

[Whitney R. Harris World Ecology Center](#)

News

Dr. Lincoln P. Brower Receives the Conservation Action Prize

Dr. Lincoln Brower, the 2014 Jane and Whitney Harris lecturer, was presented with the



Dr. Lincoln Brower with Anna Harris (photo: R. Marquis)

Conservation Action Prize on April 16. This [Conservation Action Prize](#) honors the “unsung heroes” of conservation; those conducting work in the field that otherwise would go unrecognized by many of their peers or the general public. A Professor Emeritus at Sweet Briar College, [Lincoln Brower](#) is now in his 59th year of studying the biology of the monarch butterfly. He is recognized with the Conservation Action Prize as a result of his efforts to establish protection for the overwintering grounds of the monarch butterfly in Mexico, for his scientific

zeal for this iconic butterfly species that he imparts to others to protect the butterfly, and because he has been little recognized for his contribution. Upon discovery of the wintering grounds in Michoacan, Mexico, Dr. Brower perceived immediately a conservation problem: there was no protection for the forest trees that provide roosting sites and protection from the elements for overwintering butterflies. He worked with the Mexican government, local communities, Mexican biologists and conservationists, and the World Wildlife Fund to provide legal and community protection for the overwintering grounds. He continues to advocate for the protection of the migrating population of this species in North America, and for continued protection both of fir forests in Mexico and its breeding grounds in the U.S. and adjacent Canada. He has inspired countless biologists, conservationists, and members of the public to advocate for the protection not only of this butterfly species, but for nature in general. Listen to an [interview](#) with Dr. Brower by National Public Radio’s Veronique Lacapra.

Peter Stevens Soon to Retire



Dr. Peter Stevens, professor in biology, will retire at the end August 2014. He will hold the position of Founders Professor for the next three years as well as become a Professor Emeritus. Dr. Stevens joined the Biology faculty at UM-St. Louis in 1999, leaving Harvard University where he was curator of the Arnold Arboretum and the Gray Herbarium. He spent a number of years studying plant species of the heath family from New Guinea. More recently he has maintained the [Angiosperm \(flowering plants\) Plant Phylogeny Website](#) hosted by the Missouri Botanical Garden, an invaluable resource to all those studying evolution of plants above the species level. He is also a contributing member of the Angiosperm Phylogeny Group, which is responsible for revising the phylogeny of flowering plants as needed. While at UMSL, he served on the committee or was the primary mentor of 30 graduate students who have completed their degrees, and for another 5 students still in progress.

He served as Scientific Director of the Harris Center from 2003-2009, and Chair of the Biology Department 2007-2010. He has led numerous spring wildflower walks for Harris Center associates over the years, always enjoyed by and benefiting all those participating. We look forward to these walks long into the future!

Cindy Vantine is Recognized



Lucinda Vantine, Director of University Events, was recognized by the Harris Leadership Council at its January 2014 meeting for her exceptional contribution to the ICTE/Harris Center over the years. Cindy has helped plan and direct every World Ecology Award Event and Gala since its inception, beginning with John Denver in 1990 and going through Prince Albert II of Monaco in 2013. Cindy arranges tables, seating, guest lists, catering, budgets, and invitations, among other things, all behind the scenes so that these events run smoothly. We appreciate her contributions over the years, and look forward to seeing her at the next gala.

Robert Marquis and Cindy Vantine (photo: R. Samples)

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New Faculty Appointment



The Department of Biology announces a new tenure-track faculty hire. Dr. Lon Chubiz was hired to fill a vacated faculty position in the area of microbiology and will join the faculty in August 2014. Lon studies the molecular biology, community ecology, and evolution of antibiotic resistance in bacteria. One particular focus is developing novel strategies for overcoming antibiotic resistance in bacteria like *E. coli*. He received his B.Ch.E. from the University of Minnesota, and his M.S. and Ph.D. degrees in chemical and biomedical engineering from the University of Illinois-Urbana Champaign. He is currently a postdoctoral associate with [Christopher J. Marx](#) at Harvard University. We look forward with great anticipation to his joining our faculty.

Spring Wildflower Walk

Peter Stevens led a spring wildflower walk at the [Shaw Nature Reserve](#) on Sunday May 4, a gloriously sunny but windy day. Members of the Harris Leadership Council (Bob Marquis and Liz de Laperouse) were there as well as students from each of the three major universities, along with a Danforth Plant Science Center rep, Dr. Toby Kellogg, for a total of 25 participants. “I learned so much, but hardly could keep up with all the knowledge that Dr. Stevens conveyed,” said one aspiring botanist. It was great fun to hear about and see relatives of Missouri plants that occur in China, Missouri plants related to those in tropical wet forests of South America, and basal monocotyledons.



(photo: R. Marquis)

New Endowed Scholarship Established

The Whitney R. Harris Center Community Partnership Endowed Scholarship/Fellowship has been established using the \$70,000 net proceedings from the World Ecology Medal Gala honoring Prince Albert II of Monaco. The University, in establishing the Fund, will match the earnings from the endowment each year in perpetuity, for a guaranteed total distribution of 9% annually. Funds will support the research of a deserving Biology undergraduate or graduate student. The Harris Center is actively seeking further matches from its community partners to

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increase the dollar amount of each scholarship/fellowship awarded. Thank you to all of our supporters, and to Deborah Godwin for helping to establish this Fund.



Harris Center Holds Strategic Planning Sessions for 2015-9

The Harris Center is entering a new five-year period of operation, and in preparation, is developing a five-year plan for 2015-9. During the months of April and May, the Center held various meetings with key stakeholders and campus units, culminating in a full day session on May 16 on the UMSL campus. This

meeting included members of the Biology faculty, graduate students, representatives from the Saint Louis Zoo, Missouri Botanical Garden, City of St. Louis, the Audubon Center, The Nature Conservancy, and the Harris Executive Committee, Scientific Board, and the Leadership Council. Julie Stone, Director of the Local Government Partnership known as the East-West Gateway Alliance, helped plan the sessions with Robert Marquis and facilitated the meetings themselves. We thank her greatly! A draft plan will be submitted to the Harris Leadership Council on September 12 for their discussion, comments, and eventual approval.

Director of the Audubon Center at Riverlands Moves On



Dr. Patricia Hagen (right), seen here with Dr. Susan Flader, Missouri Conservationist of the Year (Photo: R. Marquis)

Dr. Patricia Hagen, Executive Director of the [Audubon Center at Riverlands](#), and strong supporter and friend of the Harris Center, left her position with Audubon in mid-May to take on a new position with T-Rex, a technology incubator in downtown, St. Louis. Dr. Hagen oversaw the establishment of the unique partnership between [National Audubon](#), [Audubon Missouri](#), and the [Army Corps of Engineers](#), which led to the Audubon Center at the 3700-acre reserve and avian observatory at Riverlands. The Riverlands Center held its grand-opening October 2011. The observatory and reserve bring in thousands of school children each year, many of whom experience nature up close for the first time. Fifty thousand visitors per year come to the Audubon Center to observe birds, especially during the winter months. They enjoy watching eagles fish from Mississippi River, pelicans swoop overhead,

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and trumpeter swans by the hundreds. Patty Hagen has served on the Scientific Board of the Harris Center, and most recently took part in our strategic planning for 2015-9. She has helped secure funding from the Army Corps of Engineers to support an UMSL Biology graduate student for three years as a research assistant. This student will help monitor bird populations in Mississippi River bottomlands and to analyze data from the Upper Mississippi Flyway to understand the importance of bottomland forests for preserving populations of native bird species. Vona Kuczynska (M.S., Marquis lab) holds that position until fall, when Emma Young (B.S., Vassar College) will take her place, and start as a new doctoral student in Robert Ricklefs lab in the UMSL Biology graduate program. These are very positive steps towards forging a new partnership with the Audubon Center. A number of UMSL Biology undergraduate and graduate students are currently conducting internships with Audubon Center at Riverlands. We thank Patty sincerely, and wish her all the best in her new position.

Latin American Conservationists Visit the Harris Center



On May 27, Robert Marquis hosted 13 members Latin American leaders in biodiversity conservation from the International Visitor Leadership Program. This program is sponsored by the U.S. Department of State, bringing middle-ranked, “up-and-comers” in their various areas of expertise to the U.S. The focus of this particular group is environmental protection and biodiversity. They come to the U.S. to spend about 3 weeks in 5 different cities to

meet with people in similar avocations and experts in their field living in the U.S. while also absorbing some of the culture and getting to know and understand the American people. This group visited to assess U.S. efforts to protect biodiversity through environmental protection policies and sustainable land and water management programs; to explore governmental and non-governmental programs designed to encourage biodiversity protection as well as sustainable land and water management programs; and to discuss how local and regional natural resources development and land management decisions influence biodiversity conservation efforts. The visitors included Natalia Araujo (Bolivia), Ignacio Toro (Chile), Dr. Jorge Gutierrez (Colombia), Maximo Herrera (Dominican Republic), Gabriela Read (Dominican Republic), Mayra Vera (Ecuador), Juan Gemmell (Guatemala), Carmen Cedono (Nicaragua), Ibelice Anino (Panama), Galia Galvez (Peru), Denisse Caruso (Venezuela), Edy Fernandes (Venezuela), and Nestor Gutierrez (Venezuela). In addition to visiting the Harris Center, they also visited Monsanto, the Saint Louis Zoo, and the Missouri Botanical Garden.

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Harris Center at the USA Science and Engineering Festival



The Harris Center sent Christina Baer, UMSL Biology graduate student, to Washington D.C. April 26-28 to person a booth at the [U.S. Science and Engineering Festival](#). Christina put together a number of hands on demonstrations, including a nature quiz, and showed a model Ozark Hellbender, thanks to help from the Saint Louis Zoo. Cynthia Kramer, Executive Director of SCOPE, made the opportunity a possibility by providing exhibit space and transporation for Harris exhibit materials, and Liz de Laperouse, Sarah Trulaske, and Julie Schoettley made it a

reality by providing support and funding for Christina to travel to Washington. Christina estimates that she talked to between 1900 and 2000 people over the three days.

Harris Center Students on OTS Courses

The University of Missouri-St. Louis is a member of the [Organization for Tropical Studies](#) (OTS), which provides courses in tropical ecology, many in Costa Rica. This January through March, four graduate students participated in these courses. Camilo Camerota, Vona Kuczynska, and Courtney Pike took the “Introduction to Tropical Ecology” course, and Isabel Loza took the “Ecología Tropical y Conservación” course January-February. The first course posted fabulous videos on the [National Geographic website](#), describing their main projects. The Harris Center pays the annual dues to OTS, as well as covers the tuition and travel costs associated with the courses.



Initial Conversations with Two New Potential Collaborators

Robert Marquis and Liz de Laperouse visited [Bellfontaine Cemetary](#) on June 3, meeting with Nancy Ylvisaker and her staff and taking a tour. The initial conversation focused on finding UMSL graduate students who might intern to document the fauna of the Cemetery, with the eventual goal of finding students who might conduct a M.S. thesis around a sustainability project. A night of blacklighting for moths, and mistnetting of bats is in the planning stage for

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later this summer.....On June 5, Max McCombs led representatives from UMSL (R. Marquis, N. Muchhala, and A. Dunlap), the Saint Louis Zoo (Ed Spivak), and the Missouri Botanical Garden (Peter Hoch and Jim Miller) to a meeting with the environmental specialists (Eric Sachs, Jerry Hays, Michael Lohius, Bill Reeves, and Tracey Renolds) of the [Monsanto](#) Corporation at their Creve Coeur campus. The conversation revolved around possible research collaborations between Harris Center associates and Monsanto scientists on declining populations of [monarch butterflies](#). The two sets of conversations are very promising!

January-June 2014 Internships

Dan Hartman completed an internship with The Nature Conservancy and the Missouri Department of Conservation, studying the impact of surrounding land use on the integrity of Missouri streams. Haydee Hernández interned with [The Friends of the Children's Eternal Rainforest](#), helping set up a workshop to bring together the various key stakeholders associated with cloud forest reserves in the area of Monteverde, Costa Rica. Ben Abts is interning with Catherine Werner and the City of Saint Louis in its [Milkweeds for Monarchs](#) initiative. Christine Hanson has been interning with and helping to develop the [BiodiverseCity Initiative for St. Louis](#), a community-based project to preserve and enhance native biodiversity within the St. Louis urban region. Alicia Marty has been interning in the [Endocrinology Lab and Wildlife Contraception Center at the Saint Louis Zoo](#), which focuses on learning about the reproductive biology of endangered species of animals so that reproduction can be enhanced in increase population size. Finally, Courtney Pike and Matthew Whitmore are interning with Audubon Center at Riverlands this spring and early summer, monitoring forest birds in the [Mississippi floodplains](#).

Scholarships and Awards Spring 2014

PhD

Rani Asmarayani, "Revision of *Piper* section *Muldera* (Piperaceae)", \$2000 Mary Osborne Scholarship in Ecology and Conservation and a \$2000 Stokes Family Scholarship in Conservation.

Christina Baer, "The community ecology of construct-building caterpillars, their host plants, predators and parasitoids in a tropical dry forest". \$2200 Jane Harris Scholarship in Ecology and Conservation and a \$1800 Stephen Mitchell Doyle Scholarship in Tropical Ecology.

Gideon Erkenwick, "Primate Hosts: Social Groups as Biological Islands"; \$1000 Jorie Butler Kent Scholarship in Tropical Conservation and a \$3000 Stephen Mitchell Doyle Scholarship in Tropical Ecology.

Haydee Hernández, "The role of herbivores and soils as limiting factors in *Piper* distribution in a tropical rain forest", a \$4000 Peter H. Raven World Ecology Research Scholarship.

Galen Priest, "Effects of ecosystem engineering by wood-boring beetles on arboreal ants and interactions with herbivores on Cerrado trees", \$3510 John Denver Scholarship and \$490 Jane Harris Scholarship in Tropical Botany.

Fidisoa Rasambainarivo, “Transmission of *Leptospira* between animal species at the interface between Livestock and wildlife in Betampona Natural Reserve, Madagascar”; \$2000 Henry B. Cowhey Scholarship in Tropical Conservation and a \$2000 Jane and Stanley Birge Tropical Research Scholarship.

M.S.

Alicia Marty, “Female aggression dynamics and hormone fluctuations in black and white ruffed lemurs (*Varecia variegata*)”. \$130 Goldie Millstone Scholarship and a \$2140 Mary Osborne Scholarship in Ecology and Conservation.

Undergraduate

Rachel Becknell, “Do the effects of habitat structure and competition on an endangered plant (*Astragalus bibullatus*) provide evidence of a lost ecosystem?”, \$1000 Kranzberg Undergraduate Research Award.

Book Awards for Service to the Harris Center

Vinzenzo Ellis, Antoinette McGrath Memorial Scholarship to Promote Scientific Literacy, \$300.

Maria Pil, Antoinette McGrath Memorial Scholarship to Promote Scientific Literacy, \$300.

Graduate Student External Funding Spring 2014

One of the intentions of providing research funding to our students is to allow them use Harris Center support to leverage funding from other external sources. As you can see below, our students are doing just that. Congratulations to all!

Christina Baer, \$7000 from the University of Missouri Trans World Airlines Scholarship Program, \$4,050 from the Organization for Tropical Studies.

Gideon Erkenwick, \$7000 from the University of Missouri Trans World Airlines Scholarship Program, \$1,500 Grant-in-Aid of research from the American Society of Mammalogists.

Haydee Hernández, \$2,200 from the Organization for Tropical Studies.

Galen Priest, \$7000 from the University of Missouri Trans World Airlines Scholarship Program; \$2000 from the Webster Groves Nature Study Society.

Elizabeth Karlake, \$1000 from the Webster Groves Nature Study Society.

Fidisoa Rasambainarivo, \$10,000 from the Saint Louis Zoo.

New students for Fall 2014

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One of our largest classes of new graduate students in quite some time will begin their UMSL graduate career this August. Two new students will be supported by Christensen Fellowships: Diana Gamba (Ph.D. Colombia) and Rossana Maguiña (M.S. Peru). The Missouri Botanical Garden will support Serena Achá (Ph.D. Bolivia) and Isabel Loza (Ph.D. Bolivia). The first student to be supported through our developing partnership with the Audubon Center at Riverlands and the Army Corps of Engineers will be Emma Young (Ph.D. Vassar). In addition the Biology Graduate Program will be supporting two new M.S. students, Isabel Rojas-Ferrer (Puerto Rico) and Michele Sanchez (UMSL), both of whom will join Aimee Dunlap's lab group.

New Publications

Baer, C., and R. J. Marquis. 2014. Native leaf-tying caterpillars influence host plant use by the invasive Asiatic oak weevil through ecosystem engineering. *Ecology* 95: 1472-1478:
(<http://www.esajournals.org/doi/abs/10.1890/13-1689.1>)

Muchhala, N., S. Johnsen, and S. D. Smith. 2014. Competition for hummingbird pollination and the evolution of flower color diversity in Andean Solanaceae. *Evolution* (In press).

Osazawa-Peters, O.L., S. J. Wright, and A. E. Zanne. 2014. Radial variation in wood specific gravity in tropical tree species in differing growth-mortality strategies. *American Journal Botany* 101: 1-9. <http://www.amjbot.org/content/early/2014/05/01/ajb.1400040.full.pdf+html>

Media Coverage

Christina Baer and Robert Marquis article featured on *Science* magazine website:
<http://news.sciencemag.org/plants-animals/2014/03/scienceshot-weevils-hide-out-caterpillar-sandwiches>

Gideon Erkenwick: "Monkey Planet" features PrimatesPeru in a BBC three part series.

Nathan Muchhala: "Call of the Bloom", National Geographic, March 2014, pp 128-139
<http://ngm.nationalgeographic.com/2014/03/bat-echo/mcgrath-text>

Patricia Parker: BBC News coverage of Dr. Parker's avian malaria research, 31 December 2013.
<http://ngm.nationalgeographic.com/2014/03/bat-echo/mcgrath-text>

News from Alumni

Saul Hoyos (former M.S. student (2011) with Peter Stevens) discovered a new species of palm tree which happens to be the only known representative of a new genus. The species and its discovery is described in:

Galiano, G., and R. Sabinaria, a new genus of palm (Cryosophileae, Coryphoideae, Arecaceae) from the Colombia-Panama border. *Phytotaxa* 144:27-44.
<http://www.mapress.com/phytotaxa/content/2013/f/pt00144p044.pdf>

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