What: Grant announcement celebrating $3.1 million grant for UNL's first Integrative Graduate Education and Research Traineeship Program

When: Nov. 12, 11 a.m.

Where: UNL Van Brunt Visitors Center, 313 N. 13th Street, Lincoln

Media are invited to the announcement event. Chancellor Harvey Perlman, Prem Paul, vice chancellor for research and economic development, and faculty leaders of the new program will outline plans and answer media questions.

(EDITOR'S NOTE: A print quality photo to accompany this story can be downloaded from IANR News Photos at http://ianrnewsphotos.unl.edu/main.php?g2_view=core.ShowItem&g2_itemId=3940. If you have questions about this photo, contact IANR News Photographer Brett Hampton at (402) 472-5839, e-mail bhampton1@unl.edu.)

$3.1 Million NSF Grant to Fund Innovative UNL Grad Education Program

LINCOLN, Neb. — The University of Nebraska-Lincoln is launching an innovative, interdisciplinary graduate education program to prepare future scientists, policymakers and natural resource managers to address increasingly complex global water issues, thanks to a $3.1 million National Science Foundation grant.

The five-year grant from NSF's Integrative Graduate Education and Research Traineeship Program, known as IGERT, will fund an education project focused on resilience and adaptive governance in stressed watersheds. Doctoral students in this rigorous program will study resilience and adaptive management strategies for stressed watersheds in the U.S. and Eastern Europe. The program will integrate scientific, socio-economic and legal aspects involved in studying and managing complex systems of people and nature.

The program will train graduate students from many disciplines across the natural, computational and social sciences to become the next generation of natural resource scientists, managers and policymakers, said wildlife ecologist Craig Allen, who will lead the IGERT program, which will be based in UNL's School of Natural Resources.

"Resolving increasingly complex water issues requires the best and clearest scientific information from interdisciplinary and integrative science, and the best well-trained scientists we can provide," Allen said.

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This is Nebraska's first IGERT award since NSF established the program in 1997 to encourage collaborative new models for graduate education in science and engineering. It teams UNL water experts in many scientific disciplines with national and international partners, as well as agencies and non-governmental organizations dealing with water management issues.

"This grant will jump-start a permanent interdisciplinary program of study in resilience and adaptive management," said UNL Chancellor Harvey Perlman. "It fits well with our university's strategic goals for interdisciplinary research and education, and our commitment to be a leader in water research."

The program taps UNL's broad expertise in water, natural resources and climate science to provide an innovative, interdisciplinary graduate education and research experience, said Prem S. Paul, vice chancellor for research and economic development. "Such training is largely missing in U.S. graduate programs but it's vital if we are to prepare the next generation to respond to increasingly difficult water issues worldwide," Paul added.

John Owens, Harlan vice chancellor of the Institute of Agriculture and Natural Resources, said, "This is exciting news for UNL. It takes advantages of some key strengths we have in water research and education and positions us to enhance our national and international leadership in this area."

Diminishing water resources and increasing demand requires policy experts, managers and scientists who understand complex ecosystems, Allen said. UNL's program will focus on resilience theory and adaptive management and governance. Resilience focuses on preserving a complex ecosystem's ability to adapt or evolve in the face of environmental change. Adaptive management is a process of making decisions in the face of uncertainty, monitoring over time and improving or adjusting management as new information is available.

The IGERT program will fund 26 doctoral trainees over the next five years. The program's first students are expected to begin their studies in January. They will study every angle of scientifically managing stressed watersheds starting with Nebraska's Platte River. They also will study the Tisza River in Hungary and the Odra River in Poland in cooperation with the program's international partner the International Institute of Applied Systems Analysis in Austria.

The program focuses on interdisciplinary training in natural, social and computer sciences. About 20 UNL faculty members helped develop the adaptive management curriculum and will work with graduate students. Research will focus on understanding and enhancing the resilience of overappropriated watersheds in the Great Plains, where agricultural production and critical habitats rely on fluctuating water resources.

Local, state and federal agencies, some of whom have formally partnered in UNL's IGERT program, will help shape an interdisciplinary curriculum in natural sciences, policy and law and research externships, or practice-based learning. Externships and workshops in the U.S. and Europe -more-
will give the fellows real-world experience putting their training and theories to the test in ways useful to environmental managers and policymakers, Allen said.

"The program will help fundamentally change academic culture by coalescing students, faculty and partners from many disciplines around a common goal of sustainably managing over-appropriated watersheds," Allen said. UNL's program could provide a model for integrating natural sciences, social sciences, law and computer sciences in graduate education.

Organizers are working to recruit top doctoral students, Allen said, especially those from underrepresented groups.

IGERT partners currently include The Nature Conservancy, Nebraska Game and Parks Commission, Headwaters Corp. and the Nebraska Department of Natural Resources. The program also will work with the Resilience Alliance, a loose international consortium of 17 members, including UNL, focused on multidisciplinary research that explores the dynamics of complex adaptive systems.

Co-leaders at UNL are Sherilyn Fritz, geosciences professor; Ashok Samal, computer science professor; Alan Tomkins, director of the university's Public Policy Center and professor of psychology and law; and Andrew Tyre, associate professor of natural resources.

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11/12/09-SR Sources: Craig R. Allen, Ph.D., professor, Unit Leader, Nebraska Cooperative Fish and Wildlife Research Unit, UNL School of Natural Resources, (402) 472-0229 Prem S. Paul, Ph.D., D.V.M., Vice Chancellor, Research and Economic Development, (402) 472-3123

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