

# Ecological Society of America announces 2022 award recipients

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The Ecological Society of America is pleased to announce the winners of its 2022 awards, which recognize outstanding contributions to ecology in new discoveries, teaching, sustainability, diversity and lifelong commitment to the profession.

ESA will present the 2022 awards during a ceremony at the Society's upcoming Annual Meeting, which will take place in Montréal, Québec, from Sunday, August 14, through Friday, August 19.

*[Learn more about ESA awards.](#)*

**Eminent Ecologist Award:** Jianguo (Jack) Liu, Rachel Carson Chair in Sustainability and University Distinguished Professor, Michigan State University, Department of Fisheries and Wildlife

The Eminent Ecologist Award honors a senior ecologist for an outstanding body of ecological work or sustained ecological contributions of extraordinary merit.

Dr. Liu is the Rachel Carson Chair in Sustainability, a University Distinguished Professor and the Director of the Center for Systems Integration and Sustainability at Michigan State University. In this time of immense human-driven global impacts on the environment, the linkage between ecology and allied social science disciplines is essential. Dr. Liu has been pivotal in building these interdisciplinary bridges by serving as a pioneering researcher, mentor and leader in the development of the fields of coupled human and natural systems and sustainability science over recent decades.



Jianguo (Jack) Liu. Photo by Jordan Noble

Dr. Liu has originated several important concepts in sustainability science. His work combining remote sensing with ecological field work and surveys of people has introduced needed quantitative rigor to the evaluation of protected areas. This advance led to the insight that degradation of habitat may actually accelerate after it is legally protected, highlighting that legal protection is a step rather than an endpoint in sustainability. He was one of the first researchers to tie environmental impact to the number of households rather than population size alone. Dr. Liu's global perspective also led him to introduce the concept of telecoupling – with impacts on the environment often originating in socioeconomic processes occurring halfway around the globe. All these theoretical concepts and more have been applied to Dr. Liu's real-world influential work on conservation of the giant panda, a threatened but iconic species for conservation.

Perhaps inspired by his understanding of the human role in the sustainability of the environment, Dr. Liu has also been a devoted contributor to building the human capital and infrastructure in the research fields he cares so much about. He has been an editor or editorial board member of peer-reviewed publications at nineteen journals and served on three different ESA committees. He has served as the President of the U.S. chapter of the International Association of Landscape Ecology (US-IALE) and received both the top service and top research awards from US-IALE. In addition to directly mentoring over 50 Ph.D. students and postdoctoral fellows in his own lab, he has created and led the NASA-MSU Professional Enhancement Awards Program, which has supported over 440 scholars from approximately 170 institutions around the world, and also founded and led the International Network of Research on Coupled Human and Natural Systems (CHANS-Net), which involves over 1800 scholars. Through all of this work, he has increased the participation in and diversity of both ESA and the larger ecological and sustainability communities. Finally, Dr. Liu has gone the extra mile to ensure that his

sustainability research bridges into policy, including the aforementioned research findings and being a Coordinating Lead Author of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services' first global assessment.

**Distinguished Service Citation:** Jill S. Baron, Director of John Wesley Powell Center for Analysis and Synthesis and Research Ecologist at Fort Collins Science Center, U.S. Geological Survey

The ESA Distinguished Service Citation recognizes long and distinguished volunteer service to ESA, the scientific community and the larger purpose of ecology in the public welfare.

Dr. Jill S. Baron receives the Distinguished Service Citation for her extensive and valuable service to ESA over several decades and for her significant contributions to ecosystem science, her leadership in founding a center to address the synthesis of Earth system science and her activities bringing ecological science to policymakers.

Dr. Baron has served in many roles at ESA. In addition to serving as President in 2014, she served as Secretary, Governing Board Member-at Large and Annual Meeting Program Chair. Baron has also actively supported ESA journals in her roles as Associate Editor and Assigning Editor for Ecological Applications, and as Editor-in-Chief for Issues in Ecology. Among her other ESA contributions are service on ESA's Committee on Women and Minorities in Ecology, on ESA's Nominating Committee and as a SEEDS mentor. Recently, Dr. Baron worked with Dr. David Schimel to organize a special feature on diversity, equity and inclusion issues in ecology that was published in Ecological Applications in June 2021. These many contributions demonstrate Baron's career spanning dedication to building a strong ESA.

As a researcher, Dr. Baron has had a long and distinguished career as an ecosystem ecologist with the Natural Resource Ecology Laboratory at Colorado State University and the U.S. Geological Survey. She has published prolifically in excellent journals; her research has been cited over 20,000 times and she has played an important role in mentoring students and postdoctoral researchers. Baron was the 2014-2015 Resident Distinguished Ecologist at Colorado State University and is an ESA and AAAS Fellow. Dr. Baron is also the founding director of the USGS John Wesley Powell Center for Earth Systems Science and Synthesis at Colorado State University. The Center is highly successful in bringing together diverse groups of scientists to address important global issues.



Jill S. Baron. *Photo by Karen Fournier, Starstream Productions*



Collecting September samples in Sky Pond, Rocky Mountain National Park for water chemistry and primary productivity. *Photo by Isabella Oleksy*

In addition to her excellence in research and leadership in synthesis, Dr. Baron is skilled in science policy and regularly communicates science to government agencies and Congress. Of note is her participation in various congressional briefings. Additionally, she has led congressional field trips on climate change and atmospheric deposition impacts to western ecosystems. The U.S. Department of the Interior has recognized her contributions by giving her the Meritorious Service (2002) and Superior Service (2016) Award (2002); Rocky Mountain National Park honored her with the Stewardship Award in 2012. She and others were acknowledged by the USGS with the 2011 Shoemaker Award for Excellence in Communication for their work reorganizing the USGS science programs around major environmental challenges. These commendations demonstrate Dr. Baron's effectiveness in carrying out research in service to the larger purpose of ecology in the public welfare.

**Robert MacArthur Award:** Priyanga Amarasekare, Professor, University of California, Los Angeles, Department of Ecology and Evolutionary Biology

The Robert H. MacArthur Award honors an established ecologist in mid-career for meritorious contributions to ecology, in the expectation of continued outstanding ecological research. Award winners generally are within 25 years from the completion of their Ph.D.

This year's award is given to Dr. Priyanga Amarasekare. A native of Sri Lanka, Dr. Amarasekare received her Ph.D. from the University of California, Irvine, conducted postdoctoral research at the prestigious National

Center for Ecological Analysis and Synthesis, and was an Assistant Professor in Ecology and Evolution at the University of Chicago before moving to UCLA. Dr. Amarasekare is the rare ecologist whose work is simultaneously broad and deep and has important effects on every area it touches, from coexistence theory to climate change. Her distinction derives from making fundamental advances in the field while simultaneously tackling and solving important practical problems, using an integrative approach that strikes the balance between mathematical tractability, biological realism and societal importance.

Like Robert MacArthur, she has demonstrated exceptional ability in identifying maximally simple, yet not simplistic, models to achieve new insights on important ecological problems. She is able to see patterns or problems in nature and build models that unravel and explain those observations mechanistically and elegantly, and in the context of evolution. Her work combines biological insight with mathematical skills to develop general theory that applies broadly without sacrificing quality and depth. She has built on his legacy to become one of the few ecologists in the world who conducts both theoretical and experimental work. Like MacArthur, Dr. Amarasekare communicates her insights with logic and clarity without compromising rigor.

The impact of her research on ecology is demonstrated by being cited over 12,000 times since she completed her doctorate in 1998. In the past five years, she has garnered over \$1.7M in grants from NSF and the James S. McDonnell Foundation. Because of her expertise, Dr. Amarasekare is highly sought out as a keynote speaker at prestigious scientific meetings. She was asked to be the Specialty Chief Editor for the Models in Ecology and Evolution section of *Frontiers in Ecology and Evolution*, and has received numerous prestigious awards such as the John Simon Guggenheim Fellowship.

Dr. Amarasekare is also an outstanding mentor who has inspired generations of young scientists to follow in her footsteps. Her mentoring is not just at the graduate level: since 2007, she has mentored over 32 undergraduates, including REU students. Of these, 21 have conducted honors projects and five students have won the prestigious Whitcome



Priyanga Amarasekare. Photo by Kavan Wijeratne

Summer Research Fellowships. Dr. Amarasekare exemplifies all the qualities of Robert MacArthur, and it is with great pleasure that ESA announces her as the 2022 MacArthur awardee.

**Eugene P. Odum Award for Excellence in Ecology Education:**

Laurel J. Anderson, Professor, Ohio Wesleyan University, Department of Biological Sciences and Department of Environment & Sustainability

Odum Award recipients demonstrate their ability to relate basic ecological principles to human affairs through teaching, outreach and mentoring activities.

Dr. Laurel J. Anderson is the 2022 winner of the Eugene P. Odum Award for Excellence in Ecology Education. Dr. Anderson is a pioneer in transforming ecology education practices who has advocated for integrating authentic research in undergraduate education for more than a decade.

In 2009, she played an instrumental leadership role in establishing a distributed network for integrating ecology teaching and research at primarily undergraduate institutions (PUIs), which eventually became known as the Ecological Research as Education Network (EREN). With a large group of collaborators, she and others believed, ecology educators at PUIs could conduct valuable large-scale ecological research – akin to that done at R1 institutions – through collaborative networks, while also including their students in authentic research. Dr. Anderson’s work was instrumental in helping the community identify and implement a larger vision for a new model of ecology education at PUIs – and at all types of institutions. She has inspired many of her colleagues to transform their own pedagogies and use undergraduate research projects in their courses.



Laurie Anderson at Island In The Sky, Moab, UT, USA, October 2018, leading a field trip for undergraduate students on desert ecology. Photo by Nathan Rowley.



Laurel J. Anderson. Photo by Mark Schmitter

To continue expanding the impact of EREN, she has received, with colleagues, two additional NSF grants to integrate data from the National Ecological Observatory Network into EREN projects. To expand the impact of this work, she has also published and presented papers about EREN’s work in diverse outlets, including 13 presentations with five undergraduates as first author or co-author over the past 10 years at ESA’s annual meetings.

Dr. Anderson’s teaching excellence has been recognized at her home institution through her receipt of two named professorships: the



Libuse L. Reed Endowed Professorship (2007-2009) and the inaugural Morris Family Professorship of Natural Sciences (May 2019 to present). At the state level, she was named Ohio Professor of the Year by the Carnegie Foundation for the Advancement of Teaching and the Council for Advancement and Support of Education in 2015. Regarding service relevant to this award, she was a member of the Science, Technology, and Education Advisory Committee (STEAC) for the National Ecological Observatory Network (2016-2018), was the inaugural chair of ESA's Section for Researchers at Undergraduate Institutions (2007-09) and served as chair of the Odum Award Committee (2015-2017). Because of her inspiring leadership, ESA presents Dr. Anderson with this year's Odum Award for Excellence in Ecology Education.

**W.S. Cooper Award:** Dulcinea V. Groff, Kit Hamley, Trevor J. R. Lessard, Kayla E. Greenawalt, Moriaki Yasuhara, Paul Brickle, and Jacquelyn Gill

The Cooper Award honors the authors of an outstanding publication in the field of geobotany, physiographic ecology, plant succession, or the distribution of plants along environmental gradients. William S. Cooper was a pioneer of physiographic ecology and geobotany, with a particular interest in the influence of historical factors – such as glaciations and climate history – on the pattern of contemporary plant communities across platforms.



Groff et al. (2020) present a novel millennia-long perspective on the emergence of the distinctive coastal tussac grasslands of the Falkland Islands, following the Cooper tradition of understanding macro-scale vegetation patterns and dynamics related to environmental changes across space and time. Groff et al. integrate a broad range of processes and spatiotemporal scales to make a series of significant new findings, particularly the well-documented regime shift on the islands. Arguing that seabirds could be underappreciated drivers of ecosystem change on small nutrient-limited islands, the authors spark a different way of thinking about the study ecosystems and their governing factors, elevating the legacy of W. S. Cooper's efforts to consider how ecosystems are transformed by interactions among species and abiotic factors, from nutrients to climate.

[Seabird establishment during regional cooling drove a terrestrial ecosystem shift 5000 years ago. \*Science Advances\*, 6\(43\). DOI: 10.1126/sciadv.abb2788](https://doi.org/10.1126/sciadv.abb2788)

**George Mercer Award:** Brian C. Weeks, David E. Willard, Marketa Zimova, Aspen A. Ellis, Max L. Witynski, Mary Hennen and Benjamin M. Winger

The Mercer Award recognizes an outstanding, recently published, ecological research paper by a younger scientist (the lead author must be 40 years of age or younger at the time of publication).

This year's Mercer Award goes to the authors of "Shared morphological consequences of global warming in North American migratory birds." Their study employed a rigorous, intricate statistical analysis of the response of over 50 species of migratory birds across 40 years of global warming. The paper demonstrates a correlation between increasing summer temperatures and declining body size, suggesting that global warming may induce shifts to smaller body size in endotherms. The paper hypothesizes that increasing wing length is a compensatory response to declining body size to maintain flight efficiency.

[Shared morphological consequences of global warming in North American migratory birds. \*Ecology Letters\*, 23\(2\): 316-325. DOI: 10.1111/ele.13434](#)



**Sustainability Science Award:** Myla F. J. Aronson, Christopher A. Lepczyk, Karl L. Evans, Mark A. Goddard, Susannah B. Lerman, J. Scott MacIvor, Charles H. Nilon, and Timothy L. V. Vargo

The Sustainability Science Award recognizes the authors of the scholarly work that makes the greatest contribution to the emerging science of ecosystem and regional sustainability through the integration of ecological and social sciences.



The 2022 Sustainability Science Award is given to the authors of “Biodiversity in the city: key challenges for urban green space management.” This paper synthesizes the key challenges to sustaining biodiversity in urban systems and also incorporates ecological and sociological principles to overcome those challenges. The article has already had an impact on sustainability science, evidenced by its broad citation across diverse academic disciplines, including ecology, sustainability, and planning journals, as well as in city and regional planning documents and teaching curriculum.

[Biodiversity in the city: key challenges for urban green space management.](#) *Frontiers in Ecology and the Environment* 15(4): 189-196. DOI: 10.1002/fee.1480

**Forest Shreve Research Award:** Christopher T. Cosma, Ph.D. candidate, University of California, Riverside, Department of Evolution, Ecology, and Organismal Biology

Forest Shreve was an internationally known American botanist devoted to the study of the distribution of vegetation as determined by soil and climate conditions, with a focus on desert vegetation. The Forest Shreve Research Fund award supplies \$1,000-2,000 to support ecological research by graduate or undergraduate student members of ESA in the hot deserts of North America (Sonora, Mohave, Chihuahua, and Vizcaino).



Chris checks a moth light trap the morning after a successful sampling night in the creosote bush scrub desert of Boyd Deep Canyon. *Photo by Annika Rose-Person.*

The winner of this year's Forest Shreve Research Award is Christopher Cosma, for his dissertation work on moth pollinator networks in the Sonoran Desert. His work uses a 2,400-meter elevation gradient and DNA metabarcoding to identify pollen-transport across space and time. This work simultaneously identifies some of the abiotic and biotic drivers of pollinator network composition and structure, while also providing predictions for how pollinators and associated plant species may respond to climate change. While most research has focused on highly specialized interactions such as the yucca-yucca moth relationship, there is growing evidence that entire

communities of moths and plants are involved in nocturnal pollination networks that rival their diurnal counterparts in scale and complexity. By analyzing how network structure and stability vary in relation to abiotic and biotic factors along an elevational gradient, this research will help inform predictions about how plant and insect communities will be impacted by climate change.

**Commitment to Human Diversity in Ecology Award:** Stan D. Wullschleger, Associate Laboratory Director, Oak Ridge National Laboratory, Biological and Environmental Systems Science Directorate

The Commitment to Human Diversity in Ecology Award is in recognition of long-standing contributions of an individual toward increasing the diversity of future ecologists through mentoring, teaching or outreach.

Stan Wullschleger is the recipient of this year's Human Diversity in Ecology Award. Dr. Wullschleger is Associate Laboratory Director of the Biological and Environmental System Science Directorate at Oak Ridge National Laboratory and the Director of ORNL's Climate Change Science Institute.



Stan D. Wullschleger. *Photo by Carlos Jones, Oak Ridge National Laboratory.*



Assessing plant community composition across tundra landscape near Council, Alaska. *Photo by Roy Kaltschmidt*

His long-standing contributions have expanded the diversity of ecologists through mentoring, teaching and outreach. In his 30 years of experience, Dr. Wullschleger has interacted with hundreds of scientists, technicians and students, providing leadership, strategic planning and professional development opportunities. His career in the government is marked by his commitment to providing opportunities and safe spaces and to highlighting the contributions of different ethnic groups, gender identities and cultures. ESA honors him for his initiatives to create an inclusive and diversified culture among scientists while bringing awareness to the discipline and ecological profession.

## 2021 Annual Meeting Student Awards

**Murray F. Buell Award for Excellence in Ecology:** Reut Vardi, Postdoctoral Researcher, Tel-Aviv University, Department of Zoology

Murray F. Buell had a long and distinguished record of service and accomplishment in the Ecological Society of America. Among other things, he ascribed great importance to the participation of students in meetings and to excellence in the presentation of papers. To honor his selfless dedication to the younger generation of ecologists, the Murray F. Buell Award for Excellence in Ecology is given to a student for the outstanding oral paper presented at the ESA Annual Meeting.



Mist netting and ringing house sparrows to test behavioral flexibility in different urban settings.  
*Photo courtesy of Reut Vardi.*

The 2021 Buell Award goes to Reut Vardi for her outstanding oral presentation at the 2021 ESA Annual Meeting, titled “iNaturalist insights illuminate COVID-19 effects on large mammals in urban centers.” Dr. Vardi’s timely and well-designed research combined popular media and citizen science to address COVID-19 impacts on large mammals in urban centers. Her findings demonstrate that lockdowns associated with the COVID-19 pandemic did not lead to wildlife reclaiming urban areas in the United States as much as claimed by popular media outlets. Dr. Vardi found that

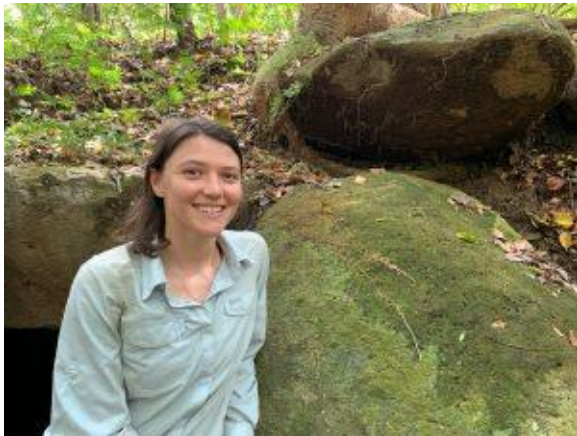
although pumas expanded in some regions, other wildlife species did not, suggesting that differences in human behavior during lockdowns, wildlife behavior, and evolutionary history may have affected the outcomes. The results highlight the immense potential of citizen science data to explore urbanization effects on wildlife, and shed light on the importance of urban greenspaces to people living in cities.

**Lucy Braun Award for Excellence in Ecology:** Caroline S. Dallstream, Ph.D. student, McGill University, Department of Biology

Lucy Braun, an eminent plant ecologist and one of the charter members of the Society, studied and mapped the deciduous forest regions of eastern North America and described them in her classic book, *The Deciduous Forests of Eastern North America*. To honor her, the E. Lucy Braun Award for Excellence in Ecology is given to a student for the outstanding poster presentation at the ESA Annual Meeting. Papers and posters are judged on the significance of ideas, creativity, quality of methodology, validity of conclusions drawn from results, and clarity of presentation.



Caroline S. Dallstream. Photo by Joelle Petitti.



Dallstream's work with leaf nutrient resorption conjured many questions about the roles of roots in plant nutrient economies. In a recent trip to Costa Rica, her team found tropical fine roots exploring a mossy patch. Photo by Mia

Caroline S. Dallstream is the 2021 E. Lucy Braun Awardee for the most outstanding poster presentation at the 2021 ESA Annual Meeting. Her poster, entitled "Drought promotes early leaf abscission regardless of leaf habit but increases litter phosphorus losses only in evergreens," demonstrated drought impacts on ecosystem nutrient cycling through changes in litter chemistry. Dallstream's findings show that drought can cause premature leaf shedding in southern temperate forests, but that it affects deciduous and evergreen nutrient cycling differently. Her study suggests that more frequent and intense droughts could further alter nutrient cycling, leading to increased litter phosphorus losses for evergreens and potential shifts in species composition in southern temperate forests.