Population Dynamics: Metapopulations**  
18A, Austin Convention Center

1:30 PM COS 117-1 Jacobson, B and PR Peres-Neto, University of Quebec at Montreal. *The effects of density, habitat properties, and traits on habitat selection.*

1:50 PM COS 117-2 Ullmann, K1 and NM Williams2, (1)UC Davis, (2)University of California-Davis. *Population persistence in dynamic landscapes: The role of spatiotemporal connectivity.*

2:10 PM COS 117-3 Gilarranz, LJ and J Bascompte, Estación Biológica de Doñana, CSIC. *Spatial patterns of species interaction networks.*

2:30 PM COS 117-4 Simonis, JL, Cornell University. *Is dispersal a strong synchronizing force in predator-prey metapopulations? Insights from process-based modeling.*

2:50 PM COS 117-5 Nuñez, MC1, M Uriarte1 and JJ Armesto1, (1)CASEB-Pontificia Universidad Católica de Chile and Instituto de Ecología y Biodiversidad, (2) Columbia University. *Recruitment limitation and seed-mediated gene flow in the dioecious tree Aextoxicon punctatum in relict forest fragments in semiarid Chile.*

3:10 PM Break

3:20 PM COS 117-6 McKee, AM1, LL Smith2, JC Maerz3 and TC Glenn1, (1)University of Georgia, (2)Joseph W. Jones Ecological Research Center, (3)The University of Georgia. *Genetic population structure in two amphibian species with differing dispersal capabilities: Implications for metapopulation theory.*

3:40 PM COS 117-7 Ross, AA and S Travers, North Dakota State University. *Reproductive dynamics and population genetics of the Western Prairie Fringed Orchid.*

4:00 PM COS 117-8 Grey, E, CM Taylor, S Chiasson and M Bartleman, Tulane University. *Insights into Blue crab larval ecology from the Deepwater Horizon oil spill.*

4:20 PM COS 117-9 Fletcher, Jr., RJ, University of Florida. *The population consequences of spatial modularity: Insights from networks undergoing habitat destruction.*

4:40 PM COS 117-10 Van Allen, BG and VHW Rudolf, Rice University. *Natal habitat alters population dynamics in novel environments.*

**COS 118 - Paleoecology**  
18B, Austin Convention Center


1:50 PM COS 118-2 Samartin, S1, O Hein2 and W Tinner1, (1)University of Bern, Switzerland, (2)University of Berne, Switzerland, (3)University of Bern. *Chironomid-based environmental reconstructions in Italy and southern Switzerland using subfossil chironomid assemblages.*

2:10 PM COS 118-3 Ireland, AW and RK Booth, Lehigh University. *Hydroclimatic variability and basin morphology control terrestrialization in glacial kettles.*


2:50 PM COS 118-5 Wigdahl, CR and JE Saros, University of Maine. *Effects of ecological interactions on drought reconstructions from prairie lakes.*

3:10 PM Break

3:20 PM COS 118-6 Crawford, JN1, SA Mensing1, FK Lake2, C Skinner2 and S Zimmerman3, (1)University of Nevada, Reno, (2)U.S. Forest Service, Pacific Southwest Research Station, (3)CAMS, Lawrence Livermore National Lab. *The potential impacts of Native American land-use on fire regimes and forest structure in the Lower Klamath River Region, California.*

3:40 PM COS 118-7 Tweiten, MA1 and SC Hotchkiss2, (1)University of Wisconsin - Madison, (2)University of Wisconsin. *Generating sediment age chronologies from incomplete 210Pb radioisotope profiles: An application of Gibbs sampling to the untamed sediments of a Hawaiian tropical rainforest.*

4:00 PM COS 118-8 Crausby, SD and SC Hotchkiss, University of Wisconsin. *Dynamics of a tropical forest ecotone in Hawai'i are driven by changes in large scale climate features and fire.*

4:20 PM COS 118-9 Yorke, AL1, GS Robinson2, MG Egans3, RS Feranec4, A Kozlowski4, J Lothrop1, M Wilson3 and T Tareque5, (1)Oberlin College, (2)Fordham College at Lincoln Center, (3)Montclair State University, (4)New York State Museum, (5)South Bronx Preparatory High School, (6)Ossining High School. *Cervalces scotti and Mammut americanum: Recent finds of extinct Pleistocene fauna in Orange County, NY.*

**COS 119 - Restoration Ecology II**  
18C, Austin Convention Center

1:30 PM COS 119-1 Ruthrof, KK, TK Douglas, MC Calver, B Dell and GESJ Hardy, Murdoch University. *Novel nutrient sources and site preparation facilitate root growth and hence restoration success in degraded ecosystems.*


2:30 PM COS 119-4 Richardson, SC1, CE Palmer1, S Hughes1, EL Middleton2, JD Beyer2, PA Schultz2 and Z Yermakov3, (1)DePaul University, (2)Indiana University, (3)Chicago Parks Department. *Comparing the effectiveness of native and commercial arbuscular mycorrhizal fungi in establishing and colonizing plants in an urban prairie restoration.*

2:50 PM COS 119-5 Ord, RC1, DP Rokich2, SR Turner2, J Stevens1 and KW Dixon2, (1)Botanic Garden and Parks Authority / University of Western Australia, (2)Kings Park and Botanic Garden. *Restoring Banksia woodland communities after pine forestry in a biodiversity hotspot, Western Australia.*

3:10 PM Break

3:20 PM COS 119-6 Carter, DL, Kansas State University. *Species richness and seedling density affect plant community composition and response to simulated drought.*

3:40 PM COS 119-7 Collinge, SK1 and C Ray2, (1)University of Colorado, (2)University of Colorado-Boulder. *Reflections
on vernal pool plant community restoration: Three lessons from a long-term field experiment.

4:00 PM COS 119-8 Saielli, TM1, PG Schaberg2, GJ Hawley1, JM Halman1 and KM Gurney3, (1)University of Vermont, (2)USDA Forest Service, (3)The American Chestnut Foundation. Genetics and silvicultural treatment influence the growth and winter shoot dieback of American and Chinese chestnut seedlings grown in Vermont, USA.

4:20 PM COS 119-9 Knapp, BO1, JL Walker2 and GG Wang1, (1) Clemson University, (2)USDA Forest Service. Effects of longleaf pine restoration management on ground layer vegetation in existing loblolly pine forests of the southeastern United States.


COS 120 - Ecosystem Management

18D, Austin Convention Center


2:10 PM COS 120-3 Dowling, ZR1, PA Armbruster2 and PT Leinsham1, (1)University of Maryland, (2)Georgetown University. Linking resident knowledge, attitudes, and practices regarding mosquitoes to socioeconomic factors and vector control.


2:50 PM COS 120-5 Biederman, L, WS Harpole, DA Laird and E Heaton, Iowa State University. Biochar interacts with soil type to effect prairie community structure.

3:10 PM Break

3:20 PM COS 120-6 Shackelford, N1, RJ Hobbs1, M Renton1, K Brooks2 and M Perrings1, (1)University of Western Australia, (2)Department of Environment, (3)Biological diversity loss in kwongan heathland and the use of simulation modeling to assess management strategies.

3:40 PM COS 120-7 Takahashi, MK1, LM Horner1, T Kubota2, NA Keller1 and WG Abrahamson1, (1)Bucknell University, (2)Susquehanna University. Extensive clonal spread and longevity of saw palmetto (Serenoa repens) in a threatened ecosystem.

4:00 PM COS 120-8 Pitt, AL, RF Baldwin, BL Brown, JE Hawley and DJ Lipscomb, Clemson University. Functional versus geographic isolation of wetlands: Using organisms to indicate status.

4:20 PM COS 120-9 Sah, JP1, MS Ross1, PL Ruiz1 and JR Snyder2, (1)Florida International University, (2)US Geological Survey. Linking vegetation dynamics to hydrologic changes in the southern Everglades marl prairies.

4:40 PM COS 120-10 Lynch, RL, ML Casler and FJ Mazzotti, University of Florida. Landscape and hydrologic effects on anuran species in the Florida Everglades at multiple spatial scales.
PS 57-18 Vasconcelos, HL and RP Pacheco, Universidade Federal de Uberlândia. Land use change affects the abundance, species richness, and the predatory activity of ground-dwelling ants.

PS 56-13 Habeck, CW1, J Ledvina1, LA Brudvig2 and JL Orrock3, (1)Washington University, (2)Michigan State University, (3)University of Wisconsin - Madison. Controls over understory species richness within degraded remnants of longleaf pine woodland.

PS 58 - Invasion
Exhibit Hall 3, Austin Convention Center

PS 58-17 Mitchell, RM and JD Bakker, University of Washington. Plasticity in six species of native and exotic Asteraceae.

PS 58-16 Stacey, LM, University of Washington. Landscape factors that foster and hinder invasion of the Argentine ant (Linepithema humile) in Chile.

PS 58-15 Becerra, PI, Facultad de Agronomía e Ingeniería Forestal, Universidad Católica de Chile. Effect of the invasion by Pinus radiata on recruitment of native species in the Mediterranean region of Chile.

PS 58-14 Escherth, AK1 and JJ Battles2, (1)University of California, Berkeley, (2)University of California, Berkeley. The importance of quantifying propagule pressure to understand invasion dynamics.

PS 58-13 Barrios Garcia, MN1 and D Simberloff2, (1)University of Tennessee, (2)The University of Tennessee. Liking the pattern to the mechanism: How wild boar (Sus scrofa) promote plant invasion.

PS 58-12 Chambless, S and EG King, Princeton University. Plants behaving badly: Proliferation of a native succulent in Kenyan drylands.

PS 58-11 Steinmetz, J1, J Ludlam1, A Stoeckman1 and P Fernandez2, (1)Francis Marion University, (2)University of South Carolina Sumter. Potential impacts of an invasive zooplankton, Daphnia lumholtzi, on South Carolina Lakes.

PS 58-10 Shirk, RY1, JL Hamrick1, C Zhang2 and S Qian2, (1)University of Georgia, (2)Nanjing Agricultural University. Genetic diversity in native and invasive populations of an annual herb.


PS 59 - Invasion: Community Effects
Exhibit Hall 3, Austin Convention Center


PS 59-36 Barry, KJ and MR Dudash, University of Maryland. Competitor identity and age affect interactions between native and invasive plants.

PS 59-35 DiPhillippo, JB and GD Turner, West Chester University of Pennsylvania. Ectomycorrhizal colonization and diversity on red oaks are reduced in response to garlic mustard density and extracts.

PS 59-41 Simanongk, MP\textsuperscript{1}, CB Anderson\textsuperscript{1}, G Martinez Pastur\textsuperscript{2}, MV Lencinas\textsuperscript{2} and JH Kennedy\textsuperscript{3}, (1)University of North Texas, Denton, TX & Universidad de Magallanes, Punta Arenas, Chile, (2)Centro Austral de Investigaciones Científicas, (3)University of North Texas. A comparison of impacts from silviculture and North American beaver invasion on sub-Antarctic stream benthic macroinvertebrate community structure and function.

PS 59-42 Rodriguez-Cabal, MA, MN Barrios Garcia and NJ Sanders, University of Tennessee. Indirect effects of exotic ungulates disrupt a keystone seed-dispersal mutualism in the temperate forest of Patagonia.

PS 59-43 Kuebbing, SE, University of Tennessee. Location, Location, Location: The importance of site and microhabitat type when assessing impacts of invasive plant species.


PS 59-46 Amatangelo, KL\textsuperscript{1}, DF Sax\textsuperscript{1} and ST Jackson\textsuperscript{2}, (1)Brown University, (2)University of Wyoming. Shifting community composition and habit prevalence over three decades in a disturbed aquatic system.

PS 59-47 Sweet, LC and JS Holt, University of California, Riverside. Invasion of perennial exotic fountain grass (Pennisetum setaceum), in a Mediterranean scrub system.

PS 59-48 Shields, JM, MA Jenkins, MR Saunders and CE Zellers, Purdue University. Diversity and composition of ground-layer vegetation in Indiana mixed-hardwood forests invaded by the non-native Amur honeysuckle (Lonicera maackii (Rupr.) Herder).

PS 59-49 Hernandez, DL\textsuperscript{1}, JR Pasari\textsuperscript{2} and ES Zavaleta\textsuperscript{3}, (1)Carleton College, (2)University of California, (3)University of California, Santa Cruz. Interactive effects of grazing and nitrogen deposition on invasion in serpentine grasslands.

PS 60 - Invasion: Dynamics, Population Processes

Exhibit Hall 3, Austin Convention Center

PS 60-50 Smith, LM and HL Reynolds, Indiana University. Positive feedback may drive invasion by Euonymus fortunei.

PS 60-51 Labko, Y and LA Hyatt, Rider University. Effect of varying Alliaria petiolata populations on myrosinase and sinigrin concentration in field soils.

PS 60-52 Compagnoni, A and PB Adler, Utah State University. Climate warming and cheatgrass (Bromus tectorum) invasion in the Intermountain West.

PS 60-53 Kaproth, MA and J Molosky, University of Vermont. Investigating litter feedbacks on establishing invasive Phalaris arundinacea.

PS 60-54 Hovick, SM\textsuperscript{1}, LG Campbell\textsuperscript{1}, A Snow\textsuperscript{2} and KD Whitney\textsuperscript{1}, (1) Rice University, (2)Ohio State University. Hybridization in wild radish (Raphanus raphanistrum) alters early life-history traits and increases colonization success in a novel region.


PS 60-56 Allstadt, AJ\textsuperscript{1}, T Caraco\textsuperscript{2}, JA Newman\textsuperscript{3} and G Korniss\textsuperscript{4}, (1)University of Virginia, (2)University at Albany, (3)University of Guelph, (4)Rensselaer Polytechnic Institute. Kinetic roughening, spatial competition, and invasive advance: A field experiment.

PS 61 - Invasion: Ecosystem Processes

Exhibit Hall 3, Austin Convention Center

PS 61-57 Baty, JH\textsuperscript{1}, VT Eviner\textsuperscript{2}, K Rice\textsuperscript{3} and C Malmstrom\textsuperscript{4}, (1)UC Davis, (2)University of California Davis, (3)University of California, (4)Michigan State University. Does phenology of decomposition match phenology of plant growth in CA grasslands?


PS 61-59 Bray, SR\textsuperscript{1}, MA Arthur\textsuperscript{2}, RW McEwan\textsuperscript{3} and CR Kuchle\textsuperscript{2}, (1) Transylvania University, (2)University of Kentucky, (3) The University of Dayton. Accelerated leaf decomposition of an invasive shrub (Lonicera maackii) and its relationship to soil biota and leaf chemistry.

PS 61-60 Pieri, DS\textsuperscript{1}, LA Bailey\textsuperscript{2}, AW Wilson\textsuperscript{1}, DJ Larkin\textsuperscript{1} and LM Egerton-Warburton\textsuperscript{1}, (1)Chicago Botanic Garden, (2)Lake Forest College. The effects of invasive European buckthorn and restoration on microbial metabolic processes and fungai communities in an oak woodland.

PS 61-61 Portier, E, WH Yang and WL Silver, University of California, Berkeley. Pepperweed invasion increases nitrogen cycling rates in a managed grassland.

PS 61-62 Vinton, MA and L Rice, Creighton University. The role of light availability and soil resources on Juniperus virginiana (Eastern red cedar) invasion in tallgrass prairie.

PS 61-63 Long, MS\textsuperscript{1}, CM Littton\textsuperscript{1}, CP Giardina\textsuperscript{2} and JP Sparks\textsuperscript{1}, (1)University of Hawaii at Manoa, (2)USDA Forest Service, (3)Cornell University. Changes in soil-surface CO\textsubscript{2} efflux following nonnative feral pig (Sus scrofa) removal in Hawaiian tropical wet forest.

PS 61-64 Bozzolo, FH\textsuperscript{1}, D Lipson\textsuperscript{1} and J Franklin\textsuperscript{1}, (1)San Diego State University, (2)Arizona State University. Nitrogen assimilation pathways in native and exotic plant species.

PS 61-65 Hayes, SJ and RD Dartsche, Northern Kentucky University. Aquatic hypoxia mediated by the decomposition of alarchothonous leaf litter from the invasive shrub Amur honeysuckle (Lonicera maackii).

PS 61-66 Guney, C\textsuperscript{1}, LR Prugh\textsuperscript{1} and J Brashares\textsuperscript{2}, (1)UC Berkeley, (2)University of California, Berkeley. Biotic soil disturbance and foraging behavior function at different scales in explaining the keystone effect of an endangered rodent.

PS 62 - Invasion: Prevention and Management

Exhibit Hall 3, Austin Convention Center

PS 62-67 Poulos, L\textsuperscript{1}, BA Roy\textsuperscript{1} and B Thomas\textsuperscript{2}, (1)University of Oregon, (2)McKenzie River Ranger District. Fire and invasive species: The burning quest for truth.

PS 62-68 Zoellner-Kelly, DC and SJ Dewalt, Clemson University. Quantifying the response of Lonicera japonica and Albizia julibrissin to fragmentation in southeastern USA piedmont forests.


PS 62-71 Kirby, HE and KC Lubetkin, University of Puget Sound. Distribution and natural history of large invasive waterfowl in Texas: Mute Swan (Cygnus olor) and Egyptian Goose (Chloephaga melanoptera).

4:30 pm-6:30 pm

Sound. Responses of native and introduced plant species to sucrose addition in Puget lowland prairies.


PS 62-75 Holcombe, TR1, L Frid2, A Olsson3, K Bryan2, A Hall2 and JT Morisette1, (1)USGS Fort Collins Science Center, (2)ESSA Technologies Ltd., (3)Northern Arizona University. A decision support model for buffelgrass management in southern Arizona.

PS 62-76 Rogers, WE1, D Twidwell1, EA McMahon1, BR Thomas1, UP Kreuter1 and TL Blankenship2, (1)Texas A&M University, (2)Rob and Bessie Welder Wildlife Foundation. Using prescribed extreme fire for coastal prairie restoration: Effects on species richness and invasion.

PS 62-77 Ulrich, JL1, SN Miller1, KK Bohn1, M Thetford2 and EC Pierson1, (1)University of Florida, (2)University of Florida/Milton Campus. Effect of herbicide treatments on germination of Japanese climbing fern spores and survival of fern gametophytes.

PS 62-78 Ruiz-González, SP1, J Goluvovb2 and MDC Mandujano Sánchez1, (1)Instituto de Ecología, UNAM, (2)UAM-X. Demography of an invasive species (Kalanche delagoensis) in Northern Mexico.

PS 62-79 Shin, M, U Song and EJ Lee, Seoul National University. Mowing: Cause, but also a solution for invasive plant Erigeron annuus in a landfill.

PS 63 - Invasion: Species Interactions

Exhibit Hall 3, Austin Convention Center


PS 63-81 Glidden, LK1, S Gomez2, CM Orians1 and E Preisser2, (1)Tufts University, (2)University of Rhode Island. Are two invasive herbivores better than one? The role of starch.

PS 63-82 Burger, AC, GR Smith and JE Rettig, Denison University. Competition between invasive mosquitofish and native bluegill sunfish.

PS 63-83 Miller, EZ and JE Rettig, Denison University. Behaviors in groups: Measuring aggression between native bluegill (Lepomis macrourus) and invasive mosquitofish (Gambusia affinis).

PS 63-84 Schwartz, LM and DJ Gibson, Southern Illinois University. The competitive response of Panicum virgatum cultivars to non-native invasive species.

PS 63-85 Rand, T1, S Louda2, AR Kula3 and A Arnett4, (1)USDA-ARS Northern Plains Agricultural Research Laboratory, (2)University of Nebraska, (3)University of Maryland, (4)Unity College. Cross-scale assessment of the competitive effects of an invasive weevil on a native floral herbivore.

PS 63-86 Bhattacharai, GP1, LA Meyerson2, C Lee3 and JT Cronin1, (1)Louisiana State University, (2)The University of Rhode Island. Latitudinal gradients in the defense characteristics in an invasive plant, Phragmites australis, in North America.


PS 63-89 Barnes, EE and MF Hoopes, Mount Holyoke College. Survival and oviposition of monarch butterflies (Danaus plexippus) on invasive pale swallow-wort (Cynanchum rossicum) in Massachusetts.

PS 63-90 Gonda-King, LM and E Preissier, University of Rhode Island. Adelgid infestation increases foliar water content in eastern hemlock.

PS 63-91 Francis, JS and JL Horton, University of North Carolina at Asheville. Using dendroecology to determine the effect of Celastrus orbiculatus Thumb. (Oriental bittersweet) on Liriodendron tulipifera L. (tulip poplar) growth.

PS 63-92 Lieurance, DM and D Cipollini, Wright State University. The invasive shrub Lonicera maackii receives significantly less herbivory in the field than two native relatives: evidence for enemy release.

PS 63-93 Coykendall, KE and GR Houseman, Wichita State University. Facilitating invasion by altering soil conditions: Evidence from Lespedeza cuneata.

PS 63-94 Houseman, GR and DD Wixson, Wichita State University. Contrasting a native and invasive legume: Competitive effect on and response to sixteen native species.

PS 63-95 Lehrer-Brey, GL1, MS Korns2, J Carlson1 and MJ Vender Zanden2, (1)University of Wisconsin Madison. An interaction between the invasive round goby (Neogobius melanostomus) and native fishes across a gradient of round goby density.

PS 63-96 Kujawa, ER and MF Hoopes, Mount Holyoke College. An investigation of the below-ground properties of two Polygonum species: native Polygonum virgatum and non-native invasive Polygonum cuspidatum.


PS 64 - Land-Use and Land-Use History

Exhibit Hall 3, Austin Convention Center

PS 64-98 Shin, JH, Korea Forest Research Institute. The roles of geographical legends for conserving forest ecosystems in Korea.


PS 64-100 DeBano, SJ1, C Kimoto1, RV Taylor2, H Schmalz2, PL Kennedy1, T DelCurto1, S Wyffels1 and T Johnson1, (1)Oregon State University, (2)The Nature Conservancy, (3)University of Idaho. Differential effects of livestock grazing intensity on invertebrates in the Pacific Northwest Bunchgrass Prairie: Results of a large-scale manipulation.

PS 64-101 Guo, D, X Li and H Fu, Lanzhou University. Carbon mineralization potential in response to land use change.

PS 65 - Modeling

Exhibit Hall 3, Austin Convention Center

PS 65-102 Peirce, JP, GJ Sandland, C Sutter and RJ Haro, University of Wisconsin - La Crosse. Predicting the ecological outcomes of species invasions and parasite transmission in the upper Mississippi River.
Earth Stewardship: Preserving and enhancing earth’s life support systems


PS 65-104 Burgess, HR and S Townley, University of Exeter. Modelling the impacts of differing hurricane patterns on the reef-building coral Montastraea annularis.

PS 65-105 Kellett, KM and RP Shefferson2, (1)Odum School of Ecology, University of Georgia, (2)University of Georgia. Evaluating effects of stress on orchid populations with integral projection models.


PS 65-107 Kim, J1, J Ryu1, C Seo2, H Kwon1, J Suh1 and M Suh1, (1)National Institute of Environmental Research, (2)University of Seoul, (3)Seoul National University. Species distribution modeling using National Ecosystem Survey in Korea.

PS 65-108 Miller, CP1, A Lira Noriega2 and J Soberon3, (1)University of New Mexico, (2)University of Kansas, (3)Biodiversity Institute, Kansas University. Modeling of processes of a mistletoe population in the Southwestern United States.

PS 65-109 Encinas, MY, E Diaz and RA Desharnais, California State University, Los Angeles. Modeling the dynamics of disturbances in mussel beds.

PS 65-110 Palamara, GM1, G Dellus2, OL Petchey1, NT Worsfold3 and RJ Williams4, (1)University of Zurich, (2)University of York, (3)University of Sheffield, (4)Microsoft Research Ltd. Understanding the effect of predator functional response on time to extinction using stochastic models and microcosm experiments.

PS 65-111 Cyterski, M1 and S Zhang2, (1)U.S. Environmental Protection Agency, (2)University of Georgia. Temporal synchronization to improve empirical modeling of fecal indicator bacteria at a recreational beach.

PS 65-112 Cubeta, AB1, A Matthews2 and JM Gramling3, (1)College of Charleston, (2)College of Charleston, (3)The Citadel. A habitat characterization and suitability model for the endangered wetland plant Lindera melissifolia in the Southeastern Coastal Plain.

PS 65-113 Zemmerich, A1, DD Briske1, JR Kiniry2 and J Angerer1, (1)Texas A&M University, (2)USDA-ARS. Predicting plant compositional responses to grazing with a functional traits model.

PS 65-114 Carrillo-Rubio, E, S Morreale, J Lassoie, P Sullivan and E Cooh, Cornell University. Site occupancy models to assess the impact of human activities and identify important areas for biodiversity.

PS 65-115 Garcia, ES1, C Tague2 and JS Choate2, (1)University of California, Santa Barbara, (2)University of California, Santa Barbara. Streamflow responses to potential changes in coniferous forest species composition and climate warming in the Western U.S.

PS 65-116 Holmes, EE1, EJ Ward1, S Hampton2, M Scheuerr1, LP Scheef2 and DE Pendleton1, (1)Northwest Fisheries Science Center, (2)National Center for Ecological Analysis and Synthesis. Inferring community dynamics from time-series data using multivariate autoregressive state-space (MARSS) models: The effect of observation error and noise.

PS 65-117 Ventura, WA, University of Texas at Arlington. The Role of resting stages in population dynamics of harmful algae: A mathematical model.

PS 65-118 Ryu, J1, J Kim1, J Lee1, C Seo2, H Kwon3 and C Park3, (1)National Institute of Environmental Research, (2)University of Seoul, (3)Seoul National University. Spatial distribution and characteristics of endangered Korean Winter Hazel (Corylopsis gotoana var. Coreana Uyeki).

PS 65-119 Childs, EO1, G Savant2 and R McAdory1, (1)USACE Research and Development Center, (2)Dynamic Solutions LLC. Physics to planning: Numerical modeling in support of ecosystem restoration in estuaries.

PS 65-120 Giacomini, Sr., HC1 and M Petere Jr.2, (1)University of Toronto (post-doctoral fellow), (2)UNESP. Predicting species invasion success and impacts on individual-based modeled fish communities.

PS 65-121 Belshe, EP1, BM Bolker2, R Bracho1 and EAG Schuur1, (1)University of Florida, (2)McMaster University. Incorporating spatial variation to estimate carbon fluxes in a tundra landscape undergoing permafrost thaw.

PS 65-122 Stocking, JJ and TR Simons, North Carolina State University. From ProgramMARK to WinBUGS: Moving toward a hierarchical analysis of avian nest survival.

PS 65-123 Hunt, ND, University of Wisconsin Madison. Use of an ecosystem process model to evaluate the effects of residue removal on long-term soil fertility in Upper Midwest cropping systems.

PS 65-124 Elton, EE, University of Virginia. Forecasting the effect of ozone on mixed deciduous forests.

PS 66 - Biogeochemistry: Aboveground-Belowground Interactions

Exhibit Hall 3, Austin Convention Center

PS 66-125 Sánchez-de León, Y1, MA Gonzalez-Meler2, D Wise2, J Lugo-Pérez3 and R Norby1, (1)University of Puerto Rico at Utuado, (2)University of Illinois at Chicago, (3)Oak Ridge National Laboratory. Seasonal influence over earthworm populations exposed to long-term elevated atmospheric carbon dioxide in a sweetgum plantation.

PS 66-126 Foote, JA1, TW Boutton1 and DA Scott2, (1)Texas A&M University, (2)USDA Forest Service. Soil carbon storage and dynamics in the western Gulf Coastal Plain as impacted by forest management.

PS 66-127 Sookhdeo, C1, S Tepler2 and M Pavao-Zuckerman3, (1)Rider University, (2)Biosphere 2, University of Arizona, (3)University of Arizona. Short and long term environmental effects on N-mineralization rates in arid ecosystems of Biosphere 2.

PS 66-128 Pitz, S, K Szlavecz, L Xia, CH Chang, MJ Bernard, D Carlson, J Gupchup and P Houlihan, Johns Hopkins University. Soil respiration in an upland tropical rainforest.

PS 66-129 Lynch, HB, Stanford University. The effect of introduced canopy tree species in a tropical, wet, montane forest on the taxonomic diversity and abundance of microbial communities.

PS 66-130 Kantola, IB1, TW Boutton1, TR Filley2 and CT Hallmark1, (1)Texas A&M University, (2)Purdue University. Changes in soil C, N, and P storage following woody plant invasion of grassland.


PS 66-132 Chang, C1, MJ Bernard1, K Szlavecz1, N Bray1, MK McCormick2, L Xia1, S Pitz1, DF Whigham2 and J O’Neill2, (1)Johns Hopkins University, (2)Smithsonian Environmental Research Center. The effects of forest age, earthworm abundance, and leaf litter types on mesofauna and soil properties in Mid-Atlantic deciduous forests.

PS 66-133 Bae, K1, RD Yanai2, TJ Fahey3 and MC Fisk4, (1)SUNY-ESF, (2)SUNY College of Environmental Science and Forestry, (3)Seoul National University, (4)University of Michigan. The effects of forest age, earthworm abundance, and leaf litter types on mesofauna and soil properties in Mid-Atlantic deciduous forests.

4:30 pm-6:30 pm

THURSDAY
THURSDAY

4:30 pm-6:30 pm


PS 66-134 Macfall, JS and DN Whitman, Elon University. Enzyme activity in hyporheic soils of Piedmont streams.

PS 67 - Biogeochemistry: Atmospheric N Deposition Effects
Exhibit Hall 3, Austin Convention Center


PS 67-136 Bettez, ND and PM Groffman, Cary Institute of Ecosystem Studies. Nitrogen deposition along an urban-rural land-use gradient in Baltimore, MD.

PS 67-137 Midgley, MG and RP Phillips, Indiana University. Towards an improved understanding of forest ecosystem responses to N deposition: Do mycorrhizal associations matter?

PS 67-138 Reyes, JJ1, JC Adam1, C Tague2, JS Choate2, JK Vaughan1, SH Chung1 and BK Lamb1, (1)Washington State University, (2)University of California, Santa Barbara. Building a biosphere-relevant Earth system modeling framework: Modeling impacts of atmospheric nitrogen deposition on the terrestrial biosphere.

PS 67-139 Cook, EM1, SJ Hall1, RA Sponseller2, DP Huber3, S Earl1 and NB Grimm1, (1)Arizona State University, (2)Swedish University of Agricultural Sciences, (3)Colorado State University. Atmospheric nitrogen deposition in arid Phoenix, Arizona: A comparison of sampling methods.


PS 68 - Biogeochemistry: Biogeochemical Patterns Along Environmental Gradients
Exhibit Hall 3, Austin Convention Center

PS 68-141 Mascaro, J1, GP Asner1, HC Muller-Landau2, M van Breugel2, J Hall2 and KM Dahlin2, (1)Carnegie Institution for Science, (2)Smithsonian Tropical Research Institute, (3)Stanford University. Controls over aboveground forest carbon density on Barro Colorado Island, Panama.

PS 68-142 Morse, JL1, PM Groffman1 and SW Bailey2, (1)Cary Institute of Ecosystem Studies, (2)USFS. Landscape and hillslope controls over soil biogeochemical properties in a northern hardwood forest.

PS 68-143 Xia, K and MA Williams, Mississippi State University. Soil organic nitrogen speciation during 4000-year of soil and ecosystem development: Nitrogen K-edge XANES spectroscopy study.

PS 68-144 Williams, RJ, SK Hargreaves, TM Isenhart, LA Schulte and KS Hofmockel, Iowa State University. The effect of landscape and cropping system on greenhouse gas emissions in an agro-ecosystem.

PS 68-145 Eisenhut, NM, R Ye, BJM Bohannan, Q Jin and SD Bridgham, University of Oregon. The effects of pH on carbon mineralization to CO2 and CH4 in peatlands across an ombrotrophic-minerotrophic gradient.

PS 68-146 Baas, P1, J Mohan1, D Markewitz2 and JD Knoepp3, (1)University of Georgia, (2)The University of Georgia, (3)USDA Forest Service Southern Research Station. Utilization of watershed scale soil moisture and C/N dynamics: Possibilities for quantifying nitrogen cycling “hotspots”.

PS 68-147 Becknell, JM and JS Powers, University of Minnesota. Biomass and forest structure across topographic position in a Costa Rican secondary tropical dry forest.

PS 68-148 Ontl, TA1, CA Cambardella2, LA Schulte3 and RK Kolka3, (1)Iowa State University, (2)USDA-Agricultural Research Service, (3)USDA Forest Service, North Central Research Station. Differences in soil aggregation and particulate organic matter pools across landscape positions in an agroecosystem.


PS 68-150 Enders, SK and BZ Houlton, University of California, Davis. Isotopic evidence for shifts in N cycling across rain/snow transitions in the Sierra Nevada.

PS 68-151 Sackett, L1, K Teal1, SR Whitehead1, I Schwartz2, DM McKnight1, DH Wall3 and RA Virginia4, (1)University of Colorado, (2)Casey Middle School, (3)Colorado State University, (4)Dartmouth College. Spatial heterogeneity of biogeochemistry and respiration in exposed and subnivian soils in McMurdo Dry Valleys, Antarctica.

PS 68-152 Méndez, CL1, MC Moreno1, JI San José1, RA Montes Sr.2, JV Montoya1 and J Paolini1, (1)Instituto Venezolano de Investigaciones Científicas, (2)Universidad Simón Bolívar. Anthropogenic water drawdown and carbon accumulation mediates by soil aggregates in ecotones (Morichales) of the Orinoco lowland.

PS 69 - Biogeochemistry: C and N Cycling In Response to Global Change
Exhibit Hall 3, Austin Convention Center


PS 69-156 Rothfuss Dair, B1, CR Levine2 and MC Fisk3, (1)Swarthmore College, (2)SUNY College of Environmental Science and Forestry, (3)Miami University of Ohio. Carbon and nitrogen mineralization in soil microcosms from a northern hardwood forest show no response to phosphorous additions.


PS 69-158 Auyeung, DSN and JS Dukes, Purdue University. Responses of nitrogen cycling and ammonia oxidizers to warming and altered precipitation in an old-field ecosystem.

PS 69-159 Araujo, PI and AT Austin, University of Buenos Aires and IFEV A-CONICET. Pine afforestation alters carbon cycling and pools along a precipitation gradient in Patagonia, Argentina.

PS 69-160 Welsch, DL, SJ Deacon and JT Saville, Canaan Valley Institute. Hydrological and temperature controls on fluxes of CO2 and CH4 from an Appalachian peatland.

PS 69-161 Stark, JM, Utah State University. Mechanisms for seasonal fluctuations in net and gross N mineralization and immobilization in a sagebrush ecosystem.
PS 71-175 Hsu, S\textsuperscript{1} and DH Buckley\textsuperscript{2}, (1)Kent State University, (2) Cornell University. Quantifying the relative contributions of diazotrophic community composition and soil characteristics on nitrogen fixation rates.

PS 71-176 Chattopadhyay, S\textsuperscript{1}, KD McConnaughay\textsuperscript{2}, ML Haddix\textsuperscript{3}, R Conant\textsuperscript{1}, SJ Morris\textsuperscript{2}, EA Paul\textsuperscript{3} and CB Blackwood\textsuperscript{1}, (1) Kent State University, (2)Bradley University, (3)Colorado State University. Tag encoded pyrosequencing reveals shift in microbial community structure in Midwest soil under different agricultural and restoration treatments affecting carbon sequestration.

PS 71-177 Jondreau, GP, MP Jarvi and AJ Burton, Michigan Technological University. Influence of root biomass and specific respiration rates on variation in ecosystem level fine root respiration among forest types.

PS 71-178 Davinic, M\textsuperscript{1}, J Moore-Kucera\textsuperscript{1}, L Fultz\textsuperscript{1}, S Dowd\textsuperscript{2}, V Acosta-Martinez\textsuperscript{3}, SB Cox\textsuperscript{1} and V Allen\textsuperscript{1}, (1)Texas Tech University, (2)Research and Testing Laboratory, (3)Texas A&M University. Pyrosequencing-based assessment of soil bacterial communities within soil aggregates: Linking structure to C storage.

PS 71-179 Welte, JR\textsuperscript{1}, PC Furey\textsuperscript{1}, JA Cormier\textsuperscript{1}, AJ Rosendahl\textsuperscript{1}, BL Weigel\textsuperscript{2} and GM Wilkinson\textsuperscript{3}, (1)St. Catherine University, (2)St. Olaf College, (3)University of Virginio. Abiotic and biotic constraints on nitrogen fixation and producer species assemblages in an N-limited river ecosystem.

PS 71-180 Brewer, PE\textsuperscript{1}, DJ Augustine\textsuperscript{3}, DM Blumenthal\textsuperscript{2} and J von Fischer\textsuperscript{1}, (1)Colorado State University, (2)USDA-ARS. Impacts of fire and vegetation on resource distribution and microbial nitrifier communities in an semiarid grassland ecosystem.

5 pm-6:30 pm

Musicians Central
Registration Lobby, Austin Convention Center

8 pm-10 pm

An Austin Night for Nature
ACL Moody Theater

Ticket $15 ONLY includes the concert—No food or drinks included—MUST wear ESA Badge

Learn the meaning of “Live Music Capital of the World” by attending the ESA concert, organized by music lovers for music lovers. This is NOT COUNTRY MUSIC!! Listen to 3 local bands: Alejandro Escovedo and The Sensitive Boys (Rock, Roots Rock, Acoustic); Carolyn Wonderland (Blues, Americana); and Hendrix and Maines (Americana, Roots Rock, Folk). Come and hear this concert at the NEW home of the Austin City Limits located only a few blocks from the Austin Convention Center. Experience Austin at its best!!
Friday, August 12

Field Trips, Business Meetings, and Receptions

8 am-10:30 am

ESA Governing Board
Austin Suite, Austin Convention Center

11:30 am-1 pm

ESA Buell/Braun Student Award Committee Meeting
Austin Suite, Austin Convention Center

11:30 am-1:15 pm

PL 4 - ESA Closing Plenary
19A, Austin Convention Center

11:30 am-1:30 pm

ESA Musicians Central
Registration Lobby, Austin Convention Center

Friday Sessions

8 am-10:30 am

ESA Governing Board
Austin Suite, Austin Convention Center

8 am-11:30 am

SYMP 22 - Global Perspectives of Earth Stewardship
Ballroom E, Austin Convention Center

Organized by: RA Dyball, E Ellis, A Freitag
Endorsed by: Human Ecology
Moderator: RA Dyball

The symposium is intended to present insights from the social sciences that are crucial for ecologists and others who are advocating global attitudinal and behavioral change to understand.

8:00 AM SYMP 22-1 Lovejoy, T, George Mason University & Heinz Center for Science, Economics and the Environment. The imperative for planetary management.


8:40 AM SYMP 22-3 Fantini, A and A Siminski, Universidade Federal de Santa Catarina. Problems, problematic situations and plural perspectives: Conciliating collective interests through wise forest stewardship.

9:00 AM SYMP 22-4 Wyborn, C, Australian National University. Engaging with earth stewardship.

9:20 AM Break


9:50 AM SYMP 22-6 Borden, R, College of the Atlantic. Getting to the good life: Reflections on the psychological dimensions of a livable future?

10:10 AM SYMP 22-7 Ellis, EC, University of Maryland Baltimore County. Globalizing local thinking to support earth stewardship.

10:30 AM Discussion

SYMP 23 - The Role of Soil Microbial Communities in Ecosystem Responses to Global Climate Change: Developing Predictive Tools for Impacts and Feedbacks that Facilitate Adaptation and Mitigation Strategies
Ballroom F, Austin Convention Center

Organized by: C Hawkes, BA Sikes
Endorsed by: Soil Ecology, Microbial Ecology (To be considered)
Moderator: BA Sikes

In this symposium, we will address the mechanistic links between soil microbial responses and ecosystem responses to climate change in order to make progress on an integrated predictive framework that can be used to develop mitigation and adaptation strategies for societal responses to climate change.

8:00 AM SYMP 23-1 Hawkes, C, University of Texas, Austin. Soil microbial responses to altered environmental conditions: Understanding both patterns and mechanisms toward developing a predictive framework.

8:20 AM SYMP 23-2 Lilleskov, EA1, H Wei2, VA Robert3 and O Gallinging2, (1)US Forest Service, Northern Research Station, (2)Michigan Technological University, (3)Centralbueau voor Schimmelcultures. Can we use phylogeny and rRNA secondary structure to predict microbial community metabolic response to changing temperature?

8:40 AM SYMP 23-3 Treseder, KK1, SN Kivlin1, SD Allison1 and KL McGuire2, (1)University of California, Irvine, (2)Barnard College. How do microbial responses to global change influence ecosystem carbon cycling?

9:00 AM SYMP 23-4 Brodie, EL and NJ Bouskill, Lawrence Berkeley National Laboratory. How can soil microbial biogeography improve our ability to predict soil responses to climate change?

9:20 AM Break

9:30 AM SYMP 23-5 Billings, SA1, S Ziegler2, J Li1 and C Lane3, (1)University of Kansas, (2)Memorial University, (3)University of North Carolina at Wilmington. Nitrogen as a mediator of soil organic matter decomposition in a changing climate: Linking stable isotopes, organic geochemistry, and microbial ecology.

9:50 AM SYMP 23-6 Herrera, J1, A Porras-Alfaro2, R Sinsabaugh3 and SL Collins3, (1)Truman State University, (2)Western Illinois University, (3)University of New Mexico. Threshold models for how pulse dynamics affect microbial responses to climate change in arid ecosystems.

10:10 AM SYMP 23-7 Sudderth, EA1, KM Byrne2, L Gherardi3, LG Reichmann3, SA Placella4, DJ Herman5, SB St. Clair5, PB Adler6, MK Firestone7, MS Torn7, DD Ackerley4 and OE Sala3, (1)Brown University, (2)Colorado State University, (3)Arizona State University, (4)University of California, (5)Brigham Young University, (6)Utah State University, (7)Lawrence Berkeley National Laboratory. How do linked plant-soil processes affect ecosystem responses to climate change?

10:30 AM SYMP 23-8 Classen, A1, EE Austin1, VA Brown1, JAM Bryant1, A Buchan1, H Castro1, MA Cregger1, MA de Graaff2, P Kardol3, TE Sackett4 and L Souza1, (1)The University of Tennessee, (2)Boise State University,
SYMP 24 - Population-Level Effects of Acoustic Disturbance on Marine Mammals
Ballroom G, Austin Convention Center
Organized by: E Fleishman (efleishman@ucdavis.edu), DP Costa, J Harwood, P Tyack, M Weise
Moderator: E Fleishman
Recent theoretical and empirical work has substantially improved our understanding of the population-level effects of multiple sources of disturbance, including sound, on marine mammals. The work presented will inform research, management, and projections of responses of marine mammals to alternative scenarios of natural and anthropogenic environmental change.

8:00 AM SYMP 24-1 Weise, M, Office of Naval Research. Relevance to agencies and industry of effects of sound on populations of marine mammals.

8:15 AM SYMP 24-2 Harwood, J1, DP Costa2, P Tyack3 and M Weise4, (1)University of St Andrews, (2)University of California Santa Cruz, (3)Woods Hole Oceanographic Institution, (4)Office of Naval Research. A conceptual framework for evaluating the effects of sound on marine mammals.

8:30 AM SYMP 24-3 Thomas, L1, JS Clark2 and J Harwood1, (1)University of St Andrews, (2)Duke University. Translating conceptual to parameterized models for multiple taxonomic groups.

9:00 AM SYMP 24-4 Costa, DP1 and L Schwarz2, (1)University of California Santa Cruz, (2)Department of Biology, University of California Santa Cruz. Environmental variation and experimental manipulation as proxies for disturbance in elephant seals.

9:30 AM Break

9:40 AM SYMP 24-5 New, L1, C McMahon2 and M Hindell3, (1)University of St Andrews, (2)Charles Darwin University, (3)University of Tasmania. Relations among foraging disturbances to foraging, and vital rates in southern elephant seals.

9:55 AM SYMP 24-6 Lusseau, D1, R Williams2, F Christiansen1 and L Bejder3, (1)University of Aberdeen, (2)University of St Andrews, (3)Murdoch University. Population consequences of whalewatching disturbances on cetaceans.

10:25 AM SYMP 24-7 Schick, R1, S Kraus2, R Rolland2, P Hamilton2, P Cokeron3, C Clark4 and JS Clark1, (1)Duke University, (2)New England Aquarium, (3)NOAA, (4)Bioacoustics Research Program, Cornell Laboratory of Ornithology. Potential effects of acoustic disturbance on foraging behavior, body condition, and demography in North Atlantic right whales.

10:55 AM SYMP 24-8 Moretti, D1, N DiMarzio1, E McCarthy1, A Dilley1, R Morrissey1, J Ward1, S Jarvis1 and L Thomas2, (1)NUWC, (2)University of St. Andrews. Population Level Effects of Mid-Frequency Active (MFA) sonar on Blainville’s (Mesoplodon densirostris) and Cuvier’s (Ziphinus cavirostris) Beaked Whales on U.S. Navy Ranges.

11:10 AM Discussion

OOS 46 - Modeling Bioenergy Production Impacts across Scales: Implications for Environmental Sustainability
16B, Austin Convention Center
Organized by: RC Izaurralde (cesar.izaurralde@pnl.gov)
Moderator: WM Post III
This session includes presentations and discussion on the modeling of environmental impacts of bioenergy production at the field to regional scales.

8:00 AM OOS 46-1 Zhang, X1, RC Izaurralde1, D Manowitz1, TO West1, WM Post2, AM Thomson1, P Bandaru1, J Nichols2 and J Williams3, (1)Pacific Northwest National Laboratory, (2)Oak Ridge National Laboratory, (3)AgriLIFE Research. SEIMP: A spatially-explicit integrative modeling framework to evaluate the productivity and sustainability of biofuel crop production systems.

8:20 AM OOS 46-2 Kang, S1, WM Post III, J Nichols1, D Wang1, C Izaurralde2, TO West2, P Bandaru2, X Zhang2, D Manowitz2 and AM Thomson2, (1)Oak Ridge National Laboratory, (2)Joint Global Change Research Institute. Delineating a hierarchical definition of marginal land using simulation results.

8:40 AM OOS 46-3 Parton, WJ1, SC Davis2, S DelGrosso3, PR Adler4 and EH DeLucia4, (1)Colorado State University, (2)University of Illinois, (3)USDA/ARS, (4)USDA-ARS. University of Illinois at Urbana-Champaign. Ecological modeling of bioenergy production systems using DayCent.

9:00 AM OOS 46-4 Manowitz, D and RC Izaurralde, Pacific Northwest National Laboratory. Modeling production, net greenhouse gas emissions, and related environmental impacts of bioenergy systems at plot scale.

9:20 AM OOS 46-5 Song, Y1, P Meiyappan1, M Liang2, A Jain1, M Khanna1 and H Huang1, (1)University of Illinois, (2)China Meteorological Administration. An integrated biogeochemical, biophysical, and economic analysis of bioenergy crops.

9:40 AM Break

9:50 AM OOS 46-6 Egbendewe-Mondzozo, A1, SM Swinton1, C Izaurralde2, D Manowitz2 and X Zhang2, (1)Michigan State University, (2)Joint Global Change Research Institute, (3)Pacific Northwest National Laboratory. Biomass supply from alternative cellululosic crops, and crop residues: A watershed scale bioeconomic modeling approach.

10:10 AM OOS 46-7 Eranki, PL, BD Bals and BE Dale, Biomass Conversion Research Laboratory, Chemical Engineering Michigan State University. Sustainability of biofuel crop production systems.


OOS 47 - From Leaf to Biosphere: The Effects of a Warming Climate on Tropical Rain Forests
17A, Austin Convention Center
Organized by: TE Wood (tana@berkeley.edu), MA Cavaleri, SC Reed
Moderator: TE Wood
Together these talks will provide a comprehensive exploration of how tropical forests are currently responding to temperature increases, and will help with predictions of how these forests may respond in the future by highlighting key factors controlling their response.
8 am-11:30 am

8:00 AM  OOS 47-1  Dixon, D1, AP Smith2 and TC Balser3, (1) University of Wisconsin, Madison, (2)University of Wisconsin-Madison. Tropical soil microbial community response to experimental warming.

8:20 AM  OOS 47-2  Craine, JM, Kansas State University. Carbon quality controls over the temperature sensitivity of soil respiration in the tropics.


9:00 AM  OOS 47-4  Cunningham, SC and J Read, Monash University. Physiological clues to the responses of tropical rainforest trees to a warming climate.

9:20 AM  OOS 47-5  Russell, AE1, WJ Parton2 and SF Oberbauer3, (1)Iowa State University, (2)Colorado State University, (3)Florida International University. Modeling the complex effects of climatic variation on tropical rainforest carbon cycling.

9:40 AM  Break


10:10 AM  OOS 47-7  Ryan, MG, USDA Forest Service. Higher temperatures and tropical tree physiology: The known unknowns.

10:30 AM  OOS 47-8  Wood, TE1, MA Cavaleri2 and SC Reed3, (1)University of California - Berkeley, (2)Michigan Technological University, (3)USGS. Tropical forest carbon balance in a warmer world: A critical review spanning microbial- to ecosystem-scale processes.

10:50 AM  OOS 47-9  Vourlitis, GL1, FDA Lob2, PA Zelhhofer3 and JDS Nogueira2, (1)California State University, (2)Universidade Federal de Mato Grosso, (3)Programa de Pós-Graduação em Física Ambiental. Temporal patterns of net CO2 exchange for a tropical semi-deciduous forest of the southern Amazon Basin.

11:10 AM  OOS 47-10  Schnitzer, SA1 and F Bongers2, (1)University of Wisconsin - Milwaukee, (2)Wageningen University. Increasing liana abundance and biomass in tropical forests: Emerging patterns and putative mechanisms.

OOS 48 - Ecohydrology of Shallow Soil Communities and of Roots in Rocks

17B, Austin Convention Center

Organized by: S Schwinning (schwinn@txstate.edu), GW Moore, JL Hellman, P Poot, MC Duniyaw, KT Rebel
Moderator: S Schwinning

The symposium will a) feature case studies from four continents demonstrating the hydrologic contribution of water storage in weathered bedrock and cemented horizons, b) examine the nature of plant adaptations to such substrates, and c) propose avenues for more accurately representing these ecosystems in hydrological models.

8:00 AM  OOS 48-1  Estrada-Medina, H1, RC Graham2, M Allen3, W Tuttle4, LS Santiago5 and JJ Jimenez-Osorno1, (1)Universidad Autonoma de Yucatan, (2)University of California, Riverside, (3)University of Colorado Riverside, (4)Na onal Soil Survey Center, (5)University of California. Subsurface features: Beyond shallow soils in Yucatan.

8:20 AM  OOS 48-2  Helman, JL1 and ME Litvak2, (1)Texas A&M University, (2)University of New Mexico. Shallow soil constraints on ecohydrological processes in limestone karst ecosystems of the Edwards Plateau, TX.

8:40 AM  OOS 48-3  Egerton-Warburton, L1, JI Quezajerta2 and M Allen3, (1)Chicago Botanic Garden, (2)Centro de Edafologia y Biologia Aplicada del Segura (CEBAS-CSIC), (3)University of California Riverside. Differences in depth to groundwater modulates the mycorrhizal responses of oak trees to interannual rainfall variability.

9:00 AM  OOS 48-4  Graham, RC, University of California, Riverside. Water relations and ecosystem function of weathered granitic bedrock.

9:20 AM  OOS 48-5  Poot, P and H Lambers, The University of Western Australia. Adaptive advantages and constraints of a specialized root system morphology: A review of case studies from shallow-soil communities in Mediterranean SW Australia.

9:40 AM  Break

9:50 AM  OOS 48-6  Eggemeyer, KD and S Schwinning, Texas State University. Contrasting responses of seedling development to soil barriers in two woody encroachers.

10:10 AM  OOS 48-7  Duniyaw, MC1, JE Herrick2, C Monger3, DM Browning4, K Snyder5 and DPC Peters2, (1) USDA-ARS Jornada Experimental Range, (2)USDA Agricultural Research Service, (3)New Mexico State University, (4)USDA Agriculture Research Service, (5) USDA, Agricultural Research Service. Ecolohydrology of petrocalcic horizons: Water storage, ecological potential, and hydrologic models.

10:30 AM  OOS 48-8  Rebel, KT1, GW Moore2, S Schwinning3 and RJ Elkington1, (1)Utrecht University, (2)Texas A&M University, (3)Texas State University. Modeling shallow-soil communities: Opportunities and Challenges.

10:50 AM  OOS 48-9  Moore, GW and JL Hellman, Texas A&M University. Transpiration: Whether it varies with land-use change or not, and why.

OOS 49 - The Fire-Grazing Interaction: An Integral Ecosystem Process

12A, Austin Convention Center

Organized by: BW Allred, SL Eby
Moderator: BW Allred

Fire-grazing interactions are ecological processes that have a defining role in grasslands, savannas, and woodlands; they are critical to the conservation and stewardship of these landscapes.
Earth Stewardship: Preserving and enhancing earth's life support systems

8:00 AM OOS 49-1 Fuhldendorf, SD, BW Allred, DM Engle and D Elmore, Oklahoma State University. Pyric Herbivory: The fire-grazing interaction as a critical ecological process.

8:20 AM OOS 49-2 Sensenig, R1, MW Demment2 and EA Laca2, (1)Goshen College, (2)University of California. Allometric scaling: Body size and fire-grazing interactions in an East African savanna.

8:40 AM OOS 49-3 Smith, MD1, AK Knapp2, SL Collins2, N Govender4, K Kirkman5, RWS Fynn6, DE Burkepile7, N Hagenah8, K Matchett9, D Thompson9, SE Koerner1, K Wilcox12 and CE Burns11, (1)Yale University, (2)Colorado State University, (3)University of New Mexico, (4)Scientific Service Kruger National Park, (5)University of KwaZulu-Natal, (6)University of Botswana, (7)Florida International University, (8)University of KwaZulu-Natal, (9)SAEON, (10)The Nature Conservancy. Divergence in savanna grassland community responses to fire and grazing in North America and South Africa.

9:00 AM OOS 49-4 Winter, S1, S Fuhldendorf1, C Goad1, C Davis1, K Hickman1 and D Leslie2, (1)Oklahoma State University, (2)US Geological Survey. Pyric herbivory in Artemisia shrubland of the southern Great Plains, North America.

9:20 AM OOS 49-5 Joern, A, A Laws and JE Gomez, Kansas State University. Arthropod distributions, abundances and species interactions in tallgrass prairie respond to habitat heterogeneity resulting from fire-grazing interactions.

9:40 AM Break


10:30 AM OOS 49-8 Mandle, L and T Ticktin, University of Hawaii at Manoa. Interactive effects of leaf harvest, grazing, and fire on the population dynamics of the mountain date palm (Phoenix loureiri Kunth) and implications for management.

9:20 AM OOS 50-5 Chang, AL1, A Deck1, PD Malm2, K Willits3, S Attroe3, JL Fisher3 and SG Morgan4, (1)University of California Davis, (2)Sonoma State University, (3)Oregon State University. Going with the flow or staying close at home? Linking habitat quality and population dynamics of Olympia oysters in San Francisco Bay.

9:40 AM OOS 50-6 White, JW, University of North Carolina Wilmington. Evaluating metapopulation source strength in a multispecies context for marine protected area planning.


10:30 AM OOS 50-8 Hellman, ML1, CR Allen2 and MP Simon3, (1)Nebraska Fish and Wildlife Cooperative Research Unit, University of Nebraska-Lincoln, (2)University of Nebraska-Lincoln, (3)Benedictine College. Detection and occupancy of anuran adults and tadpoles in wetland restorations.

11:10 AM OOS 50-10 Trexler, JC, Florida International University. Local and landscape control of population dynamics: Small fish in a large ecosystem.

**COS 122 - Aquatic-Terrestrial Linkages**

**Ballroom B, Austin Convention Center**

8:00 AM COS 122-1 Earl, JE and RD Semlitsch, University of Missouri. Effects of spatial subsidies and canopy cover on ponds ecosystems.

8:20 AM COS 122-2 Schriever, TA and DD Williams, University of Toronto. Unequal flow of resource subsidies across aquatic-terrestrial ecosystems.

8:40 AM COS 122-3 Bartrons, M1, M Papes1, MW Diebel2, C Gratton3 and MJ Vander Zanden1, (1)University of Wisconsin-Madison, (2)Wisconsin DNR Bureau of Science Services, (3)University of Wisconsin - Madison. Empirical model of the potential flux of aquatic productivity from lakes and streams onto land.

9:00 AM COS 122-4 Rogalski, MA, Yale University. The combined influence of habitat connectivity and land use on zooplankton community structure.


9:40 AM Break


10:30 AM COS 122-8 Palen, W1, JC Finlay2, C McNeely3, MP Limm4, ME Power5 and B Semmens5, (1)Simon Fraser University, (2)University of Minnesota, (3)Eastern Washington University, (4)University of California, Berkeley, (5)Northwest Fisheries Science Center. Thresholds of juvenile steelhead, Oncorhynchus mykiss, resource use and stable isotope composition in a river network.

10:50 AM COS 122-9 Compton, JE1, KE Goodwin2 and DJ Sobota3.
8 am-11:30 am

(1) US EPA, NHEERL, Western Ecology Division, (2) Independent contractor based at US EPA, (3) National Research Council Postdoctoral Fellow. Seasonal and annual watershed nitrogen export within the Willamette River Basin.

11:10 AM COS 122-10 SanClements, MD1, GP Gelsner2, D McKnight3, FR Fatemi4 and UJ Fernandez2, (1)University of Colorado, (2)USGS New Mexico Water Science Center, (3)University of Colorado, (4)University of Maine, (5)University of Maine. The Clean Air Act and Dissolved Organic Matter (DOM): The effects of acidification and recovery on DOM quality and source in temperate forested watersheds.

COS 123 - Behavior: Migration and Movement
Ballroom C, Austin Convention Center

8:00 AM COS 123-1 Shaw, AK and I Couzin, Princeton University. Migration or residency: The evolution of movement behavior and information usage in seasonal environments.

10:10 AM COS 123-7 Bruggeman, DJ, MJ Fortin1 and L Rowe2, (1) Cal Poly State University, (2)University of Toronto. The matrix matters: Forest cover affects movement behavior and habitat selection in odonates.

11:10 AM COS 123-10 SanClements, MD1, GP Gelsner2, D McKnight3, FR Fatemi4 and UJ Fernandez2, (1)University of Colorado, (2)USGS New Mexico Water Science Center, (3)University of Colorado, (4)University of Maine, (5)University of Maine. The effects of acidification and recovery on DOM quality and source in temperate forested watersheds.

11:40 AM COS 124-2 Busby, PE1, G Newcombe2, R Dirzo1 and TG Whitham3, (1)Stanford University, (2)University of Idaho, (3)Northern Arizona University. Host plant genotype, environment, and their interaction jointly determine pathogen community structure.

10:10 AM COS 124-7 Rynkiewicz, E, H Hawlena1 and K Clay1, (1) Indiana University, (2)Ben-Gurion University. Interactions between ectoparasites and immune function in free-living rodents.

11:10 AM COS 124-10 Bolshakova, VL and EW Evans, Utah State University. The effect of parasitism on the functional response of a fish predator.

8:20 AM COS 124-2 Busby, PE1, G Newcombe2, R Dirzo1 and TG Whitham3, (1)Stanford University, (2)University of Idaho, (3)Northern Arizona University. Host plant genotype, environment, and their interaction jointly determine pathogen community structure.

8:40 AM COS 124-3 Crumrine, PW1, AD Miller2, VR Beasley3, A Schoutoefeer4, LB Johnson5 and JR Rohr6, (1)Rowan University, (2)SUNY ESF, (3)College of Veterinary Medicine, University of Illinois at Urbana-Champaign, (4)Centers for Disease Control and Prevention (CDC), National Center for Emerging and Zoonotic Infectious Diseases, (5)University of Minnesota, (6)University of South Florida. Dragonfly diversity and density and parasite dodging dilute disease in amphibians.

11:10 AM COS 124-10 Bolshakova, VL and EW Evans, Utah State University. Varying impacts with elevation from a parasitoid guild of a montane moth, the sagebrush defoliator.

10:10 AM COS 124-7 Rynkiewicz, E, H Hawlena1 and K Clay1, (1) Indiana University, (2)Ben-Gurion University. Interactions between ectoparasites and immune function in free-living rodents.

10:50 AM COS 124-9 Alexander, JD, RW Stocking, SL Hallett, L Xue and JL Bartholomew, Oregon State University. Spatiotemporal patterns in density and population structure of Manayunkia speciosa, the polychaete host of Ceratomyxa shasta in the Klamath River, CA.

11:10 AM COS 124-10 Bolshakova, VL and EW Evans, Utah State University. Varying impacts with elevation from a parasitoid guild of a montane moth, the sagebrush defoliator.

COS 125 - Biogeochemistry: New Paradigms in Biogeochem Cycling II
5, Austin Convention Center

8:00 AM COS 125-1 Townsend, AR1, PG Taylor2, WR Wieder2, CC Cleveland3 and DR Nemergut4, (1)University of Colorado, Boulder, (2)Institute of Arctic and Alpine Research, University of Colorado at Boulder, (3)University of Montana, (4)University of Colorado. Stoichiometric controls over nitrogen and phosphorus transformations and loss.

8:20 AM COS 125-2 Stanton, DE1, B Salgado-Negrete2, LO Hedlin1 and JJ Arnesso2, (1)Princeton University, (2)CASEB, Pontificia Universidad Católica de Chile and Instituto de Ecología y Biodiversidad. Ecosystem properties self organize in response to a directional fog-vegetation feedback.

8:40 AM COS 125-3 Keller, AB1, CC Cleveland1, SC Reed2, PG Taylor3, AR Townsend4, WR Wieder5 and PR Funk1, (1) University of Montana, (2)USGS, (3)Institute of Arctic and Alpine Research, University of Colorado at Boulder, (4)University of Colorado, Boulder. Effects of canopy tree species diversity on belowground ecosystem processes in a wet tropical rain forest.
8:00 AM  COS 125-4  Bradford, MA1, AD Keiser1, CA Mersmann2 and MS Strickland3, (1)Yale University, (2)University of Georgia. *Fates of low molecular weight carbon inputs to the belouground.*


9:40 AM  Break

9:50 AM  COS 125-6  Duval, BD1, SC Davis2, WJ Parton3, SP Long2 and EH DeLucia4, (1)Global Change Solutions, (2)University of Illinois at Urbana-Champaign, (3)Colorado State University, (4)University of Illinois. *Greenhouse gas reduction with conversion from pasture to energy cane production.*

10:10 AM  COS 125-7  Winkings, K1, AS Grandy1, SC Reed2 and CC Cleveland2, (1)University of New Hampshire, (2)University of Montana. *Litter quality constrains the effect of management intensity on decomposers and litter chemistry.*

10:30 AM  COS 125-8  Liptzin, D, E Bai, BZ Houlton and RA Daghgten, University of California, Davis. *A land-based nitrogen mass balance for California: Partitioning nitrogen surplus.*

10:50 AM  COS 125-9  Dickens, SJM1, EB Allen2, LS Santiago3 and DE Crowley4, (1)University of California Riverside, (2)University of California, Riverside, (3)University of California. *Environment is a stronger determinant of exotic plant feedbacks to soil than vegetation type in southern California ecosystems.*

11:10 AM  COS 125-10  Gruenzieg, JM, Hebrew University of Jerusalem. *Litter decomposition during rainless periods is enabled by atmospheric water-vapor absorption and solar radiation.*

**COS 126 - Climate Change: Plants III**

6A, Austin Convention Center

8:00 AM  COS 126-1  Salguero-Gomez, R1 and B Casper2, (1)The University of Pennsylvania, (2)University of Pennsylvania. *Super-size me... not: Desert plant size plays a crucial role before climate change.*

8:20 AM  COS 126-3  Law, DJ1, S Ravi1, DD Breshears2, GA Barron-Gafford1 and TE Huxman2, (1)University of Arizona, (2)The University of Arizona. *Evapotranspiration partitioning in a warmer world: Natives lose out to invasives in a shift to evaporation dominance?*.

8:40 AM  COS 126-4  Schlwilk, D1, T Brennan2 and JE Keeley3, (1)Texas Tech University, (2)University of California, (3)US Geological Survey. *A plant distribution shift uphill: Temperature, drought, or past disturbance history?*

9:00 AM  COS 126-5  Dawes, MA1, F Hagedorn2, T Zumbrunn3, IT Handa4, S Hattenschwiler3, S Wipf1 and C Rixen1, (1)WSL Institute for Forest, Snow and Landscape Research - SLF, (2)Swiss Federal Institute of Forest, Snow and Landscape Research (WSL), (3)University of Basel, (4)Université du Québec à Montréal, (5)Centre de Functional Ecology and Evolution. *Growth and community responses of alpine dwarf shrubs to situ CO2 enrichment and soil warming.*

9:20 AM  COS 126-5  Farrer, EC1, IW Ashton2 and KN Suding1, (1)University of California at Berkeley, (2)National Park Service. *Global change factors interact and modify competitive interactions among alpine tundra species: A population dynamic modeling approach.*

9:40 AM  Break


10:10 AM  COS 126-7  Lewis, JD1, R Smith2, O Ghannoun2, BA Logan3, N Phillips4 and DT Tissue2, (1)Fordham University, (2)University of Western Sydney, (3)Bowdoin College, (4)Boston University. *Industrial-age changes in atmospheric [CO2] and temperature alter drought sensitivity of photosynthesis in Eucalyptus.*

10:30 AM  COS 126-8  Stinson, KA1, C Brophy2 and J Connolly2, (1)Harvard University, (2)National University of Ireland Maynooth, (3)University College Dublin. *Elevated CO2 alters genetic dominance hierarchies in common ragweed, an allergenic plant.*

10:50 AM  COS 126-9  Regan, TJ1, D Keith2, J Elith1 and MG Tozer2, (1)The University of Melbourne, (2)Department of Environment, Climate Change and Water. *Managing for climate change in the semi-arid zone.*

**COS 127 - Environmental Justice, Impact, and Risk Assessment**

6B, Austin Convention Center

8:00 AM  COS 127-1  Chen, Y, A Kelly and S Kumaran, University of Arkansas at Pine Bluff. *pH and related water quality in golden shiner Notemigonus crysoleucas ponds in Arkansas.*

8:20 AM  COS 127-2  Herrington, CS and S Wagner, City of Austin. *Diel dissolved oxygen patterns and aquatic life use assessment in freshwater streams near Austin, Texas.*

8:40 AM  COS 127-3  Purucker, T, T Crk and E Odenkirchen, U.S. Environmental Protection Agency. *Cross-taxa comparison of dermal contact exposure in terrestrial vertebrates.*

9:00 AM  COS 127-4  Li, J and Q Dang, Lakehead University. *Effects of CO2 elevation, photoperiod, and nutrient supply on growth and cold hardness of black spruce (Picea mariana) seedlings.*

9:20 AM  COS 127-5  Ammons, EM, Tufts University. *In addition to data: Why arts and humanities are crucial when thinking about earth stewardship.*

9:40 AM  Break

9:50 AM  COS 127-6  Warzniauk, TW, University of Heidelberg. *Water and forced migration.*

10:10 AM  COS 127-7  Schwarz, K, W Zhou and ML Cadenasso, University of California, Davis. *Evaluating distributional equity of tree canopy cover in Sacramento, CA.*


**COS 128 - Community Pattern and Dynamics VI**

8, Austin Convention Center

8:00 AM  COS 128-2  Thibault, KM, EP White and X Xiao, Utah State University. *Using entropy maximization to predict the form of species abundance distributions across taxa.*

8:20 AM  COS 128-3  Coyle, JR1, AH Hurlbert1 and EP White2, (1)University of North Carolina, (2)Utah State University. *Opposing mechanisms drive diversity patterns of core and occasional species.*

8:40 AM  COS 128-4  D’Andrea, R, G Barabás and AM Ostling,
University of Michigan. Coexistence in two tradeoff models: Limits to similarity arise when competitive ability or stress tolerance varies smoothly with seed size.

9:00 AM COS 128-5 Sanders, NJ\(^1\) and RR Dunn\(^2\), (1)University of Tennessee, (2)NC State. Community ecology through a macroscope: A global experiment to assess the effects of resources on ant community structure.


9:40 AM Break

9:50 AM COS 128-7 Walker, SC, G Guénard and P Legendre, Université de Montréal. Predicting community composition using the interactions between site and species characteristics: A generalized bilinear modeling framework.

**COS 129 - Food Webs II**
9AB, Austin Convention Center

8:00 AM COS 129-1 Pocock, MJO, University of Bristol. An empirical, field-based test of extinction cascades in food webs.

8:20 AM COS 129-2 Wright, IM, University of Texas, Austin. Cow feral arthropod community succession in pasture and forest habitats in Monteverde, Costa Rica.

8:40 AM COS 129-3 Rodriguez, J\(^1\), CJ Melián\(^2\), W Hallwachs\(^3\) and D Janzen\(^4\), (1)National Center for Ecological Analysis and Synthesis, (2)Swiss Federal Institute of Science and Technology, (3)University of Pennsylvania. Hyperdiverse and specialized parasitoid food webs.

9:00 AM COS 129-4 Lewis, D\(^1\), GM Wimp\(^1\) and SM Murphy\(^2\), (1)Georgetown University, (2)University of Denver. Ontogenetic omnivory in a top-level predator.

9:20 AM COS 129-5 Ward, CL\(^1\), KS McCann\(^1\) and SS Bell\(^2\), (1)University of Guelph, (2)University of South Florida. Cultural eutrophication shifts the relative importance of energy channels in seagrass food webs.

9:40 AM Break

9:50 AM COS 129-6 Carscallen, WMA and TN Romanuk, Dalhousie University. Food-web structure and robustness to species loss in Arctic and Antarctic ice-shelf ecosystems.

10:10 AM COS 129-7 Caskenette, AL and KS McCann, University of Guelph. Examining the effect of stage-structured top predators with flexible feeding strategies on community stability.


10:50 AM COS 129-9 Forde, AJ\(^1\), IC Feller\(^2\), JD Parker\(^3\) and DS Gruner\(^4\), (1)University of Maryland, (2)Smithsonian Environmental Research Center, (3)Smithsonian Institution. Cascading effects of predatory birds on arthropods and plants of Caribbean mangrove islands.


**COS 130 - Plant-Insect Interactions III**
9C, Austin Convention Center

8:00 AM COS 130-1 Sconiers, WB\(^1\), DL Rowland\(^2\) and MD Eubanks\(^1\), (1)Texas A&M University, (2)University of Florida. Testing the pulsed stress hypothesis on plant-insect interactions.

8:20 AM COS 130-2 Shrestha, M\(^1\), M Burd\(^1\) and A Dyer\(^2\), (1)Monash University, (2)RMIT University. How do orchids talk to bees?

8:40 AM COS 130-3 Harmon-Threatt, AN\(^1\) and S Hendrix\(^2\), (1)University of California, Berkeley, (2)University of Iowa. Plant-pollinator networks in remnant prairie pathces.

9:00 AM COS 130-4 Yeamans, R\(^1\), TH Roulston\(^2\) and DE Carr\(^2\), (1)University of Virginia, (2)University of Virginia. Reduced pollen viability leads to reduced pollen reward for pollinators in Mimulus guttatus.

9:20 AM COS 130-5 Cuevas, E and R Jiménez, Universidad Michoacana de San Nicolás de Hidalgo. Sex specific reproductive components and pollination ecology in Fuchsia microphylla (Onagraceae), a subdioecious shrub.

9:40 AM Break

9:50 AM COS 130-6 Smith, DS\(^1\), P Turk\(^2\), SM Shuster\(^1\) and TG Whitham\(^1\), (1)Northern Arizona University, (2)West Virginia University. Ungulate-induced evolution of plant traits changes the plant-associated arthropod community.

10:10 AM COS 130-7 Quesada, M, N Calderon-Cortes and LH Escalera-Vazquez, Universidad Nacional Autónoma de México. Insects as stem engineers: Long-term interactions mediated by the twiggirdler Oncideres albomarginata chamela enhance arthropod diversity.

10:30 AM COS 130-8 Rosenstiel, TN, EE Shortlidge and SM Eppley, Portland State University. Examining the role of volatile compounds in influencing muss-microarthropod transport mutualisms.

10:50 AM COS 130-9 Schreck, TK\(^1\) and KA Mooney\(^2\), (1)University of California, Irvine, (2)University of California at Irvine. Mycorrhizal interactions and competition with invasive mustard affect arthropod communities on native Deinandra fasciculata.

**COS 131 - Invasion: Community Effects II**
10A, Austin Convention Center

8:00 AM COS 131-1 Allington, GR and TJ Valone, Saint Louis University. Decline in biotic resistance and the reorganization of an annual plant community by an exotic invader.

8:20 AM COS 131-2 David, AS\(^1\), EW Seabloom\(^1\), PL Zarnetske\(^2\) and SD Hacker\(^2\), (1)University of Minnesota, (2)Oregon State University. Invasive congeners uniquely alter community succession of dunes.

8:40 AM COS 131-3 Johnson, DJ, SL Flory, AL Shetion and K Clay, Indiana University. Direct and indirect effects of a plant invasion alter forest succession.

9:00 AM COS 131-4 Kumschick, S\(^1\), CM Alba\(^1\), RA Hufbauer\(^1\) and W Nentwig\(^2\), (1)Colorado State University, (2)University of Bern. Weak or strong invaders? A comparison of impact between the native and invaded ranges of mammals and birds alien to Europe.

9:20 AM COS 131-5 Hart, LM\(^1\) and DL Finke\(^2\), (1)University of Missouri- Columbia, (2)University of Missouri. Greater abundance and diversity of native coccinellids in agricultural grass-dominated habitats than natural tallgrass prairies.

9:40 AM Break

9:50 AM COS 131-6 Cord, EE\(^1\), AR Litt\(^2\), TE Fulbright\(^3\) and GL Schuster\(^3\), (1)Caesar Kleberg Wildlife Research Institute, Texas A&M University-Kingsville, (2)Montana State University, (3)Texas A&M University-Kingsville. Changes in abundance and diversity in an arthropod community with invasive grasses.

10:10 AM COS 131-7 Barun, A and D Simberloff, University of Tennessee. Impact of the introduced small Indian mongoose (Herpestes auropunctatus) on abundance and activity time of native small mammals, reptiles, amphibians and introduced ship rat (Rattus rattus), Adriatic islands, Croatia.

10:30 AM COS 131-8 Bielfelt, BJ\(^1\), AR Litt\(^2\), FC Bryant\(^1\), LA
Brennan¹ and T Langschied², (1)Texas A&M University-Kingsville, (2)Montana State University. Understanding a native invader: Implications of Tanglehead (Heteropogon contortus) on plants and birds in desert grasslands.

10:05 AM COS 131-9 Farrell, KA¹ and ET Borer², (1)Oregon State University, (2)University of Minnesota. Trophic responses to plant invasion: How a shift from a native to exotic grass community impacts arthropod community structure.

11:10 AM COS 131-10 Capps, KA¹, S Heilpern², G Ng¹, A Fortman¹, R Rodiles-Hernández³ and AS Flecker¹, (1)Cornell University, (2)Wildlife Conservation Society, (3)El Colegio de la Frontera Sur. Non-native grazers in novel environments: Consequences of introduced armored catfish in stream ecosystems.

**COS 132 - Disease and Epidemiology V**

10B, Austin Convention Center

8:00 AM COS 132-1 Barton, HD and JM Drake, University of Georgia. Ecological characteristics of co-circulating low pathogenicity avian influenza subtypes at Delaware Bay, USA.

8:20 AM COS 132-2 Shriner, SA, NL Mooers, KK VanDalen, JJ Root and AB Franklin, National Wildlife Research Center. The role of synanthropic mammals in avian influenza outbreaks.

8:40 AM COS 132-3 Lavine, JS¹, A King² and ON Bjornstad³, (1)The Pennsylvania State University, (2)University of Michigan, (3)Penn State University. Re-examining pertussis cycles and the role of waning immunity.

9:00 AM COS 132-4 Hurtado, P¹, SR Hall² and SP Ellner¹, (1)Cornell University, (2)Indiana University. Infectious disease in predator populations: Dynamic consequences of prey-mediated transmission and infectiousness.

9:20 AM COS 132-5 Penczykowski, RM¹, MA Duffy¹ and SR Hall², (1)Georgia Institute of Technology, (2)Indiana University. Habitat structure, thermal stratification, and ecological drivers of disease in the plankton.

9:40 AM Break

9:50 AM COS 132-6 Dolan, III, TW¹, MJ Butler IV² and JD Shields¹, (1)Virginia Institute of Marine Science, (2)Old Dominion University. The effects of changes in social behavior and habitat structure on disease dynamics in the Caribbean spiny lobster, Panulirus argus.

10:10 AM COS 132-7 Thomas, MK, CT Kremer, CA Klausmeier and E Litchman, Michigan State University. Ozone warming drives productivity changes and range shifts in the fundamental niches of marine phytoplankton.

10:30 AM COS 132-8 Parsons, SMA and A Joern, Kansas State University. Converse Bergmann’s Rule in the red-legged grasshopper (Melanoplus femurrrumulus): Body size and performance variation along a latitudinal gradient.

10:50 AM COS 132-9 Dahle, G¹, FJ Gallagher², KV Schafer³ and J Grabosky², (1)Rutgers the State University, (2)Rutgers University, (3)Rutgers University Newark. Allometric relationships of Betula populifolia in a naturally assembled urban woodland.

11:10 AM COS 132-10 Wentworth, TR¹, MT Lee², MF Boyle² and RK Peet², (1)North Carolina State University, (2)University of North Carolina - Chapel Hill. Classification and environmental relationships of plant communities in the southern Appalachian Mountains of North and South Carolina.

**COS 133 - Environmental Gradients**

12B, Austin Convention Center

8:00 AM COS 133-1 Dobrowski, S, University of Montana. Climatic refuge, landscape physiography, and species distributions.

8:20 AM COS 133-2 Stomp, M¹, E Litchman², GG Mittelbach², J Huisman¹ and CA Klausmeier², (1)University of Amsterdam, (2)Michigan State University. Large-scale biodiversity patterns in freshwater phytoplankton.

8:40 AM COS 133-3 Robinson, TM¹, KJ La Pierre², MA Vadeboncoeur³, KM Byrne⁴, S Colby⁵ and ML Thomey⁶, (1)Michigan State University, (2)Yale University, (3)University of New Hampshire, (4)Colorado State University, (5)Oregon State University, (6)University of New Mexico. Seasonal, not annual precipitation drives community productivity across ecosystems.

9:00 AM COS 133-4 Stevens, RD, JS Tello and MM Gavilanéz, Louisiana State University. Stronger tests of mid-domain effects on biodiversity gradients of New World bats.

9:20 AM COS 133-5 Pratt, JD¹, KA Mooney² and DR Campbell³, (1)University of California, Irvine, (2)University of California at Irvine, (3)UC Irvine. Assessing clinal variation and elevational range limits in Ipomopsis aggregata.

9:40 AM Break

9:50 AM COS 133-6 Kremer, CT¹, MK Thomas¹, E Litchman² and CA Klausmeier², (1)W. K. Kellogg Biological Station, Michigan State University, (2)Michigan State University. Adapting to variable thermal environments: A trait-based, eco-evolutionary approach.

10:10 AM COS 133-7 Thomas, MK, CT Kremer, CA Klausmeier and E Litchman, Michigan State University. Ozone warming drives productivity changes and range shifts in the fundamental niches of marine phytoplankton.

10:30 AM COS 133-8 Parsons, SMA and A Joern, Kansas State University. Converse Bergmann’s Rule in the red-legged grasshopper (Melanoplus femurrrumulus): Body size and performance variation along a latitudinal gradient.

10:50 AM COS 133-9 Dahle, G¹, FJ Gallagher², KV Schafer³ and J Grabosky², (1)Rutgers the State University, (2)Rutgers University, (3)Rutgers University Newark. Allometric relationships of Betula populifolia in a naturally assembled urban woodland.

11:10 AM COS 133-10 Wentworth, TR¹, MT Lee², MF Boyle² and RK Peet², (1)North Carolina State University, (2)University of North Carolina - Chapel Hill. Classification and environmental relationships of plant communities in the southern Appalachian Mountains of North and South Carolina.

**COS 134 - Phenotypic Plasticity**

13, Austin Convention Center

8:00 AM COS 134-1 Ndlovu, M, GS Cumming and PAR Hockey, University of Cape Town. Phenotypic flexibility in African waterfowl during molt.

8:20 AM COS 134-2 Edge, CB¹, D Thompson², LF Baker¹, JF Mudge¹ and J Houlanah¹, (1)University of New Brunswick, (2)Canadian Forest Service. Amphibian development in variable wetlands: Does altering wetland ecosystems with herbicide application and nutrient enrichment result in changes to development rates in natural wetlands.

8:40 AM COS 134-3 Behm, JE, University of Wisconsin-Madison. Does competition modify predator-induced phenotypic plasticity in three tadpole species?

9:00 AM COS 134-4 Miehls, AL¹, AG McAdams² and SD Peaco¹, (1)Michigan State University, (2)University of Guelph. Phenotypically plastic response of an invasive species to temperature but not a predator.
**FRIDAY**

8 am-11:30 am

9:20 AM  COS 134-5  McCoy, M¹, JC Touchon², T Landberg³, KM Warkentin⁴ and JR Vonesh⁴, (1)Virginia Commonwealth University and University of Florida, (2)Smithsonian Tropical Research Institute, (3)Boston University, (4)Virginia Commonwealth University. Determining mechanisms for risk assessment: Disentangling the relative importance of prey number and prey biomass for generating indirect cues of predation risk.

9:40 AM  Break

9:50 AM  COS 134-6  McIntyre, PJ, University of California Davis. Role of phenotypic plasticity, selection, and transgenerational effects in the fine scale distribution of E. broad and narrow leaved Claytonia perfoliata (Portulacaceae).

10:10 AM  COS 134-7  Hossain, SM, University of Toronto. Branch growth in three shade tolerant tree species.

10:30 AM  COS 134-8  Kimball, SL¹, AL Angert², JR Gremer³, TE Huxman¹ and DL Venable¹, (1)University of Arizona, (2)Colorado State University. Phenotypic selection on physiological traits in four species of coexisting annual plants.

**COS 135 - Ecosystem Function II**
15, Austin Convention Center

8:00 AM  COS 135-1  Ogle, K¹, GA Barron-Gafford², LP Bentley², JM Cable³, R Lucas⁴, TE Huxman², ME Loik², SD Smith² and DT Tissue⁷, (1)Arizona State University, (2)University of Arizona, (3)University of Alaska, (4)Swedish University of Agricultural Sciences, (5)University of California, (6)University of Nevada, Las Vegas, (7)University of Western Sydney. Quantifying ecological “memory” of plant and ecosystem productivity.


8:40 AM  COS 135-3  Kosiba, AM¹, PG Schaberg², G Hawley¹, JM Halman¹ and CF Hansen¹, (1)University of Vermont, (2)USDA Forest Service. Quantifying the influence of foliar winter injury on long-term woody carbon sequestration for red spruce in the northeastern forest.

9:00 AM  COS 135-4  Dietze, M, University of Illinois. Regional-scale impacts of climate and environmental variability on tree carbon reserves.

9:20 AM  COS 135-5  Hawley, GH¹, PG Schaberg², JM Halman¹, LH Pardo² and TJ Fahey³, (1)University of Vermont, (2)USDA Forest Service, (3)Cornell University. Reduced calcium availability influences belowground physiology and aboveground carbon dynamics of sugar maple trees.

9:40 AM  Break


10:10 AM  COS 135-7  Reichmann, LG¹, OE Sala¹, L Gherardi¹ and DPC Peters², (1)Arizona State University, (2)USDA Agricultural Research Service. Non-linear ecosystem response to long-term changes in precipitation and nitrogen availability in a desert grassland.

10:30 AM  COS 135-8  Byrne, KM¹ and WK Lauenroth², (1)Colorado State University, (2)University of Wyoming. Changes in soil water affect net primary production in the central grassland region.

10:50 AM  COS 135-9  Delgadillo-Durán, E¹, J Álvarez-Sánchez², J Campo-Alves³, A Martínez-Yrizar⁴ and GM Barajas-Guzmán¹, (1)UNAM, (2)Instituto de Ciencias, Universidad Nacional Autónoma de México, (3)Universidad Nacional Autónoma de México, (4)Instituto de Ecología, Universidad Nacional Autónoma de Mexico. Aboveground net primary productivity in temperate forests of Río Magdalena basin, Mexico City, Mexico.

**COS 136 - Restoration Ecology III**
16A, Austin Convention Center

8:00 AM  COS 136-1  Levine, AE, University of California - Santa Barbara. Promoting coastal sage scrub vegetation after invasive grass removal.

8:20 AM  COS 136-2  Suronen, EN, EF and BA Newingham, University of Idaho. Key habitat characteristics of a threatened ground squirrel and implications for habitat restoration.

8:40 AM  COS 136-3  Emery, SM¹, PJ Doran², J Legge² and M Kleitch², (1)University of Louisville, (2)The Nature Conservancy. Does removal of Gypsophila paniculata (baby’s breath) from Lake Michigan sand dunes restore native community structure and ecosystem function?.

9:00 AM  COS 136-4  Ostoja, SM¹, SL Roberts² and ML Brooks², (1)United States Geological Survey, (2)USGS Western Ecological Research Center. Plant and bird community response to saltcedar removal along the Virgin River: Considerations for riparian restoration.


9:40 AM  Break

9:50 AM  COS 136-6  Kroiss, SJ¹ and TM Knight², (1)Washington University in St. Louis, (2)Washington University. What limits the occupancy of rare plant species in restored habitats? A trait comparison between rare and widespread species in restored Missouri glades.

10:10 AM  COS 136-7  Osland, MJ¹, AC Spivak¹, JA Nestlerode³, AE Almario¹, JM Lessman³, PH Heitmüller³, F Alvarez³, MJ Russell¹, KW Krauss³, DD Dantin¹ and JE Harvey¹, (1)U.S. EPA, (2)Eckerd College, (3)U.S. Geological Survey. Ecosystem development after mangrove creation: Plant-soil change across a twenty-year chronosequence.

10:30 AM  COS 136-8  Corbin, JD², G Robinson² and SN Handel³, (1)Union College, (2)State University of New York at Albany, (3)Rutgers University. Restoration of a reclaimed landfill after 19 years – a long-term test of applied nutrition.


11:10 AM  COS 136-10Doshi, SK¹, J Toddy³ and A McInnis³, (1)Queen’s University, (2)Ocean Arks, International, (3)University of Vermont. Beyond coal: A resilient new economy for Appalachia.

**COS 137 - Land-Use and Land-Use History**
18A, Austin Convention Center

8:00 AM  COS 137-1  Hale, RL¹ and JH Hoover², (1)Arizona State University, (2)University of Denver. Anthropogenic nutrient loading in the Northern States United States 1920-2000.


8:40 AM  COS 137-3  Lumibao, CY and J McLachlan, University of Notre Dame. Genetic legacies of historic landscape
Earth Stewardship: Preserving and enhancing earth's life support systems

COS 139 - Urban Ecosystems II
18C, Austin Convention Center

8:00 AM  COS 139-1  Matteson, KC, E Minor and D Taron, (1) University of Illinois at Chicago, (2) Chicago Academy of Sciences. The role of citizen monitors in urban ecology and conservation.

8:20 AM  COS 139-2  Dallimer, M, KN Irvine, PR Armsworth, ZG Davies, JR Rouquette, LL Maltby, PH Warren and KJ Gaston, (1) University of Sheffield, (2) De Montfort University, (3) University of Tennessee, (4) University of Kent. Ecological determinants of self-reported psychological well-being among recreational visitors to urban greenspaces.


9:00 AM  COS 139-4  Turnbull, L, DL Childers, S Earl, NB Grimm and RL Hale, Arizona State University. The dynamics of water in arid cities, Part II: Effects of stormwater infrastructure on dissolved and particle-bound nutrient transport across multiple spatial scales.

9:20 AM  COS 139-5  Davies, ZG, JL Edmondson, S McCormack, JR Leake and KJ Gaston, University of Sheffield. Managing biological carbon storage in urban areas: Assessing the influence of above-ground ecosystem structure on soil carbon.

9:40 AM  Break

9:50 AM  COS 139-6  Hutyra, LR, M Brondfield, SM Raciti and SC Wolsky, (1) Boston University, (2) Harvard University. Carbon cycling across the Boston urban to rural gradient: Integrating emissions estimates and atmospheric observations.

10:10 AM COS 139-7  Dillon, ML, Portland State University. Explaining soil organic carbon sequestration in an urban ecosystem.

10:30 AM  COS 139-8  Ross, MS, P Harlem, G Hollander and K Zhang, Florida International University. Historical analysis of vegetation, tree cover, and residential development on an urbanizing Florida barrier island.

PS 72 - Latebreaking: Agriculture
Exhibit Hall 3, Austin Convention Center

PS 72-1  Orantes, LC and AP Michel, The Ohio State University. Differences in the genetic structure of spatial and temporally distributed populations of the invasive pest soybean aphid, Aphis glycines.


PS 72-3  Villegas-Patracca, R, C Perez and M Mora, Instituto de Ecología AC. Poisson regression for count data: Application to bird and bat mortality at the wind farm La Venta II, Oaxaca, Mexico.


PS 72-5  Ghassemzadeh, F, MASM Lahouti and H Ejtehadi, Ferdowsi University of Mashhad. Effects of antimony on Citrullus lanatus from Argash-Neshabour in Northeast Iran.

PS 73 - Latebreaking: Aquatic Ecology
Exhibit Hall 3, Austin Convention Center

PS 73-6  Cornell, AE and RM Chambers, College of William and Mary. Upstream development spurs downstream amphibian decline in Southeast VA watersheds.
8:30 am-10:30 am

**PS 73-7** Feit, SJ and DB Lewis, University of South Florida. Hydrological influences on total soil organic matter accumulation and labile organic C and N pools in isolated cypress and marsh wetlands surrounding Tampa Bay, Florida.

**PS 73-8** Mayer, AL and A Henareh Khalyani, Michigan Technological University. Analyzing effective protection for roe deer (Capreolus capreolus) habitat in Iranian Zagros forests at two scales.

**PS 73-9** Emerson, JE1, SM Bollen1 and TD Counihan2. (1) Washington State University Vancouver, (2)United States Geological Survey. Zooplankton in Columbia-Snake River system reservoirs, with special emphasis on the invasive copepod Pseudodiaptomus forbesi.


**PS 73-11** Wahl, CM, A Neils and DU Hooper, Western Washington University. Patchy riparian forests fail to buffer benthic macroinvertebrate communities from intensive land use in the Puget Lowland streams of Western Washington.

**PS 73-12** Durben, RM, JS Hild, J Wood, M O’Connor, J Van der Veen, MR Freitas and JM Sellen, Sierra Streams Institute. Citizen-based monitoring characterizes water quality and benthic macroinvertebrates throughout a western Sierra stream.

**PS 73-13** Khan, AL and DM McKnight, University of Colorado. Evaluation of the relationship between Dissolved Organic Material (DOM), chlorophylla and algal species in lakes and drinking water reservoirs throughout the state of Colorado.

**PS 74 - Latebreaking: Behavior**
Exhibit Hall 3, Austin Convention Center

**PS 74-14** Maffi, RL and TH Roulston, University of Virginia. Niche overlap and diet breadth: Can bumble bee (Bombus spp.) foraging preferences reveal species vulnerabilities?.

**PS 74-15** Rafter, JL and E Preisser, University of Rhode Island. Effect of coccinellid ontogenic niche shifts on aphid behavior.

**PS 74-16** Murphy, KR, University of New Mexico. Can predicting the movement and assemblage patterns of large herbivores in southern Africa reduce human-wildlife-conflict and help us benefit from ecosystem services.

**PS 74-17** McRae, TR, University of Miami. Tail signals in eastern gray squirrels include both generic and predator-specific alarms.

**PS 74-18** Gooding, DD, BT Martin, NB Ford and JS Placyk, University of Texas at Tyler. Prey detection strategies of the Western lesser siren (Siren intermedia nettingi).

**PS 74-19** Kelly, EB1, KW McFadden2, JK Reich3, E Sterling4 and E Naramaccl5, (1)Columbia University, (2)Columbia University, (3)Texas A & M University at Galveston, (4)American Museum of Natural History, (5)College of Staten Island, City University of New York. The ontogeny of foraging behavior in juvenile green turtles (Chelonia mydas) from Palmyra Atoll: Results from stable isotope analysis.

**PS 75 - Latebreaking: Biodiversity**
Exhibit Hall 3, Austin Convention Center

**PS 75-20** Sylvain, I and T James, University of Michigan. Effects of production method and geography on the fungal community composition in green coffee beans.

**PS 75-21** Liu, X, M Liang and S Yu, Sun Yat-sen University. Host-specific pathogens shape abundances of phylogenetically related tree species.

**PS 75-22** Zhang, Y and Y Wang, Sun Yat-sen University. Interspecific interactions can increase productivity in grass communities.

**PS 75-23** Rountree, NR1, J Huler1, A Lucky1, MD Lowman1 and RR Dunn2, (1)North Carolina State University, (2)NCSU. Beta-diversity of human skin bacteria studied with the citizen science approach.

**PS 75-24** Xu, M and S Yu, Sun Yat-sen University. Plant-soil feedbacks, and density dependence driven by soil pathogens influence seedling diversity in subtropical forest.

**PS 75-25** Souza, L1, GM Cruitsinger2, NJ Sanders3 and A Classen1, (1)The University of Tennessee, (2)University of British Columbia, (3)University of Tennessee. Intra-specific diversity shapes ecosystem carbon exchange in an old-field ecosystem.

**PS 75-26** Solecki, AM, A Grégoire Taillefer, MS Blair, S Rochefort and TA Wheeler, McGill University. Phenoology and temporal species turnover in an Arctic Diptera assemblage.

**PS 75-27** Donoghue, II, JC, University of Arizona. Does the climatic variability hypothesis explain the longitudinal range size gradient in North American trees?

**PS 76 - Latebreaking: Biogeochemistry**
Exhibit Hall 3, Austin Convention Center


**PS 76-29** La Quay-Velázquez, G1, AE Carey2 and C Restrepo3, (1) Universidad Metropolitana, (2)Ohio State University, (3) University of Puerto Rico-Rio Piedras. Variation in forest and landslide carbon pools along complex environmental gradients in the Sierra de Las Minas of eastern Guatemala.

**PS 76-30** Pagano, T1 and JE Kenny2, (1)Rochester Institute of Technology, (2)Tufts University. Measuring the phenolic content of dissolved organic matter in wetlands.

**PS 76-31** Ganong, CN1, JH Duff2 and CM Pringle1, (1)University of Georgia, (2)U.S. Geological Survey. Spatial variation in groundwater and stream water carbon chemistry in a Neotropical rainforest.


**PS 76-33** Pound, KL1, SJ Passey1 and GB Lawrence2, (1)University of Virginia at Arlington, (2)U.S. Geological Survey. Diatom species traits vary in response to inorganic and organic acidity in Adirondack streams.

**PS 76-34** Hooper, DU1, EC Adair2, JE Byrne3, L Gamfeldt4, A Gonzalez5, BA Hunagate6, MI O’Connor7, BJ Cardinale7 and JE Duffy8, (1)Western Washington University, (2)National Center for Ecological Analysis and Synthesis, (3)Göteborg University, (4)McGill University, (5)Northern Arizona University, (6)University of British Columbia, (7)University of Michigan, (8)The College of William and Mary. Do the effects of species richness on ecosystem function rival other forms of environmental change?.

**PS 76-35** Colman, BP1, CJ Richardson1, GV Lowry2, BK Reinsch3, B Espinasse1, MR Wiesner1, JM Urine1 and ES Bernhardt1, (1)Duke University, (2)Carnegie Mellon University, (3)University of Kentucky. Differential silver nanoparticle toxicity to microbes and macrophytes leads to carbon dioxide, nitrous oxide, and methane pulses.

**PS 76-36** Hartman, WH and CJ Richardson, Duke University. Differential nutrient limitation of soil microbial biomass
and metabolic quotients (gCO₂): Is there a Biological Stoichiometry of soil microbes?.

PS 76-37
Fredensborg, BL1, G Riojas1, TA Eubanks1, A Hernandez1, FA Sandoval1, S Luther1, R Garza1, H DeVoe1, F Dirrigr Jr1, J Parsons1, MW Persans1 and KL Lowe2, (1)The University of Texas-Pan American, (2)The University of Texas - Pan American. Distribution and pathways of arsenic in a hypersaline estuary.

PS 76-38
Shaw, EA, DH Wall, MF Cotrufo, JL Soong and UN Nielsen, Colorado State University. Do longterm burning practices affect carbon and nitrogen flow dynamics from grassland root litter through the soil food web?.

PS 77 - Latebreaking: Climate Change
Exhibit Hall 3, Austin Convention Center

PS 77-39

PS 77-40
Lee, D1, H Kim1, J Kim1, CK Song2 and JA Yu2, (1)Seoul National University, (2)Korea National Institute of Environmental Research. Climate change vulnerability assessment of forests for local governments in South Korea.

PS 77-41
Garcia, CI, University of Texas-Pan American. Potential distributional effects on the invasive grass, Panicum maximum, due to climate change.

PS 77-42
Garcia, BM1, SA del Alto1, TP Feria2, A Felicisimo3, J Goulvoloh4, GN Ervin5 and CP Brooks5, (1)University of Texas-Pan American, (2)The University of Texas-Pan American, (3)Universidad de Extremadura, (4)Universidad Autonoma Metropolitana-Xochimilco, (5)Mississippi State University. Potential distribution of the Prickly–pear moth Cactoblastis cactorum in south Texas and north Mexico.

PS 77-43
Lamanna, CA, University of Arizona. Some like it hot: Increased germination rate and altitudinal range expansion of Sagebrush (Artemisia tridentata ssp. vaseyana) under climate change.

PS 77-44
Pfingsten, IA1 and TN Kaye2, (1)Oregon State University, (2)Institute for Applied Ecology. Effects of seasonal environments on stage-structured, rare plant populations.

PS 77-45
Casillas, EA, AL Cavazos, TP Feria and BL Fredensborg, The University of Texas-Pan American. Fine-scale climate assessment of Chagas disease in the South Texas-Mexico border: Spread of vectors due to climatic change.

PS 77-46
Zongshan, L1, L Guohua1, F Bojie1, Z Qibing2, M Keping2 and Z Jinlong2, (1)Research Center for Eco-Environmental Science, Chinese Academy of Sciences, (2)Institute of Botany, Chinese Academy of Sciences. Climatic fluctuation causes synchronous tree-ring variations along the elevation gradient in Wolong Natural Reserve, western Sichuan of China.

PS 78 - Latebreaking: Community Pattern and Dynamics
Exhibit Hall 3, Austin Convention Center

PS 78-47
Maharjan, SK1, L Poorter1, M Holmgren2, F Bongers1, JJ Wieringa3 and WD Hawthorne4, (1)Wageningen University, (2)University of Wageningen, (3)National Herbarium of The Netherlands, Wageningen University Branch, (4)University of Oxford. Plant functional traits: Role of plant functional traits in distribution of West African trees.

PS 78-48
Wood, SA and MA Bradford, Yale University. Grassland community responses across a gradient of atmospheric CO₂ and N fertilization.

PS 78-49
Rivera-Melendez, JA1, JK Zimmerman2, EO Vazquez-

PS 79 - Latebreaking: Conservation
Exhibit Hall 3, Austin Convention Center

PS 79-58
Lloyd, WM1, RK Burnett Jr1, K Engelhardt2 and MC Neel1, (1)University of Maryland, (2)University of Maryland Center for Environmental Science. Genetic diversity and population structure of Vallisneria americana in the Chesapeake Bay: Implications for restoration.

PS 79-59
Schuman, ME, USDA. Ecological sites in Alaska: A tool for sustainable stewardship.

PS 79-60

PS 79-61
Moulton, LL, University of Manitoba. The effects of patch context on occupancy by an early-successional species.

PS 79-62
Almeida, L1, K McEachern2, E Schultz1 and D Thomson1, (1)Claremont McKenna, Pitzer and Scripps Colleges, (2)U.S. Geological Survey - Western Ecological Research Center. Quantifying the effects of invasive pigs and climate variation on survivorship of an island endemic plant.

PS 79-63
Booth, EM, Northwestern University and the Chicago Botanic Garden. Potential effects of climate change on Penstemon palmeri (Plantaginaceae) at Zion National Park, Utah, U.S.A.

PS 79-64
Lambert, KF, C Hart and DR Foster, Harvard University. Wildlands and Woodlands research: Conservation impact
8:30 am-10:30 am
from local parks to Capitol Hill.

PS 79-65
Boughton, RK and R Bowman, Archbold Biological Station. The current state of Florida's only endemic bird on conservation lands.

PS 79-66
Brown, LM and C Graham, Stony Brook University. An analysis of the effects of land cover and urbanization on survival in northeastern birds.

PS 79-67
Simons, JD1, ME Vega Cendejas2, M Yuan3, C Carollo1, AE Thessen4, SB Gonzalez-Perez5, C Mazza1, D Morris6 and L Williams5, (1)Texas A&M University Corpus Christi, (2)CINVESTAV-IPN, (3)University of Oklahoma, (4)Marine Biological Laboratory, (5)FWRI. Conserving species interaction data: The Gulf of Mexico trophic database, and the Data Conservancy.

PS 79-68

PS 79-69
Cantu, JM, University of Texas Pan-American. The effects of climatic change on the distribution of the Taylor's (ornate cantil Agkistrodon taylori.

PS 79-70

PS 79-71
Maupome, A., Comisión Nacional de Áreas Naturales Protegidas, México. New Biosphere Reserve Reefs of Los Tuxtas.

PS 80 - Latebreaking: Disease and Epidemiology
Exhibit Hall 3, Austin Convention Center

PS 80-72
Cheng, TL1, SM Rovito2, DB Wake2 and VT Vredenburg1, (1)San Francisco State University, (2)University of California, Berkeley. Coincident mass extirpation of neotropical amphibians with the emergence of a fungal pathogen, Batrachochytrium dendrobatidis.

PS 80-73
O'Regan, SM and JM Drake, University of Georgia. Transient analysis of an SIR epidemic model.

PS 80-74
MacDonald, AJ1 and AE Larsen2, (1)University of California, Santa Barbara, (2)University of California. What predicts dominant ant foraging in a coffee agroecosystem? Insights from regression analysis.

PS 81 - Latebreaking: Ecosystem Services Assessment
Exhibit Hall 3, Austin Convention Center

PS 81-75
Timilsina, N1, F Escobedo1, A Abd-EIrahman1, WP Cropper Jr.1, S Delphin1 and S Lambert2, (1)University of Florida, (2)U.S. Forest Service. A framework for mapping carbon storage hotspots and determining optimal forest structure and management regime characteristics.

PS 81-76
De Steven, D1 and JM Gramling2, (1)U.S. Forest Service Southern Research Station, (2)The Citadel. Diverse wetland restoration approaches under working-lands programs in the Southeastern U.S.: implications for ecosystem services.

PS 81-77
Adamson, NL1, TH Roulston2, RD Fell1 and DE Mullins1, (1)Virginia Tech, (2)University of Virginia. From April to August—wild bees pollinating crops in Virginia.

PS 81-78
Covich, AP1, JC Bergstrom1, RL Moore2 and DA Patton1, (1)University of Georgia, (2)University of Georgia. Effects of drought on freshwater ecosystem services and biodiversity: Examples from the Savannah River Basin.

PS 81-79
Sirclay, J1, C Palm2, PK Mutuo3 and S Naeem1, (1) Columbia University, (2)The Earth Institute at Columbia University. Biodiversity and multiple ecosystem services in smallholder fallows.

PS 82 - Latebreaking: Ecological Knowledge (Education, TEK, Philosophy)
Exhibit Hall 3, Austin Convention Center

PS 82-80
Adhikari, S, Tribhuvan University, Amrit Campus. Ethno-medical plants, and their sustainable utilization for the local livelihoods of central Nepal.

PS 82-81
Halpern, AA1, FK Lake2, TJ Carlson3 and WP Sousa4, (1)University of California, Berkeley, (2)U.S. Forest Service, Pacific SW. The effects of prescribed fire on California Indian cultural use plant species in a serpentine woodland.

PS 82-82
Prather, CM, Florida State University. The rise and fall of philosophy in ecology.

PS 82-83
Polgar, C, Boston University. Climate change research comes to 5th grade.

PS 82-84
Studer, M, Encyclopedia of Life. Developing tools and applications to visualize, manage and disseminate biodiversity information.

PS 82-85
Bray, SR1 and GL Bailey2, (1)Transylvania University, (2)University of Nebraska. What do students really know about evolution? Measuring students' knowledge of and attitudes toward evolutionary science.

PS 82-86

PS 82-87
Cheesser, ME1, J Kim2 and K McGarigal3, (1)University of Massachusetts, (2)San Diego State University. Analysis of human error rates related to photographic identification in ecological databases: Implications for the possibility of incorporating citizen scientists.

PS 82-88
Dalgleish, HJ, SM Chambers and NC Emery, Purdue University. Creating active learning modules to incorporate statistics and experimental design across science curricula though a Faculty Learning Community.

PS 82-89
Ofeli-Manu, P and S Shimano, Miyagi University of Education. In transition towards sustainability: Bridging the business and education sectors of RCE Greater Sendai using ESD-based social learning.

PS 82-90

PS 82-91
Bailey, JB1, CB Anderson2, DJ Hoeinghaus1 and AK Poole3, (1)University of North Texas, (2)University of North Texas and Universidad de Magallanes, (3)Center for Environmental Philosophy, Institute of Applied Science, University of North Texas. Methods of SEEDS dispersal in the North Texas prairie.

PS 82-92

PS 82-93
Porzecanski, AL1, E Sterling1, N Byrum2, A Bravo1, RL Burks3, A Gomez2, K Landrigan1, BJ Abrahma3, G Bowser5, M Cawthorn6, JA Cigiano7, LM Dávalos8, DS Fernandez9, L Freeman10, SR Ketcham11, TA Langer12, J Linder13, IF Mull14, MI Palmer15, D Rooa16, D Ruby17, J Singleton17, T Theodore18 and DW Vogler19, (1)American Museum of Natural History, (2)Duke University, (3)Southwestern University, (4)Hampton University, (5)Colorado State University, (6)Georgia Southern University, (7)Cedar


PS 82-95 Colón-Rivera, RJ and RA Feagin, Texas A&M University. Maximizing research efforts through PhD-mentored undergraduate research experiences: The humacao natural reserve.

PS 82-96 Moses, KP1, Y Medina2, F Massardo3, LR Lewis4, B Goffinet5 and R Rozzi6, (1)University of North Texas, (2)Universidad de Magallanes Programa de Conservación Biocultural Subantártica - Parque Etñobotánico Omora, (3)Universidad de Magallanes and Omra Ethnobotanical Park, (4)University of Connecticut, (5)University of North Texas and University of Magallanes - Institute of Ecology and Biodiversity, Chile. Ecotourism with a Hand Lens: A sub-Antarctic approach to implement Earth stewardship.

PS 83 - Latebreaking: Evolution  
Exhibit Hall 3, Austin Convention Center

PS 83-97 Heberling, JM and J Fridley, Syracuse University. Biogeographic constraints on the worldwide leaf economic spectrum.

PS 83-98 Yanjie, L1, N Haishan1 and X Xingliang2, (1)Graduate University of Chinese Academy of Sciences, (2)Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences. Evidence for functional divergence in Leymus chinensis: Local adaptation.


PS 83-100 Ayre, DJ1, A Denham2, DG Roberts1, C Forrest1 and AM Gilpin1, (1)University of Wollongong, (2)Department of Environment, Climate Change and Water. Genetic rescue of Australian arid zone acacia species.


PS 83-102 Taylor, S and N Martin, Texas State University-San Marcos. Homoploid hybrid speciation in Louisiana Iris.

PS 83-103 Moe, A, University of Minnesota. Reproductive isolation among dioecious fig species (Ficus, Moraceae) and fitness consequences of cross-pollination.

PS 83-104 Hampton, PM, Carroll University. Relationships among dietary richness, geographic range and morphology in snakes.

PS 83-105 Quintero, E1, A Silva1 and BL Fredensborg2, (1)The University of Texas-Pan American, (2)University of Texas-Pan American. Sex and parasitism: Do amazon mollies defy the Red Queen Hypothesis?

PS 83-106 Jin, LS1, MJ Fortin2 and MW Cadotte2, (1)University of Toronto, (2)University of Toronto - Scarborough. A phylogenetic community ecology approach to niche separation.

PS 84 - Latebreaking: Forests
Exhibit Hall 3, Austin Convention Center

PS 84-107 Yamanaka, T1, K Nunokawa2, S Saito3, H Kondoh4, E Shoda-Kagaya5 and S Makino6, (1)NIAES, (2)Niigata Prefectural Forest Research Institute, (3)Yamagata Prefectural Forest Research and Instruction Center, (4)Forestry and Forest Products Research Institute, Kyushu Research Center, (5)Department of Forest Entomology, Forestry and Forest Products Research Institute. Severe mass oak defoliation in Japan by oak wilt disease: Origin and propagation pattern of the defoliation.


PS 84-109 Seltzer, CE1, CT Kremer2, HJ Ndangalasi3 and NJ Cordeiro4, (1)University of Illinois at Chicago, (2)Michigan State University, (3)University of Dar es Salaam, (4)Roosevelt University. Plants, rats, and people: Seed dispersal of an economically important rainforest tree in Tanzania.

PS 84-110 Xu, Q1 and S Liu2, (1)Institute of Forest Ecology, Environment and Protection, Chinese Academy of Forestry, Beijing 100091, China, (2)Chinese Academy of Forestry. Effects of rainfall on soil moisture and water movement in a subalpine dark coniferous forest in southwestern China.

PS 84-111 Olney, JA1, AE Kochsieck1, S Tan2 and SE Russo1, (1)University of Nebraska-Lincoln, (2)Center for Tropical Forest Science - Arnold Arboretum of Harvard University. Preferential uptake of different nitrogen forms by tree species in Bornean mixed dipterocarp forest.

PS 84-112 Kelly, SM1 and TA Waldrop2, (1)Clemson University, (2)US Forest Service, Southern Research Station, Center for Forest Disturbance Science. Woody plant species composition and structure of burned sites differs only slightly from unburned sites in a Southern Appalachian wilderness area.

PS 84-113 Laszlo, Sr., M, RISSAC. Fertilization impact on sulphur translocation and bioaccumulation from soil to triticale (X Triticosecale W.) shoot and grain.

PS 84-114 Howard, K1, LD Dimov1, ZH Leggett2 and EB Sucre2, (1)Alabama A&M University, (2)Weyerhaeuser Company. Effect of organic matter manipulation in a pine plantation 16 years after clearcutting.


PS 84-116 Rehill, B, A Lau and D Dillner, U.S. Naval Academy. Isolated red oak hydrolyzable tannins reduce gypsy moth feeding preference and weight gain.

PS 84-117 Ramírez-Araiza, P1, JG Martínez-Avalos1, A Mora-Olivo1, P Feria2 and G Sánchez-Ramos1, (1)Institute of Applied Ecology, University Autonomous of Tamaulipas, Mexico, (2)University of Texas - Pan American, USA. Tree species in the tropical deciduous forest in the Sierra de Tamaulipas, Tamaulipas, México.

PS 84-118 Pagnutti, C1, M Anand2, C Bauch2 and SA Levin3, (1)University of Western Ontario, (2)University of Guelph, (3)Princeton University. Modelling the Forest Transition.
8:30 am-10:30 am

**PS 85 - Latebreaking: Herbivory**
Exhibit Hall 3, Austin Convention Center


PS 85-120 Russell, FL and GR Houseman, Wichita State University. Variation in herbivore impacts on tall thistle reproduction: Roles of soil resources and herbivore diversity.

PS 85-121 Peters, VE1 and R Greenberg2, (1)Rollins College, (2) Smithsonian Migratory Bird Center. Food enrichment as driver for ecosystem service provisioning in shade-grown coffee.

PS 85-122 Cox, MD, University of Massachusetts. Florivory chemical defenses in Impatiens capensis flowers.

PS 85-123 Donovon, MP, PD Nabity and EH DeLucia, University of Illinois. Salicylic acid-mediated reductions in yield in Nicotiana attenuata challenged by aphid herbivory.

**PS 86 - Latebreaking: Invasion**
Exhibit Hall 3, Austin Convention Center

PS 86-124 Sekoni, TA, TW Boutton, CL Morgan, GW Moore and R Knight, Texas A&M University. Growth and ecophysiological characteristics of an exotic woody invasive plant.

PS 86-125 Savage, AM, KD Whitney and JA Rudders, Rice University. Can novel mutualisms with native species modify the community-wide consequences of ant invasions? A test using the Anoplolepis gracilipes invasion of the Samoan Archipelago.

PS 86-126 LeBrun, EG, RM Plowes and LE Gilbert, University of Texas at Austin. Imported fire ants near the edge of their range: Disturbance and moisture determine prevalence and impact of an invasive social insect.

PS 86-127 Tarpey, LM and RP Keller, University of Chicago. The US Federal Noxious Weeds list: Species included, the listing process, and outcomes for declared noxious species.

PS 86-128 McNellis, BE and AR Howard, Western Oregon University. A survey of daytime and nighttime gas exchange in invasive and native species of Rubus.

PS 86-129 Wang, L and DA Jackson, University of Toronto. Predicting species distributions: Examining the effects of sample size and species response shape on the performance of different statistical models using simulations.

PS 86-130 Kwiatkowski, MA1, D Saenz2, EM Fucik1 and TB Cotten3, (1)Stephen F Austin State University, (2)US Forest Service, (3)Arizona Game and Fish Department. Interactions between invasive species and climate change: The effect on aquatic amphibians.


PS 86-132 Nobles, T, DM Wallace and Y Zhang, Texas State University. Relationship of riparian tree species diversity and litter breakdown in a central Texas stream: The role of an introduced tree species.

PS 86-133 Lima-Junior, DP1, A Agostinho2 and LM Bini3, (1)Maringá State University, (2)Universidade Estadual de Maringá, (3)Universidade Federal de Goiás. Are non-native species larger in invaded ranges.

PS 86-134 Beaty, LE and CJ Salice, Texas Tech University. An end to cane toad roulette: Using stochastic modeling to focus cane toad control efforts in Australia.

PS 86-135 Davis, SL and D Cipollini, Wright State University. How environmental conditions and changing landscapes influence the survival of a rare woodland butterfly, Pieris virginiensis.


PS 86-137 Whitmire, SL1, RM Almodovar2, TD Burgos1 and JM Thaxter3, (1)University of Puerto Rico, Mayaguez, (2) University of Puerto Rico, (3)Universityof Puerto Rico. Ecosystem consequences of non-native grass species removal in Puerto Rico.

PS 86-138 Van Bloem, SJ1, SL Whitmire2 and V Vera2, (1)International Institute for Tropical Forestry, (2)University of Puerto Rico, Mayaguez. Ecosystem effects of removing non-native trees from early successional subtropical dry forests.

PS 86-139 Vonshak, M, Stanford University. The effect of distance from human disturbance on ant communities.

**PS 87 - Latebreaking: Land-Use and Land-Use History**
Exhibit Hall 3, Austin Convention Center


PS 87-141 Niedbalski, SD, JS McLachlan, CY Lumibao, K Flood and D Williams, University of Notre Dame. A population genetic approach to understanding the influence of land use on the distribution of Ambrosia artemisiifolia in New England.

PS 87-142 Hanuschevich, DI and CM Beier, SUNY College of Environmental Science and Forestry. Land use change at south-central Chile: A case study of socioecological systems.

**PS 88 - Latebreaking: Microbial Ecology**
Exhibit Hall 3, Austin Convention Center

PS 88-143 Malcolm, GM and MDM Jiménez-Gasco, Pennsylvania State University. Genetic diversity of Verticillium dahliae populations from oats (asymptomatic host) is lower than in populations from potato (symptomatic host).

PS 88-144 Yelton, AP1, K Wrighton1, K Handley1 and KH Williams2, (1)University of California, Berkeley, (2)Lawrence Berkeley National Laboratory. Vanadium removal and reduction from biostimulated sediments and isolation of the V-reducing Comamonadaceae, strain BODI.


**PS 89 - Latebreaking: Modeling**
Exhibit Hall 3, Austin Convention Center

PS 89-146 Dixon, KR, Texas Tech University. A physiologically-based toxicokinetic model to explore the uptake and distribution of crude oil PAHs in bottlenose dolphins (Tursiops truncatus) following exposure to oil spills.

PS 89-147 Kaganovskiy, L, Touro College. Mathematical modeling of canopies for herbivory.

PS 89-148 Baskerville, EB, University of Michigan. Modeling and prediction of feeding links using trait data.

PS 89-149 Ferrareze, M, M Canales-Aguirre1, B Morales-Pallero1, D Boric-Bargetto1, CB Canales-Águirre1 and A Meade3, (1)Universidad de Concepción, (2)Universidad de Valparaíso, (3)University of Reading. Using the Directional Comparative Method in Macroecology: The body size – latitudinal range relationship...
in the Sebastes genus (Pisces: Scorpaeniformes).

PS 89-151 Camargo, UM1, SM Freitas1 and G Ferraz2, (1)Biological Dynamics of Forest Fragments Project, Instituto Nacional de Pesquisas da Amazônia, (2)Smithsonian Tropical Research Institute. Use of canopy gaps by birds in the central Amazon: A quantitative approach with imperceptible detection.

PS 90 - Latebreaking: Physiological Ecology Exhibit Hall 3, Austin Convention Center

PS 90-152 Fincher, RM1, AC Gilmán2, C Moore1 and JT Pynne1, (1)Samford University, (2)Finca Los Nacientes. Forest restoration in abandoned cattle pastures in Costa Rica: Leaf traits determine light dependent tradeoffs between survival and growth in native and rare rainforest tree species.

PS 90-153 McGuire, MA1, J Bloemen2, DP Aubrey1, K Steppe2 and RO Teskey1, (1)University of Georgia, (2)Ghent University. Transport of dissolved CO2 in xylem sap and subsequent assimilation in Populus trees in the field.


PS 90-155 Lemons, CR1, DJ Peppe1, DL Royer2, IJ Wright3 and CH Lusk4, (1)Baylor University, (2)Wesleyan University, (3)Macquarie University, (4)University of Waikato. Linking ecologies of past and present: Fern leaf economics quantified.

PS 90-156 Wang, H, M Matsushita, N Tomaru and M Nakagawa, Nagoya University. Difference in female reproductive success between hermaphrodite and female individuals in a subdioecious shrub plant Euura japonica Thunb.

PS 90-157 McGinty, ES1, RF McMahon1, R Avina1, JN Pieczonka1 and LD Mydlarz2, (1)The University of Texas at Arlington, (2)University of Texas at Arlington. Shifting from mutualism to parasitism under environmental stress: Physiological evidence in symbiotic algae.

PS 91 - Latebreaking: Pollination Exhibit Hall 3, Austin Convention Center

PS 91-158 Gray, ML, Northwestern University and the Chicago Botanic Garden. The effects of floral density manipulation on the pollination and reproductive success of Penstemon pachyphyllus.

PS 91-159 Rabie, PA1, DL Larson1, S Droge2 and M Haar3, (1)US Geological Survey, (2)USGS, (3)Badlands National Park. Pollination network patterns in selected South Dakota badlands plant communities.


PS 91-161 Ho, S, Texas state university- San Marcos. Mechanical pollinator isolation in Louisiana iris: Legitimacy and pollen transfer.

PS 92 - Latebreaking: Population Dynamics Exhibit Hall 3, Austin Convention Center


PS 92-163 Cosentino, BJ1, CA Phillips1, RL Schooley1, WH Lowe2 and MR Douglas1, (1)University of Illinois, (2)University of Montana. Area and isolation predict metapopulation genetic structure of a pond-breeding amphibian.

PS 92-164 Low, C and SP Ellner, Cornell University. Tracking system dynamics when herbivore-plant interactions are net positive.

PS 92-165 Cunnings, AM, University of Calgary. Processes contributing to the deposition of buoyant seeds along river margins.


PS 92-167 Lorch, PD, Kent State University. Using boosted regression tree analysis to identify bioclimatic variables correlated Mormon cricket outbreaks.

PS 92-168 Levine, TD1 and DS White2, (1)Murray State University, (2)Murray State University. Spatial structure and spatial dependence of zooplankton taxa in Kentucky Lake.


PS 93 - Latebreaking: Remote Sensing and Image Analysis Exhibit Hall 3, Austin Convention Center

PS 93-170 Abdullah, HM, River Basin Research Center. Mapping biomass of agricultural fields including abandoned crop lands in a mountain area using QuickBird multispectral imagery.

PS 93-171 Hashiba, H, College of Science and Technology, Nihon University. Analysis of the struck situation of coastal habitat in Matsukawa bay Wildlife Park by the tsunami disaster in Eastern Japan using time series satellite observation image.

PS 94 - Latebreaking: Restoration Ecology Exhibit Hall 3, Austin Convention Center

PS 94-172 Jones, LC, Texas State University. Ecology and restoration of blackbrush (Coleogyne ramosissima) in the Mojave Desert.


PS 94-174 Krasnow, KD1 and AS Halford2, (1)University of California, (2)BLM Morley Nelson Snake River Birds of Prey NCA. Wildlife, management, and regeneration of quaking aspen (Populus tremuloides) in the Sierra Nevada and Glass Mountains, California, USA.


PS 94-176 Patterson, CT and LD Dimov, Alabama A&M University. Effects of overstory density and fertilizer supplement on American chestnut seedlings: Preliminary results.

PS 94-177 Alvarez-Aquino, C1, G Williams-Linera2 and J Tolome2, (1)Universidad Veracruzana, (2)Instituto de Ecologia A.C.. Effect of site condition, seasonality and species selection on tropical dry forest restoration.

PS 94-178 Soong, O and FW Davis, University of California Santa Barbara. Seedling recruitment of riparian trees along the Merced River, CA: Safe sites and tolerance.

FRIDAY  

8:30 am-10:30 am

PS 95 - Latebreaking: Species Interactions
Exhibit Hall 3, Austin Convention Center

PS 95-180 Cornell, CM¹ and PW Crumrine², (1)University of Virginia, (2)Rowan University. Effects of spatial scale and shared prey density on intraguild predation among aquatic invertebrates.

PS 95-181 Chang, N¹, HH Su² and LL Lee¹, (1)Institute of Ecology and Evolutionary Biology, National Taiwan University, (2)Institute of Wildlife conservation, National Pingtung University of Science and Technology. Relationship between gut retention time of primates, fiber ratio in diets, and seed germination.

PS 95-182 Erickson, DL¹, WJ Kress¹, V Novotny², G Wehilen³ and J Hrcek², (1)Smithsonian Institution, (2)University of South Bohemia and Biology Center, (3)University of Minnesota. Molecular reconstruction of tri-trophic interactions within a plant-herbivore-parasitoid-predator food web.

PS 95-183 Mighell, KL, University of North Texas. Investigations in Tayloria mirabilis spore dispersal via Dipertans in the Cape Horn Biosphere Reserve, Chile.

PS 96 - Latebreaking: Sustainability
Exhibit Hall 3, Austin Convention Center


PS 96-185 Park, C¹, DLee¹ and DTomlin², (1)Seoul National University, (2)University of Pennsylvania. Vegetation and soil carbon stock changes in South Korea, 2005-2030.

PS 96-186 Johnson, AL¹, DJ Bain², EM Copeland³ and CM Swan¹, (1)University of Maryland, Baltimore County, (2)University of Pittsburgh, (3)Pittsburgh Parks Conservancy. Volunteer urban environmental stewardship: An effective way to manage plant communities in city parks.

PS 96-187 Ma, B and J Gao, The International Center for Bamboo and Rattan. The driving force system of ecological construction in Muchuan county.

PS 96-188 Sanchez, CA, DL Childers and L Turnbull, Arizona State University. The contribution of evapotranspiration and evaporation to the water budget of a treatment wetland in Phoenix, AZ, USA.


PS 96-190 Lee, D¹, C Park¹, E KIM² and K Oh³, (1)Seoul National University, (2)Korea Environment Institute, (3)Hanyang University. Functional assessment of ecosystem for residential site development, South Korea.

PS 96-191 Alsina, MM¹, AC Fanton-Borges¹, KM Scow², P Brown¹ and DR Smart¹, (1)University of California, (2)University of California-Davis. Modeling N2O emissions for microirrigation systems in a nitrogen intensive perennial crop in California.

PS 97 - Latebreaking: Urban Ecosystems
Exhibit Hall 3, Austin Convention Center


PS 97-194 Moorhead, LC and SM Philpott, University of Toledo. Abundance, diversity, and composition of spiders in urban green spaces in Toledo.

PS 97-195 Meineke, EK¹, SD Frank¹, RR Dunn² and JO Sexton³, (1)North Carolina State University, (2)NCSU, (3)University of Maryland. Hot in the city: Scale insects, parasitoids, and the future of warmer urban trees.

PS 97-196 Park, J¹, DG Woo², S Yoo² and CH Park², (1)Environmental Planning Institute, Seoul National University, (2)The Graduate School of Environmental Studies, Seoul National University. Site selection for Leopard Cat Passages in a fragmented urban wildlife refuge by using space syntax.

PS 97-197 Woo, D¹. DH Oh², YJ Kim³, MW Yoo³ and CH Park¹, (1)The Graduate School of Environmental Studies, Seoul National University, (2)National Institute of Environmental Research, (3)Chungnam national University. Site selection for Leopard Cat Passages in a fragmented urban wildlife refuge by using space syntax.


PS 97-199 Gilmer, AR and ML Sanchez, University of North Texas. A student organization-centered approach for developing interdisciplinary collaborations and developing under-perceived biodiversity.

PS 97-200 Frank, SD¹, S Sidney², M Green², W Blankenship², B Guénard², I McAreavy², DM Sorger², H Stansell², M Theemmes² and RR Dunn³, (1)North Carolina State University, (2)North Carolina State University, (3)NCSU. Urbanization creates a hostile environment for native trees.

PS 97-201 Fischer, JD¹, JR Miller², TP Lyons² and SH Cleeton², (1)University of Illinois- Urbana/Champaign, (2)University of Illinois- Urbana/Champaign. Explaining the predation paradox: The role of predation in shaping urban wildlife communities.

11:30 am-1 pm

ESA Buell/Braun Student Award Committee Meeting
Austin Suite, Austin Convention Center

11:30 am-1:15 pm

PL 4 - ESA Closing Plenary
19A, Austin Convention Center

Panel Speakers: Steward Pickett, Alan Knapp, Terry Chapin, Jenny Talbot, and Joe Fader

11:30 am-1:30 pm

ESA Musicians Central
Registration Lobby, Austin Convention
Pendleton, Dan E. .................................. PS 65-116
Pendleton, Rich M. .................................. COS 228
Peng, Shaolin .................................. PS 86-131
Penning, Steven .................................. COS 94-5, OOS 44-7
Penning, Steven E. .................................. COS 237, COS 12-15
Pepe, Daniel J. .................................. PS 90-155
Perakis, Steven .................................. COS 73-4, PS 57-20
Perakis, Steven S. .................................. COS 73-2
Peralti, V. Thomas .................................. OOS 1-10
Perea, Juan Pablo .................................. PS 20-86
Pereira, Henrique M. .................................. COS 137-4
Pereda, José .................................. PS 72-23
Pereda, Fernando .................................. COS 93-9
Perera,引起 .................................. OOS 30-12
Perez, Juan Pablo .................................. PS 82-86
Perez-Joyosio, Felipe .................................. COS 25-4
Perez-Ovando, Jorge F. .................................. COS 35-10
Perez-Quijano, Ana Elisa .................................. COS 30-20, WP 30-46
Perez-Vila, Saleta .................................. COS 124-1
Peters, Mendelzo, Hibram Adan .................................. COS 20-92
Perfecto, Ivette .................................. COS 67-5, PS 14-72
Perkeron, B. .................................. SYMP 149
Perotto-Baldivieso, Humberto .................................. COS 81-83
Perotto, Jeffrey .................................. PS 11-28, COS 204-1
Perly, Charles H. .................................. OOS 35-35
Perly, Elizabeth B. .................................. COS 313
Permsani, Michael W. .................................. PS 76-37
Peron, Lennart .................................. COS 43, COS 205-4
Perrot, Gerhard .................................. COS 73-4
Pesek, Marek Francis .................................. PS 88-7
Petchey, Owen L. .................................. PS 65-110
Peterjohn, William .................................. COS 287
Peterjohn, William E. .................................. COS 132-2, COS 48-76
Peters, John W. .................................. PS 24-115, PS 24-118, PS 50-154
Peterman, Hans J. .................................. COS 16-4
Peters, D.P.C. .................................. SYMP 21-11
Peters, Debra .................................. WP 37-17
Peters, Debra C. .................................. COS 27
Peters, Debra P. C. .................................. COS 135-7, OOS 174-1
Peters, Jeffrey L. .................................. COS 48-5, PS 21-91
Peters, Valerie E. .................................. PS 85-121
Petersen, Brian C. .................................. COS 102-11
Petersen, A. Townsend .................................. COS 13-1
Petersen, Bryan J. .................................. COS 41-8, COS 35-9
Petersen, Celeste .................................. COS 14-2
Petersen, Chris J. .................................. COS 41-2, COS 54-8, COS 59-1
Petersen, James T. .................................. OOS 254-7
Petersen, Rolf O. .................................. COS 88-8, PS 55-190
Peterson, Spencer A. .................................. PS 9-105
Petere, Jr, Miguel .................................. PS 65-120
Petere, Sara D. .................................. COS 54-10
Petere, Paulo .................................. OOS 58-34
Petrov, Yuliya K. .................................. COS 12-8
Pezeshki, Reza .................................. PS 19-35
Pezzul, Meister, Laurel .................................. CO 19-71
Peston, John .................................. PS 29-163
Peston, Rachel L. .................................. PS 77-44
Phillip, Dirk .................................. PS 55-55
Philipp, Laurent .................................. COS 107-1, OOS 40-2
Phillips, Christopher A. .................................. COS 92-163
Philipp, Michele R. .................................. COS 427
Philipp, Nathan .................................. COS 5-1, COS 126-7, SYMP 112
Philipp, Oliver .................................. OOS 363
Phillips, Richard P. .................................. COS 31-5, PS 67-137
Phillips, Susan .................................. COS 381
Phillips, Timothy D. .................................. PS 11-140
Phillipsen, Ian C. .................................. COS 34-10
Phillips, Corey L. .................................. COS 343
Philp, Stacy .................................. COS 67-5, PS 89-174
Phinn, Stuart .................................. OOS 172
Pickens, Richard .................................. COS 383
Pickett, Steward T.A. .................................. OOS 26, SYMP 23-6, SYMP 24-1
Pickett, John M. .................................. COS 100-7, COS 106-3
Pieczonka, Jenna N. .................................. PS 90-157
Piedade, Maria .................................. PS 20-82
Piel, William .................................. PS 82-92
Piel, Suzanne A. .................................. COS 5-15, COS 9-49
Pier, Dayan S. .................................. PS 11-60
Piersen, Eric Corrie .................................. PS 62-77
Pijanowski, Bryan .................................. SYMP 11-3
Pillar, Braden .................................. COS 55-7
Pillars, Finn C. .................................. PS 86-89
Pilson, Smith, Elizabeth A.H. .................................. COS 94-6
Pilson, Diana .................................. COS 83-2
Pimentel, Edward .................................. PS 42-90
Pincelli, Stephanie .................................. SYMP 11-8
Pinenda-Krich, Mario .................................. COS 39-10
Pinto da Gervasio .................................. COS 87-1
Pintor, Tracy A. .................................. COS 125-8
Pino, Joan .................................. COS 95-9
Pipol, Josep .................................. PS 35-26
Piquinio, Brianna .................................. PS 78-51
Pirat, Jane L. .................................. COS 116-5
Pinto, Nalara .................................. COS 68-1
Pioves-Scott, Jonathan .................................. COS 137-9
Pierno, Dolores .................................. SYMP 3-5
Pinto, Jimmy .................................. COS 101-1
Pitot, Lisa .................................. OOS 19-1
Pitt, Amber L. .................................. COS 120-8
Pittermann, Jarmla .................................. PS 28-155
Pitt, James .................................. PS 63-61, PS 64-126, PS 80-68
Pivovarovaf, Alexander .................................. COS 284, COS 42-95
Pizzano, Camilla .................................. COS 57-8
Pizzaro, Cristobal .................................. PS 12-156
Plechner, Thomas .................................. OOS 344, SYMP 37-4
Placyk, John S. .................................. PS 74-18
Planey, James .................................. PS 2-32
Plank, Kimberly .................................. COS 119-10
Plazek, Bernadette J. .................................. OOS 106-4
Plantz, Allyson K. .................................. OOS 39-4
Platain, Jennifer M. .................................. PS 2-38
Platt, William J. .................................. COS 44-5, COS 80-4, PS 10-12, SYMP 158, PS 40-67
Platt, Jennifer .................................. OOS 37-9
Platt, Jennifer A. .................................. COS 79-5
Plavsic, Miljana .................................. PS 32-186
Plenzler, Michael A. .................................. COS 384-9
Plosiger, Walter .................................. COS 86-126
Plotnior, Raina K. .................................. COS 208-4
Poklonski, Olivia .................................. COS 41-3, COS 43-5
Pockman, William J. .................................. COS 35-38, COS 9-3, COS 9-2, COS 91-8, OOS 37-5
Pocock, Michael J. O. .................................. COS 241-8, COS 129-1
Poff, N.L. .................................. OOS 3-10
Pohlad, Bob .................................. WC 12
Pol, Jason H. .................................. PS 35-299, PS 9-84
Polasky, Steve .................................. COS 102-10
Pol, Grace .................................. COS 3-18
Pol, Dan .................................. COS 3-18
Pol, Dan .................................. COS 3-18
Pol, Dan .................................. COS 3-18
Pol, Dan .................................. COS 3-18
Pol, Dan .................................. COS 3-18