

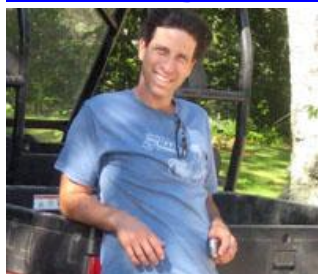
**Department of Ecology, Evolution, and Natural Resources
and
Ecology and Evolution Graduate Program Newsletter**

May 2012

**Previous newsletters may be found at:
<http://www-rci.rutgers.edu/~deenr/news.html>**

Lots of exciting things have happened in DEENR and E&E this spring.

[New Frog Species in Metropolitan New York:](#)



Jeremy Feinberg, an E&E Ph.D. candidate working with Joanna Burger, has discovered a new species of leopard frog on Staten Island.

Reported in the New York Times on March 14th, Jeremy and his co-authors are publishing the findings in an issue of the journal *Molecular Phylogenetics and Evolution*, currently [available online](#). Read the New York Times article here: [Read More](#).

Undergraduate Selina Ruzi National Botany Student of Year



Selina A. Ruzi, a graduating EENR Senior, has been awarded a "Young Botanist of the Year Award" by the Botanical Society of America, a distinction shared with only about 25 other students in the nation this year. She was nominated by professors for achievement in academics and research. Selina completed a G.H. Cook Honors project in the Handel lab this year. Congratulations!

David Ehrenfeld presented the Executive Dean's Distinguished Lecture

"Reinventing the University for the 21st Century" was the title of the lecture in which David Ehrenfeld recommended teaching students life skills such as basic personal accounting, basic home and auto repair, gardening, cooking and sewing in addition in the typical university courses. This proposed change in curricula is in response to a world that may require more self-reliance due to global climate change and a no-longer sustainable dependence on cheap energy.



New National Academy of Science Member in the E&E Graduate Program.

Bonnie McKay, Department of Human Ecology and a member of the E&E graduate program was elected the National Academy of Science.

DEENR Faculty receives SEBS Research Excellence Award.



Debashish Bhattacharya received the SEBS Research Excellence Award presented at the 19th annual “*A Celebration of Excellence*” Awards Ceremony in the Cook Campus Center on April 25th.

Debashish is an international leader in algal comparative genomics. His research goals involve fundamentally important questions about the diversification of life, particularly with regard to the vexing question of the origin of intracellular organelles (e.g., chloroplasts) in eukaryotes – organisms characterized by the basic cell structure of plants and animals. He is at the forefront of work on chloroplast evolution, being one of the few scientists who attacks the whole problem from how the plastid was first taken into the host cell, to how most of the chloroplast genes were bulk transferred to the host nucleus, to how the cytoplasmically synthesized chloroplast proteins get targeted back into the plastid to allow photosynthesis to occur. Debashish has been at the forefront of the breakthroughs in his broad field using genomic technologies to study the evolutionary tree of life. His recent path-breaking report on single-cell genomics will eventually change the way biologists interrogate the microbial biosphere. He has recently begun to tackle more applied issues including algal biofuels and harmful algal blooms. His work on dinoflagellate toxin production is important to understanding economic and health issues arising from these toxins.

The **DEENR Undergraduate Awards** for the Graduating Class of 2012 were presented to the recipients at the SEBS Baccalaureate on May 10th.
Congratulations to the following recipients:



Rafael Valentin

J. Applegate Award for Outstanding Student in Wildlife

Raphael will be starting graduate school this fall as a Ph.D. student in the E&E graduate program, advised by Julie Lockwood.



Nicole Guido

E. B. Moore Forestry Award

Nicole is looking forward to a career in land use and resource management.



Selina Ruzi

M. Buell Award for Outstanding Student in Ecology

Selina will be attending the University of Illinois, Urbana-Champaign this fall pursuing her Ph.D. in Ecology, Evolution and Conservation Biology.



Jason Sadowski

P. Smouse Award for Outstanding Student in Evolution

Jason is working in the Asian Long-Horn Beetle Eradication Program and planning to continue his education with a MS focusing on conservation.

Alayna Karp

R. Locandro Award for Outstanding Student in Natural Resources

Alayna is joining Teach for America where she will be teaching science to NYC youth.

Graduate School-New Brunswick Awards

Three E&E graduate students were among the Graduate School –New Brunswick annual awardees.



Jessica Sanders was the recipient of a Graduate Student Teaching Award for her excellence in teaching undergraduates in the Division of Life Sciences, for her work in the Teaching Assistant Project (TAP) where she trains other graduate students in the art of teaching and for her K-12 teaching on the Science Bus. Jess is a Ph.D candidate working with Jason Grabosky.

Ashley DeNegre received a Dissertation Teaching Award. This award allows Ashley to develop a course based on her dissertation research in the field of evolutionary theory as applied to medicine. The course "Evolution and Modeling of Antibiotic Resistance" will be offered in the Spring 2013 semester. Ashley's Ph.D. advisor is Nina Fefferman.



Incoming E&E graduate student Amanda Sorensen received the Undergraduate Bevier Fellowship. The Bevier Fellowship is given to one Rutgers undergraduate who plans to continue their education in graduate school at Rutgers. Amanda will receive her B.S. in Ecology and Natural Resources on May 13th. She will begin her graduate career in E&E in fall 2012 under the advisement of Rebecca Jordan.

The awards were presented at the Annual Graduate School-New Brunswick Awards reception held on April 25th.

Special Symposium in Memory of Joan Ehrenfeld at ESA.

There will be a special symposium in memory of Joan Ehrenfeld at the Ecological Society of America meeting August 8th in Portland OR. The symposium titled "Ecosystem Consequences of Species Alterations" has been co-organized by three of Joan's Ph.D students: Rich Pouyat, Emilie Stander and Lisamarie Windham-Myers. Ehrenfeld lab alumni, Weixing Zhu, Peter Kourtev, Manisha Patel and Emilie Stander will be giving presentations in the symposium. In addition to the symposium, there's also

an organized poster session to present the research findings of Ehrenfeld lab alumni that Emilie Stander and Lisamarie Windham-Myers organized. The poster session is to serve as an Ehrenfeld lab reunion, so they invite lab alumni plus all of Joan's past collaborators and friends to join them in some reminiscing. A complete listing of the presentations by DEENR/E&E faculty, post-docs, students and alumni will appear in the August newsletter following the meeting.

Presentations:

Wes Brooks was an invited speaker for The Invasive Animals Cooperative Research Centre's Tilapia in Australia- State of Knowledge Forum. The talk , given May 16 in Brisbane Australia was titled "Spotted Tilapia (*Tilapia mariae*) and Mozambique Tilapia (*Oreochromis mossambicus*) in the United States: invasive status, impacts, and control." Wes is a Ph.D. candidate working with Rebecca Jordan.

Frank Gallagher, Visiting Scholar in Jason Grabosky's Urban and Community Forest Lab gave the following presentation: "Valuing Mitigation as an Ecosystem Services within Urban Green Space". Is Green Sustainable at the Society of Environmental Toxicology, Hudson-Delaware Chapter Conference held at Montclair State University. April 26th

On May 17th, David Ehrenfeld gave an invited lecture on prediction and risk assessment to the Environmental Protection Agency Superfund Research Program/Department of Environmental and Occupational Health Sciences, at the University of Washington, Seattle.

Mike Garzio, a Master's student working with Oscar Schofield, gave a presentation at the Ocean Sciences Meeting, a joint meeting between the Oceanography Society, the American Society of Limnology and Oceanography and the American Geophysical Union, held in Salt Lake City UT. The talk was titled "Phytoplankton Biomass Effect on in situ Heat Budget".

Molly MacLeod, gave an invited talk to the Garden Club of the Oranges, Short Hills, NJ. "Finding the right plants for the right bees." Molly is a Ph.D. student in the Rae Winfree lab.

Molly also gave a presentation at the Entomological Society of America Annual Meeting, in Reno, NV. Her talk was "Native plant preferences of pollinators and natural enemies."

Judy Weis gave two talks on her book "Do Fish Sleep?" to the Bergen County Audubon Society and the Hudson River Audubon Society in late March.

Judy Weis also gave a presentation at the Mystic Aquarium on May 3rd titled "Living in a contaminated estuary: behavioral effects and ecological consequences for five species".

Orion Weldon, a Ph.D. candidate in Olaf Jensen's lab, gave a presentation at the Eastern Bird Banders Association annual meeting on March 31st in Avalon NJ. The talk was titled "Landscape scale analysis of vegetation structure preference by early successional and mature forest breeding birds using LiDAR."

Amanda Wenczel, a Ph.D. candidate working with Dave Bushek, gave the following presentations at the Atlantic Estuarine Research Society Spring Meeting 2012 held March 8-10, 2012.

- Using ribbed mussels (*Geukensia demissa*) to monitor changes in *Perkinsus* spp. distribution and transmission. Wenczel A.A., P.C. Lopez-Duarte, and D. Bushek.

Rachael Winfree (Department of Entomology) gave a presentation in the Department of Entomology at Purdue University on March 22nd. The talk was titled "Pollinator biodiversity, global change and ecosystem services."



Rachael Winfree (Department of Entomology) co-organized with the Xerces Society for Invertebrate Conservation a one-day workshop on habitat management for pollinators. This was held at Snyder Farm on April 27th. There were 55 registered attendees plus many additional unregistered

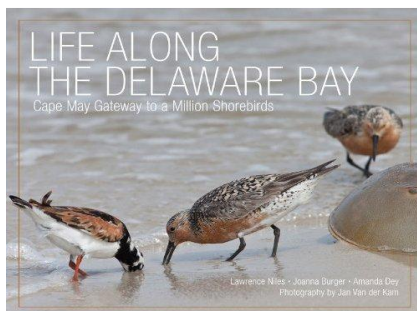
attendees. Rae's E&E graduate student Molly MacLeod and Rae both gave talks and led the workshop along with Xerces and NJ Natural Resource Conservation Service. Additionally Molly gave a talk at a Xerces workshop on Sept 30, where she showed the approximately 65 participants her experimental plant plots in Cape May and spoke about choosing plant species for pollinator restoration



Publications:

Faye Benjamin and Rachael Winfree report two publications in the Plant and Pest Advisory published by the Rutgers Cooperative Extension.

- Pollination Limitation of Commercial Blueberry in New Jersey. April 10,2012:17:01 pp5-6.
- Importance of Pollinators to Blueberry Production. April 3,2012: 17:01 pp1-2.



Joanna Burger has a new book written with two of her Ph.D. students and E&E alumni, Larry Niles 1996 and Amanda Day, 2004. [Life Along the Delaware Bay: Cape May, Gateway to a Million Shorebirds.](#) [Lawrence Niles](#) (Author), [Joanna Burger](#) (Author), [Amanda Dey](#) (Author), [Professor Jan Van de Kam](#) (Photographer) Rutgers Press.

Joanna Burger and her lab also have the following papers in publication:

- Burger, J., L. Niles, R. Porter, A. Dey, S. Koch, and C. Gordon. (2012). Using red knots fitted with geolocators to evaluate a conceptual risk model focusing on off shore wind. *Renewable Energy* 43:370-377-18.
- Gochfeld, M., Burger, J., Jeitner, C., Donio, M., and T. Pittfield. (2012) Seasonal, locational and size variations in mercury and selenium levels in Striped Bass (*Morone saxatilis*) from New Jersey. *Environmental Research* 112:8-19.
- Burger, J., Gochfeld, M., Jeitner, C., Donio, M., and T. Pittfield. (2012). Lead in Biota and Perceptions of Lead Exposure at a Recently-designated Superfund Beach Site in New Jersey. *Journal of Toxicology and Environmental Health*. 75 (5): 272-287.
- Burger, J. and M. Gochfeld.(2012). Selenium and mercury ratios in saltwater fish from New Jersey: individual and species variations complicate possible use in human health consumption advisories. *Environmental Research* 114: 12-23.
- Burger, J., Gochfeld, M., Jeitner, C., Donio, M., and T. Pittfield. Selenium:Mercury Molar Ratios in Freshwater Fish from Tennessee: Individual, Species, and Geographical Variations have Implications for Management. *EcoHealth* DOI: 10.1007/s10393-012-0761-y

Frank Gallagher, Visiting Scholar and Part Time Lecturer in the Urban and Community Forestry Lab reports a publication:

- Qian, Y., Gallagher, F.J, Feng F.H., Wu, M. A geochemical study of toxic metal translocation in an urban brownfield wetland. *Environmental Pollution*. 166 (2012).

Lea Johnson has a publication on the online journal *Landscape Urbanism* <http://landscapeurbanism.com/issues/> titled: "Changing the land: integrating ecological science with design."

The link to the article: <http://landscapeurbanism.com/article/changing-the-land/>

Julie Lockwood reports the following papers in press:

- Gilroy, J.J., T. Virzi, R.L. Boulton and J.L. Lockwood. In Press. Too few data and not enough time: approaches to detecting Allee effects in threatened species. *Conservation Letters*.
- Virzi, T., R.L. Boulton, M.J. Davis, J.J. Gilroy and J.L. Lockwood. In Press. Effectiveness of artificial song playback on the settlement decisions of an endangered resident grassland bird. *The Condor*.
- Gilroy, J.J., T. Virzi, R.L. Boulton, and J.L. Lockwood. In Press. A new approach to the 'apparent survival' problem: estimating true survival rates from capture-recapture studies. *Ecology*.

Marci Meixler has a publication in *Fisheries*:

- Meixler, M. S., K. Arend, K. Mills, and B. Knuth. 2012. In memoriam: Mark B. Bain (1955-2012): A commemoration by his students and colleague. *Fisheries* 37(5): 229.

Molly MacLeod, a Ph.D. student in the Rae Winfree lab wrote an article on her research that was published in the Winter 2012 edition of *Potash Hill: The Magazine of Marlboro College*. The article titled "Tough Love in the Garden State." featured Molly's research in pollinator restoration and her dissertation research in Cape May.

Nick Pollock, a PhD student in Henry John-Alder's lab, reports the following on line publication:

- Nicholas B. Pollock & Larisa K. Vredevoe & Emily N. Taylor How do host sex and reproductive state affect host preference and feeding duration of ticks? *Parasitology Research* DOI 10.1007/s00436-012-2916-8

And the following publication in press

- Nicholas Pollock, Larisa K. Vredevoe, Emily N. Taylor (In Press) Effect of exogenous testosterone on ectoparasite loads of free-ranging western fence lizards. *Journal of Experimental Zoology*

Paul Reiss, a Ph.D. candidate in Ken Able's lab has a publication in *Neotropical Ichthyology*.

- Color pattern variation in *Cichla temensis* (Perciformes: Cichlidae): Resolution based on morphological, molecular, and reproductive data Paul Reiss, Kenneth W. Able, Mario S. Nunes and Tomas Hrbek. *Neotropical Ichthyology* 10(1): 59-70, 2012

Wayne Rossiter (Ph.D. 2012) and advisor Mike Sukhdeo have the following publication:

- Rossiter, W. and M.V.K. Sukhdeo. 2012. Host Quality and Spatial Patterning in Infections of the Eastern Mudsnail (*Ilyanassa obsoleta*) by Two Trematodes (*Himasthla quissetensis* and *Zoogonus rubellus*). *Journal of Parasitology* 98(2) 245-255.

Rob Scott (Department of Anthropology) reports the following:

- Scott, R.S., P.S. Ungar, & M.F. Teaford. Dental microwear textures and anthropoid diets. *American Journal of Physical Anthropology* 147 (4): 551-579. doi:10.1002/ajpa.22007
- Kaya, T., S. Mayda, D.S. Kostopoulos, M.C. Alcicek, G. Merceron, A. Tan, S. Karakutuk, A.K.Giesler, & R.S. Scott. Şerefköy-2, a new late Miocene mammalian locality from the Yatağan Formation, Muğla, SW Turkey. *Comptes Rendus Palevol* 11 (1): 5-12. doi:10.1016/j.crpv.2011.09.001

Chris Zambell, a Ph.D. candidate in Jim White's (Plant Biology and Pathology) lab, reports the following publication:

- Effect of lichen colonization on chemical weathering of hornblende granite as estimated by aqueous elemental flux C.B. Zambell, J.M. Adams, M.L. Goring, D.W. Schwartzman *Chemical Geology* [Volume 291](#), 6 January 2012, Pages 166–174

Grants:

David Bushek (IMCS and Haskins Shellfish Research Lab) received two DuPont Clear into the Future awards.

- The first is a Graduate Student Fellowship for \$35,000 to support his E&E graduate student, Amanda Wenczel, for the academic year 2012-2013. The funded proposal was "Filtration Benefits of Different Bivalve Shellfish used in Restoration and Aquaculture."
- The second, an award of \$25,000 is to continue work on the ribbed mussel "Spawning and Gardening Methods to Produce Ribbed Mussels for Living Shorelines"

Jennifer Krumins (Montclair State University), adjunct member of the E&E graduate Program and Myla Anderson, E&E alumnae Ph.D. 2009, advisor Steven Handel, received a grant from the Barnegat Bay Partnership to study "The Role of Plant and Soil Community Structure in Riparian Soil Nutrient Retention" for \$49,000.

Amanda Wenczel, a Ph.D. candidate working with Dave Bushek, was awarded a DuPont Clear into the Future Fellowship for 2012. Beginning September 2012, this fellowship will provide a stipend for the 2012-2013 academic year.

Amanda Wenczel was also awarded a FlowCAM Student Equipment & Travel Grant from Fluid Imaging Technologies. This award provides use of the FlowCAM VS-IV (benchtop flow cytometer) for up to four months, training and support throughout the project, and complete travel support for the 2013 American Society of Limnology and Oceanography/Ocean Science Winter Meeting (or other appropriate conference within 12 months of project completion).

Advisory Panels:

Steven Handel has been appointed to the Program Advisory board of the Centre for Urban Green Spaces, a division of the Aravali Foundation of India that sponsors initiatives and meetings to advance urban environmental improvement in Asia (www.cugs.in). Their motto is "Green Cities, Green Minds."

Judy Weis was in California in early March for a meeting of the Expert Panel on Brine Discharge in Southern California.

Media:

Lena Struwe and Lauren Spitz are featured in a blog on the The Chrysler Herbarium and its botanical collections. The article by writer/ <<http://www.npsnj.org/blog/author/admin/>>/ Anjanette Vaidya on the Native Plant Society of New Jersey's blog:

<http://www.npsnj.org/blog/2012/05/17/the-chrysler-herbarium/>

The article talks both about the history and the future of the herbarium and New Jersey biodiversity. Projects such as the Flora of Rutgers Campus, medicinal plant vouchering, conservation of land, climate change, and digitization of our specimens.

Rachael Winfree (Department of Entomology) reports the following was covered in the media

- Current Biology ran a commentary on their recent PNAS paper (Bartomeus et al 2011, "Climate-associated advances in bee pollinators and bee-pollinated plants," PNAS 108: 20645-20649) *Current Biology* 22: 132-133, "Plant pollinator synchrony tested by climate change"
- The Wildlife Professional (magazine of the Wildlife Society) ran a commentary on the same paper in their spring issue *The Wildlife Professional* 6: 13, "Pollination gap"

Student Awards, Achievements, and Activities:

Curtis Burkhalter, a Ph.D. candidate in the Julie Lockwood lab, is attending a workshop on non invasive genetic sampling of endangered wildlife at The Smithsonian Institute in May.

Molly MacLeod, a Rae Winfree Ph.D student, received an Honorable Mention for her NSF Graduate Research Fellowship Proposal

Lauren Spitz, a PhD student working with Lena Struwe, received the Bayard Long Research award from the Philadelphia Botanical Club to fund the *Gentianaceae* family treatment for the Flora of New Jersey Project (see www.njflora.org). The purpose of the project is to accurately document and identify all vascular plant species that naturally occur in New Jersey. Lauren's work will encompass all of the species in the *Gentianaceae* family. The grant includes money for fieldwork in New Jersey as well as visits to the herbaria at Philadelphia, New York Botanic Garden, and Brooklyn Botanic Garden.

Transitions:

Congratulations to the following on the successful defense of their Ph.D. Dissertation;

- Wayne Rossiter, advisor Mike Sukhdeo, on February 22nd

Congratulations to the following on the successful defense of their Master's thesis:

- Josh Moody, advisor Dave Bushek, on December 22nd

Congratulations to the following on the successful defense of their Preliminary Proposal:

- John Ruppert advisor Ravit Golan Duncan on December 20th
- Robbie Robinson, advisor Julie Lockwood, May 9th
- Cara Faillace, advisor Peter Morin, May 9th

Congratulations to the following on the successful completion of their Qualifying Exam:

- Amanda Wenczel, advisor David Bushek, on December 21st.
- Talia Young, advisor Olaf Jensen, April 10
- Natalie Howe, advisor John Dighton, April 12th
- Julia Perzley, advisor Claus Holzapfel, April 25th
- Brian Johnson, advisor Mike Sukhdeo, May 11th

Alumni:

Brooke Maslo, Ph.D. 2010, advisor Steven Handel, gave a talk entitled "Modeling Foraging Behavior of Piping Plovers to Evaluate Habitat Restoration Success" at the spring meeting of The Wildlife Society - NJ Chapter on April 11, 2012.

Paula Maas, Ph.D 1996, advisor Tim Casey, has accepted a new position as Associate Provost for Institutional Research and Effectiveness at The New School in New York City.

Blake Mathys, Ph.D. 2010, advisor Julie Lockwood, accepted the position of Assistant Professor of Environmental Science at Ohio Dominican University, which begins July 1st.

Scott Ruhren, Ph.D. 1998, advisor Steven Handel, presented "Deer, Pulpits and Sex Changing in the Garden State," at the Rhode Island Natural History Annual Conference in March. This was an update on ongoing work started in Morristown with Steven in 1997. Scott also reviewed two new books on invasive species for the March 2012 BioScience.

Wayne Rossiter, Ph.D. 2012, advisor Mike Sukhdeo, has accepted a tenure track position as an assistant professor of biology at Waynesburg University, Waynesburg PA.

Carl Safina, Ph.D. 1987, advisor Joanna Burger, has received the 2012 Orion Book Award for his book [The View From Lazy Point](#)

The E&E family continues to grow:

Alex Felson and family welcomed 7lb,3.5 oz., 20 $\frac{3}{4}$ inch Caroline Esme on May 4th. Caroline joins sister Madeleine and brother Lev. Mom Janine and baby are doing great.

The newest addition to the Norin family arrived April 6th at 6:10 pm weighing 7lb 8 oz and 20 in long. Carrie, husband Andy and big brothers Nathaniel and Alexander are all happy to have the Marley Barnett home. Mom and Marley are both doing very well.

Alicia and Al Shenko announced the birth of a healthy and happy Benjamin Nicola Shenko on May 23rd. Alicia says she and Al are “super thrilled about being new parents and Ben is being very good about our amateur status”.

Paul Walberg and his wife Serena Connolly welcomed a 7 lb. son, Oliver, on Thursday May 17th. Everyone is healthy and happy!

