

Ecological Society of America announces 2020 award recipients

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For Immediate Release

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The Ecological Society of America (ESA) will present the 2020 awards recognizing outstanding contributions to ecology in new discoveries, teaching, sustainability, diversity, and lifelong commitment to the profession during the Society's Annual Meeting August 2-7. ESA is weighing whether to hold an in person meeting in Salt Lake City that includes a virtual option or whether to hold a totally virtual meeting instead to protect human health due to the pandemic. Either way, an awards ceremony will be held. Check the ESA [Annual Meeting website](#) for updated information.

Eminent Ecologist Award: Monica G. Turner

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

Dr. Monica G Turner – Eugene P. Odum Professor of Ecology and Vilas Research Professor at the University of Wisconsin Madison – is the recipient of the 2020 Eminent Ecologist Award. Her work has crystallized landscape ecology as a discipline and has shaped the field into a quantitative discipline grounded in theory about processes that influence landscape dynamics.

Turner's work has fundamentally impacted a range of diverse fields including disturbance ecology, fire ecology, forest ecology, biogeochemical cycling, and land management. She created some of the earliest and most influential computer simulations of spatially-explicit processes, which established an important research tool for decades of subsequent discovery. Her work following the 1988 national debate over extensive fires in Yellowstone was paradigm-changing, demonstrating that large-scale, infrequent, and climate-driven fires can be natural and rejuvenating occurrences in coniferous forests. Contrary to prevailing expectations, she showed that large fires generated heterogeneous landscapes in which both plants and animals recovered rapidly and naturally. She later generalized this work by examining how large and infrequent



disturbances – from volcanoes to hurricanes – can serve as important forces that shape ecological systems.

Turner inspires early-career scientists – she has mentored over 50 graduate students and postdocs and is a role model for scientists across the discipline. She is well-known for fostering a positive, collaborative, and intellectually challenging culture of science, and she is widely recognized as both generous with ideas and open to new ways of thinking.

Finally, Monica Turner has influenced ESA through exceptional service and leadership. She has provided over 30 years of continuous service to the society in the form of meeting planning, awards, society vision, public affairs, the search for a new publisher for the society's journals, and in the search for the newest executive director of the society. Most notably, she served as ESA's president in 2015-2016. As a leader in the society, she has been a staunch advocate for increasing diversity, equity, and inclusion. Through her conviction that human diversity enriches science and society, her commitment to the next generation of scientists, and her passion for continued scientific innovation, Monica Turner has shaped the culture and discipline of ecology.

Distinguished Service Citation: Anthony C. Janetos

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.

The 2020 award is posthumously awarded to Anthony C. Janetos for his long and distinguished career of service. He brought extraordinary vision and leadership to enhancing the role of ESA in public affairs, to advancing the science of ecology and global change, and to communicating ecological science to decision makers and policy makers. Janetos exemplified distinguished service to ESA, to the larger scientific community, and to the larger purpose of ecology in the public welfare.

Tony Janetos had a distinguished career focused on global change science and policy. He earned international recognition for his scholarship, and he held leadership positions at a broad array of institutions, including the National Aeronautics and Space Administration (NASA), the Environmental Protection Agency (EPA), the World Resources Institute, and the Heinz Center for Science, Economics, and the Environment. He co-chaired the First National Climate Assessment, served as Director of the Joint Global Change Research Institute at the University of Maryland, and played key roles in the US Global Change Research



Program and the Intergovernmental Panel on Climate Change. Most recently, he served as the Frederick S. Pardee Professor and Director of the Frederick S. Pardee Center for the Study of the Longer-Range Future at Boston University.

Janetos was particularly well known for synthesis and communication about global change. He served on an enormous number of committees focused on environmental research and decision-making, including eight different committees for the National Academy of Science, as well as the standing NAS Board on Atmospheric Sciences and Climate. He chaired the National Science Foundation's Advisory Committee for Environmental Research and Education, as well as the National Advisory Board for NSF's Long-Term Ecological Research Program. He was called upon to provide scientific guidance to a long list of government agencies, including the National Institute of Global Environmental Change, NASA, the EPA, the National Science Foundation (NSF) Agency for International Development (USAID), the National Oceanic and Aeronautics Administration (NOAA,) and the Swiss National Science Foundation. Over his career, he gave over 600 talks to the scientific community, the public, policymakers, and elected officials, including several instances of congressional testimony. One of his remarkable strengths was his ability to make global change science accessible to decision makers in government and business.

With ESA, Janetos served on the society's Governing Board as Vice President for Public Affairs and chaired the Public Affairs Committee, which is responsible for developing and implementing policy on public affairs and outreach activities for the ESA. With others, he was instrumental in developing options for implementing the Project Office of ESA's Sustainable Biosphere Initiative. His work with ESA also included leading a review of the scientific quality of the ESA's special publication series *Issues in Ecology*, the impact it has had on environmental policy and education, and the performance of its lead editor. He served as a member of the Special Committee on Data Archive and Sharing, which was responsible for recommending policies for creating electronic archives for ecological data, and he helped to implement ESA's responsibilities as part of the Mellon Foundation JSTOR project. Finally, Janetos also served on the Editorial Board of Ecological Applications. In recognition of both his scholarship and his overall contributions to the advancement and application of ecological science, he was elected an ESA Fellow in 2012.

In all respects, Tony Janetos exemplified distinguished service to the ESA, to the larger scientific community, and to the larger purpose of ecology in the public welfare.

Robert MacArthur Award: Jonathan M. Levine

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 PhD.

This year's award is given to Jonathan M. Levine, Professor at Princeton University in the Department of Ecology and Evolutionary Biology. Levine is a leader in ecology best-known for his work on the structure, diversity, and invasibility of ecological communities. Following the legacy of Robert MacArthur, Levine is a master at revealing simple mechanisms underlying complex patterns. A hallmark of his work is highly controlled experiments that make it possible to link theory and data, thereby exposing the fundamental processes regulating complicated systems. His work has given both inspiration and guidance to the field of ecology. He has also served the field by training a new generation of ecologists, whose collective successes have been remarkable.



Levine received his PhD from University of California Berkeley, before studying mathematical models of species coexistence as a postdoctoral researcher at the NERC Center for Population Biology at Imperial College London, Silwood Park. Levine taught as an assistant professor at University of California Los Angeles, before moving to University of California Santa Barbara where he eventually became a professor. Levine became a professor of Plant Ecology at the Swiss Federal Institute of Technology in Zurich, where he served until moving to Princeton University in 2019. His research emphasizes the controls over species coexistence, plant migration and invasion, and how communities respond to climate change.

Eugene P. Odum Award for Excellence in Ecology Education: Jennifer Funk

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

Dr. Jennifer Funk – Professor at Chapman University, Schmid College of Science and Technology – is the 2020 award winner of the Eugene P. Odum Award for Excellence in Ecology Education. Funk has a very strong record of excellence in teaching,



mentoring, outreach, involvement with underrepresented groups, and in involving students in her top-level ecological research. She has taught and mentored students across all levels, starting from K-12 up to the post-doc level. By all accounts she is a passionate, thoughtful, and inspiring teacher, who is up-to-date with all of the latest models for innovative pedagogy to engage her students. Funk developed the Chapman Orange High School Ecological Research Experience (COHERE) program as part of her prestigious NSF CAREER award, which offers high school students the chance to learn sophisticated biogeochemical and ecological lab techniques. She has been a transformational board member and chair of the scientific advisory board for the California Invasive Plant Council, which is a boundary organization that translates and synthesizes invasive species research for the direct use of land managers. She serves as Chapman University's Biology Program Director and Mentor for the Simon STEM Scholarship program for students facing difficult life and economic circumstances.

In just 13 years as a professor at Chapman University, Funk has transformed the role of the science professor in primarily undergraduate liberal arts institutions. She is a thought leader in invasive plant research with 38+ referred journal articles in top ecological journals (many including her undergraduate students as co-authors), 7 book reviews and book chapters, \$2.3 million raised in NSF USDA and private foundation grants, and 80+ students from high school through post-doctoral fellow mentored by her. She is also the co-founder, chair and secretary of the Invasion section for ESA as well as the secretary for the Ecophysiology section.

Robert H. Whittaker Distinguished Ecologist Award: David A. Wardle

The Whittaker Award recognizes an ecologist with an earned doctorate and an outstanding record of contributions in ecology who is not a U.S. citizen and who resides outside the United States.

Dr. David A. Wardle – Professor at the Nanyang Technological University, Asian School of the Environment – is the recipient of this year's award. Wardle is one of the most influential ecologists of our time and has made major contributions in multiple aspects of ecology. He is

internationally recognized as scientific leader, in particular for his pioneering work improving understanding of the mechanisms and implications of the linkages between above- and belowground components of terrestrial ecosystems.



The breadth and impact of Wardle's work speak to his appropriateness for receiving this award. He has been included on every list of 'highly cited researchers' from 2006 onwards and is among the world's 20 most cited scientists in the Ecology and

Environment category since 2007. His research has not only won numerous awards and played pivotal roles in advancing ecology, but he has had notable impact in ecological education, service, and informing. Wardle's extensive work on the impact of invasive species underpins New Zealand's Department of Conservation draft strategy for managing forested offshore islands and the country's current strategy for monitoring the effectiveness of forest pest management. His work provides scientific basis for informing policy debate on topics including biomass and carbon sequestration, and old growth forests vs intensively managed forests. He is truly an international scientist, as a native New Zealander who spent much of his research career at Umeå and is now largely based at Singapore, all the while collaborating with scientists from every continent. In sum, Wardle is an exceptional choice for this award.

Whittaker Travel Award: Julieta Aranibar

The Whittaker Travel Award specifically recognizes an outstanding ecologist in a developing country. They can be at any career stage. The award provides funds for travel to the United States for research or to attend the ESA meeting, covering expenses up to \$1200.

The 2020 Whittaker Travel Award goes to Dr. Julieta Aranibar, associate professor at University of Cuyo, and a scientist at the Instituto Argentino de Nivología, Glaciología y Ciencias Ambientales (IANIGLA). She is a respected scientist in the field of desert ecology has a record of high quality and innovative science. Aranibar's work brings together multiple research approaches to ask questions about how ecosystems function and respond to change. Her focus on sustainable land use, isotopic tools, and on linking terrestrial and aquatic perspectives sets her research apart. Her career to date has resulted not only in strong science, but has motivated the careers of numerous other scientists and has made science accessible to those outside of the research realm. Aranibar's work emphasizes transferring knowledge through education and outreach and traveling to the United States will allow for further collaboration and knowledge exchange.



Forest Shreve Research Award: Flor Hernandez

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).



The winner of this year's Forest Shreve Award is Flor Hernandez, a PhD student at the University of Texas, El Paso, Department of Ecology and Evolutionary Biology. Hernandez works under the mentorship of Dr. Philip Lavretsky studying bird populations in the Chihuahuan Desert. She will use the award to establish a bird banding station at the Indio Mountains Research Station in western Texas. The research will provide a much-needed opportunity to increase our understanding of the diversity and natural history of the birds of the Chihuahuan Desert, to assess the temporal and spatial dispersion patterns of these avian communities, and to train undergraduates and educate the public about the avian communities and the research approaches used for these spectacular desert organisms.

W.S. Cooper Award: Carolina Levis, Flavia R. C. Costa, Frans Bongers, Marielos Peña-Claros, Charles R. Clement, André B. Junqueira, Eduardo G. Neves, Eduardo K. Tamanaha, Fernando O. G. Figueiredo, Hans ter Steege

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.

This paper by C. Levis and over 150 co-authors wins the Cooper Award for 2020. The research brings attention to the astounding longevity of effects that humans have on plant communities. They present environmental gradients that are altered by Amazonian peoples, whose management of forest plant communities is still evident today via the association of domesticated plant species with archaeological sites. Levis et al.'s work shows that humans have long been an effective component of how environmental and evolutionary processes shape species' distributions.

For full author list, see the paper citation:

[Levis, C., et al. 2017. “Persistent effects of pre-Columbian plant domestication on Amazonian forest composition.” Science, 355\(6328\), 925-931. DOI: 10.1126/science.aal0157](#)

George Mercer Award: J. Mason Heberling, Caitlin McDonough MacKenzie, Jason D. Fridley, Susan Kalisz, Richard B. Primack

The Mercer Award recognizes an outstanding, recently-published, ecological research paper by young scientists.

This year’s Mercer Award is given to the authors of the paper “Phenological mismatch with trees reduces wildflower carbon budgets.” J. Mason Heberling and coauthors show creative and powerful integration of historical records and contemporary experiments covering many species. They tell a convincing and important scientific story with notably clear writing and compelling visuals. The use of historical phenological observations, the oldest of which were made by Henry David Thoreau in the 1850s, alongside long-term temperature records, contemporary garden experiments, and a simulation model is the icing on the cake, extending the timespan of the historical data and providing a “hook” to engage the interest of the media and the general public.

[J Mason Heberling, et al. 2019. “Phenological mismatch with trees reduces wildflower carbon budgets.” Ecology Letters 22: 616-623. DOI: 10.1111/ele.13224](#)

Sustainability Science Award: Drew Harvell

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 2020 Sustainability Science Award recognizes Dr. Drew Harvell – professor of Ecology and Evolutionary Biology at Cornell University – for her writing on ocean conservation in her book “Ocean Outbreak; Confronting the Rising Tide of Marine Disease.” With a beautifully written narrative, the book gives hope for addressing the massive emerging problem of marine disease outbreaks. Harvell’s book explains how infectious diseases shape marine ecosystems, using examples with coral, abalone, salmon and sea stars. In addition to examining how an animal’s immune system, the environment, and pathogens interact to cause diseases, she also demonstrates that human actions can spread or exacerbate disease outbreaks. The book is directed at both



scientific and more general audiences, it won the PROSE Award for Biological Sciences and it has been favorably reviewed in Smithsonian Magazine, Forbes, New Scientist, and Nature.

[Drew Harvell, 2019. Ocean Outbreak; Confronting the Rising Tide of Marine Disease.](#)
[University of California Press.](#)

Innovation in Sustainability Science Award: Jianguo Liu, Vanessa Hull, H. Charles J. Godfray, David Tilman, Peter Gleick, Holger Hoff, Claudia Pahl-Wostl, Zhenci Xu, Min Gon Chung, Jing Sun, Shuxin Li.

The Innovation in Sustainability Science Award recognizes the authors of a peer-reviewed paper published in the past five years exemplifying leading-edge work on solution pathways to sustainability challenges.

The 2020 award is given to the authors of the paper “Nexus approaches to global sustainable development.” Jianguo Liu and colleagues describe how the integration of ecology with other biophysical sciences, engineering, and social sciences can foster more sustainable management of multiple intertwined sectors and challenges. The work could impact biodiversity conservation, climate change mitigation, energy security, poverty alleviation, and provisioning of food and water. The paper is authored by a highly international group of interdisciplinary scholars from universities and non-governmental organizations, spanning a range of career stages. The paper builds on nexus approaches addressing interactions between the food, energy, and water sectors, and suggests useful paths toward better planning, decision-making, governance, and resource management.

[Liu, J., et al. 2018. “Nexus approaches to global sustainable development.” Nature Sustainability, DOI: 10.1038/s41893-018-0135-8](#)