



Notes from the Field

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PSU Hosts Regional Climate Change Center

How energy production and use influences climate and environment is the focus of Penn State's newly awarded Northeastern Regional Center of the U.S. Department of Energy's National Institute for Climatic Change Research (NICCR). One of four Regional Centers formed under NICCR, Penn State's center (www.nerc.niccr.psu.edu) will include research applicable to the region from Maine to Virginia and as far west as West Virginia. Heading the new Center is Dr. Kenneth Davis, associate professor of meteorology, with Ecology faculty member, Dr. David Eissenstat, professor of woody plant physiology as associate director.

Each Center will distribute just under \$2 million to institutions proposing research that meets the DOE's goals. Some of the DOE's highest priorities include experimentally investigating the effects of warming, altered precipitation, elevated carbon dioxide concentration, elevated ozone on terrestrial ecosystems, developing and evaluating models to predict the effects of climate change on regional terrestrial ecosystems and analyzing observations of the exchange of carbon and energy between ecosystems and the atmosphere to improve global climate and carbon cycle models. The Centers are looking for research that anticipates what will happen under various climate change scenarios and how the ecosystems will respond to and influence climate change.

Close observation and manipulation of this kind aims to show, for example, how the physiology of plants responds to increases in carbon dioxide and how carbon dioxide levels react to changes in ecosystem processes. The continuous give and take of climate change and

environmental change create a complicated feedback that reacts to such things as increased ozone, temperature, carbon dioxide and changes in precipitation.

The Center has just ended its first round of research preproposal submissions. For those with approved preproposals, full proposals will be due March 14, 2006. Several Ecology faculty are taking advantage of this new funding opportunity which should result in increased ecological research in this important subject area.

~ article adapted from Penn State Live

Mark your calendars for this semester's Ecology Events:

Seminar Series "Ecology Across Scales" – Monday's at 1:25 in 100 Life Sciences Bldg (Bergman Auditorium)

Colloquium - Thursday's at 12:20 in 10 Tyson

Mini-Symposium – Tuesday, April 25th at 3pm

Ecology Grads Receive Awards

Congratulations to several Ecology program graduate students receiving awards this semester!

Joe Dauer, Randa Jabbour, and Glenna Malcolm have been awarded College of Agriculture Competitive Grant Awards, each for up to \$2000 toward research. Joe's proposal is a collaborative project with aerobiologists studying the release and movement of *Conyza canadensis* seed into the atmosphere. They will be sampling the surface boundary layer using screens mounted on towers and sampling the planetary boundary layer with remotely piloted airplanes. Randa has proposed to examine the effects of habitat complexity on the persistence and dispersal of entomopathogenic nematodes (EPN), soil-dwelling pathogens of insects currently used as a biological control agent in agricultural systems. She will



compare the effects of simple and complex habitats on EPN applied to a maize-soybean cropping system. Glenna's proposal is titled "A vital link between biosphere and atmosphere: Temperature acclimation by microorganisms responsible for litter decomposition." She plans to explore temperature acclimation by forest litter microorganisms at different times of the season, in spring, summer, and fall.

Congratulations also to Emily Rauschert who will receive the Graduate Assistant Outstanding Teaching Award, sponsored by the Graduate School and the Office of the Vice President and Dean for Undergraduate Education through the Office of Graduate Fellowships and Awards. Emily is being recognized for her outstanding work as a TA for introductory biology courses, BIOL 100 Biology: Basic Concepts and Biodiversity and BIOL 220 Biology: Populations and Communities.

The new EGSO (Ecology Graduate Student Organization) officers for 2006 are:

President - Andy Wilson

Vice-President/Treasurer - JB Moon

Secretary - Jill Crompt

Program Committee Rep - Glenna Malcolm

Curriculum Committee Rep - Joe Dauer

Social Chair - Ruscena Wiederholt

Webmaster - Jeremy Zidek

Thanks to all the 2005 officers for a great year!

Gene E. Likens to be keynote speaker at the Environmental Chemistry Student Symposium, March 17-18 2006

Likens is Director and President of the Institute of Ecosystem Studies in Millbrook, New York. His research focuses on the ecology and biogeochemistry of forest and aquatic ecosystems in the White Mountains of New Hampshire. He was one of the first scientists to document the link between the combustion of fossil fuels and an increase in acid rain in North America.

Abstracts are now being accepted for the Environmental Chemistry Student Symposium by going to the main website,

http://www.essc.psu.edu/CECG_symposium/, following the "Submit an Abstract" link, and following the instructions. Abstracts should be no longer than 400 words, and should conform to the sample abstract posted on the website. Abstracts for both oral and poster presentations will be accepted through Feb. 18, 2006.

~Michelle Gresalfi, MS student in Crop and Soil Sci

Introducing....

Dr. Howard (Howie) Weiss, Professor of Mathematics, is a new faculty member in Ecology. His main research interests revolve around applications of dynamical systems to population modeling, statistical physics, geometry, and fractals/wavelets. He has recently published papers studying the dynamics of density dependent Leslie population models and agent-based population models. Howie hopes to work with Penn State fisheries colleagues to model the population of brown trout in the Penn State section of Spruce Creek using a density dependent Leslie model. He is also working with Duane Diefenbach to use wavelets to study the activity patterns of female black bears. In their final project, Howie's Math 422 (Fourier Analysis and Wavelets) students used wavelets to analyze bear activity data provided by Duane. Howie received his Ph.D. in Mathematics from the University of Maryland. He was a Chaim Weizmann Research Fellow and a NSF Postdoc at Caltech before coming to Penn State.

Dr. David Lewis is a new post-doc in the Ecology Program. He is a biogeochemist and ecologist, working with Jason Kaye in the Dept of Crop and Soil Sciences who investigates carbon and nitrogen cycling in soils, with a current emphasis in old-growth forests. He enjoys collaborations across subdisciplines of ecology and geochemistry, and would be happy to interact with anyone interested. Before coming to Penn State, David was a post doc at Arizona State University (with Nancy Grimm and Ann Kinzig), studying arid-land biogeochemistry in the context of rivers, farms, and urban land. He received his PhD in Limnology and Marine Science from the University of Wisconsin-Madison, where his advisor was John Magnuson. David's dissertation had an aquatic community ecology focus; in lakes and salt marshes he investigated spatial heterogeneity in predator-prey interactions and scaling patterns in biodiversity.

Emily Hohlfeld is a new PhD student in the program this semester. She graduated from Penn State University with a BS in Biology in December 2004 and accepted a tech position in Jim Tumlinson's lab in the Department of Entomology. Dr. Tumlinson offered her a graduate position shortly after, and she is currently working on characterizing an enzyme in caterpillar regurgitant.

We are always looking for news and stories! Please send submissions for the next newsletter to Angie Luis (ADL12@psu.edu)