

DEPARTMENT OF BIOLOGICAL SCIENCES  
BIO BRIEFSA NOTE FROM THE CHAIR**Alumni and Friends of the Department of Biological Sciences:**

This is an exciting time for the Department of Biological Sciences at Eastern Illinois University. Since our last newsletter, we have added two new tenure-track faculty members, Dr. James Novak and Dr. Barbara Carlsward. Dr. Novak (see an article about him elsewhere in the newsletter) is a Genotoxicologist and complements our outstanding Environmental Biology program. Dr. Carlsward is a Plant Anatomist and Morphologist who fills a niche in our Plant Biology program. Both Dr. Carlsward and Dr. Novak are outstanding faculty that have not only established national reputations as research scientists and scholars but are excellent, supportive teachers.



In the last year, more than 100 undergraduate and graduate students participated in research and internship opportunities in the department. This includes six undergraduate students who successfully completed Honors Theses and graduated with departmental honors, and fifteen graduate students who completed and defended their Master's thesis projects. Many of the projects designed by undergraduate students were partially funded through the Undergraduate Research Fund developed by the Department of Biological Sciences. Numerous graduate students applied for and received internal and external grants to support their thesis research. A majority of these students gave oral and poster presentations at state, regional, national, and international meetings. In addition, a significant number were included as co-authors on peer-reviewed articles in scientific journals and many received awards for their efforts. In the last year, five students won best oral or poster presentation awards at scientific meetings, ten received travel grants to attend scientific conferences, seven received research grants from the graduate school, and seven received grants from external agencies including Sigma Xi and the Illinois Lake Management Association. In addition, two students received Young Botanist Awards from the Botanical Society of America and one received EIU's Distinguished Master's Thesis Award. These outstanding students have been accepted into some of the finest graduate and professional schools (University of Illinois, North Carolina State University, University of Kentucky, University of California, Mississippi State University) across the country while others have gained employment shortly after graduation with the U.S. Geological Survey, the Illinois Department of Natural Resources, the Missouri Department of Natural Resources, and the Illinois Natural History Survey.

The faculty in the Department of Biological Sciences remain active in scholarship as evidenced through publications, acquisition of external grants, receipt of awards, and activity in scientific societies. In the last year the faculty in Biological Sciences published more than 25 peer-reviewed articles in scientific journals and gave more than 50 presentations at state, regional, national, and international meetings. Currently twelve faculty have research grants and contracts totaling more than \$1,500,000 from agencies including the National Science Foundation, the National Institute of Health, the United States Department of Agriculture, The United States Fish and Wildlife Service, the Illinois Environmental Protection Agency, the Illinois Department of Natural Resources, the Missouri Department of Natural Resources, and the Illinois Department of Public Health that provide unlimited opportunities for students to get involved in independent study and research projects.

Many faculty are not only active on college and university committees but hold offices in state, regional, and national organizations such as the Embarras River Ecosystem Partnership, Rare Plant Task Force, Illinois Academy of Sciences, Illinois Endangered Species Advisory Committee, Illinois Chapter of the American Fisheries Society, Illinois Wildlife Foundation, Mycological Society of America, Sigma Xi, American Institute of Biological Sciences, Herpetologists League, and United States Geological Survey Breed Bird Survey. They also routinely review manuscripts and grant proposals for a wide variety of scientific journals and funding agencies (e.g., National Science Foundation, National Institute of Health, United States Department of Agriculture, etc.). In recognition of their accomplishments, the faculty has received numerous awards in the last year including the Graduate Dean's Award of Excellence, the Lida Wall Research Mentor Award, Use of Technology in Teaching and Research Award, and Achievement and Contribution Awards in teaching and research.

We continue to be extremely grateful to all of our alumni and friends whose generous donations support our programs. Your contributions have allowed the department to support undergraduate student research and travel to meetings, institute a Biological Sciences

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**BUILDING UNDERGOES SIGNIFICANT RENOVATIONS BY ANGELA PHAM\***

Beginning in the summer of 2003, three rooms in Eastern's Life Science Building have undergone major renovations to improve the teaching, learning, and research environment for students and faculty. Robert "Bud" Fischer, Associate Chair of Biological Sciences, explained that the renovations in the building included three major projects.

One of the renovations, a teaching laboratory with 20 computer work stations and state-of-the-art teaching technology, was finished last year. Located in one of the old classrooms on the first floor of the Life Science Annex, the room was designed for courses that include a significant computer component such as biometrics, advanced biostatistics, spatial analysis, ecotoxicology, and landscape ecology. Fischer said the computers in the room are equipped with all the latest software needed to run any computer program biologists might need. "Anything that takes computer-generated modeling is done here," he said. "I think the room has enabled us to offer students the ability to work with top-of-the-line software, including GIS [Geographical Information Systems] software."



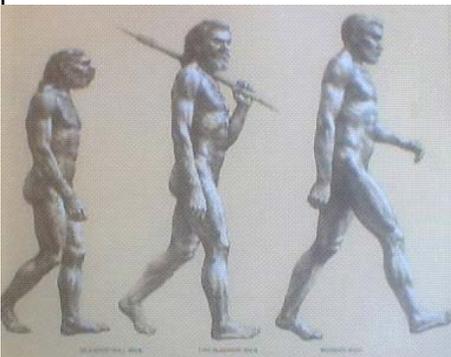
The second renovation project involved converting a classroom on the first floor of the Life Science Building into a new teaching and research laboratory for Drs. Karen Gaines, James Novak, and Charles Pederson. All three professors will use the lab to examine the effects of pollutants and environmental perturbations on terrestrial and aquatic ecosystems. Undergraduate and graduate students will also utilize the new laboratory by enrolling in courses that include advanced limnology and ecotoxicology.

The final renovation project was completed at the end of 2006. The old water analysis laboratory on the third floor of the Life Science Building has been remodeled into a plant sciences research laboratory. Drs. Scott Meiners, Andrew Methven, Barbara Carlsward and

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**4TH ANNUAL DARWIN DAY BY JESSICA GYSIN\***

Although people are familiar with Charles Darwin, remembered for his work dealing with evolution and natural selection, some may not realize there is a day dedicated in his honor. Darwin Day is celebrated February 12, the date of his birth in 1809. People all over the world gather together to celebrate his life and work. Here at Eastern, the Biological Sciences department hosts several events to celebrate Darwin Day. February 2007 will mark the 4<sup>th</sup> annual Darwin Day program, which essentially spans a full week and is one of the largest programs in America.



In general, the event focuses on Darwin's contributions to philosophy and science. It has become an international event over the past few years at many universities, predominantly with Biology departments. This year, Professors Ann Fritz, Gary Fritz, and Stephen Mullin are coordinating the festivities. The events in the 2007 program will feature lectures by Prof. Barbara Forrest from Southeastern Louisiana University, Prof. Richard King from Northern Illinois University, and Prof. Craig Nelson from Indiana University. Also included will be a film presentation that provides a biographical view of Darwin's life. Partial funding for the 2007 Darwin Day program has been provided by the Department of Philosophy, the College of Sciences, and a generous grant from EIU benefactors Herbert and Jane Lasky.

Ann Fritz explained that Darwin Day is an educational, non-profit, organization aimed to improve student education and educator resources. The organization aims to facilitate interaction between the public and scientific community, promote participation and interest in science, and decrease the prevalence and adverse effect of misinformation, as well.

"We hope to convey that science is a valid way of knowing and understanding our world, such as the history of life through evolution," Dr. Ann Fritz explained. "Further, we aim to promote dialog on this issue rather than falling back on false dichotomies often highlighted in the popular press, for example, between science and some religious beliefs."

Darwin Day is an important public outreach program. In addition to the lecture presentations, a Darwin exhibit is shown at Booth Library, and presentations are given at local schools. In the past, Darwin Day has been very successful as many students attend the lectures for classes and area high school biology classes attend the lectures as a field trip.

## NEW FACULTY SPOTLIGHT BY CORY DIMITRAKOPOULOS\*

Dr. Jim Novak joined Eastern's Biological Sciences department as a professor two years ago and praises the department for what it has to offer. "I have been associated with several universities and, in my opinion, the educational experience of students in biology at Eastern Illinois is second to no other university," Novak said.

Novak began his Biological Sciences career by earning a Bachelor of Science degree in Forestry and a Master's degree in Forest Ecology from the University of Illinois, which for Novak, sparked an interest in wildlife biology and population genetics.

"[These interests] led me to the University of Georgia and its Savannah River Ecology Lab (SREL), which was one of the few places at the time doing population genetic work on wildlife populations," Novak said. While at the University of Georgia, Novak earned a doctorate in ecology and developed an interest in genotoxicology after being exposed to a great deal of research in ecotoxicology.

Novak has been a scientist and teacher of biometrics for more than 15 years and has gained a vast and diverse background from his teachings at the Universities of South Dakota, South Carolina, Georgia and Illinois. Upon first meeting Novak, fellow Eastern Illinois Biological Sciences professor, Dr. Karen F. Gaines, explained, "The breadth of his knowledge encompasses all avenues of science, much more than any other scientist I had worked with."

Novak has contributed over 20 published works from 1987 through 2005 and has been involved in writing two publications currently in review. In addition to his written contributions to the Biological Sciences community, he has also taken part in over four dozen presentations all around the country. Before leaving the University of Georgia, Novak worked as a research coordinator at the SREL. After leaving the University of Georgia, he headed to the University of South Dakota's Missouri River Institute, where he became a co-director.

Currently, Novak is teaching animal diversity and biometrics undergraduate courses, as well as experimental design and genotoxicology graduate courses. Besides the courses he is teaching, Novak is involved in research. "I recently received an internal CFR grant to look at human influences on White-Tailed deer evolution in Hilton Head Island in South Carolina," Novak said.

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## GRADUATE STUDENT SEMINAR SERIES BY ANGELA PHAM\*

Eastern's graduate and undergraduate students had a unique opportunity during Fall Semester to attend the Department of Biological Sciences Graduate Student Association's Seminar Series. The seminar series consisted of six professors from five different universities who are noted experts in the Biological Sciences: Dr. Richard Joost, University of Tennessee, Martin; Dr. Tim Yoshino, University of Wisconsin-Madison, School of Veterinary Medicine; Dr. Eric Schaubert, Southern Illinois University at Carbondale; Dr. Loretta Battaglia, Southern Illinois University at Carbondale; Dr. Dana L. Winkelman, Colorado Cooperative Fish and Wildlife Research Unit at Colorado State University; and, Dr. Paul Switzer, Eastern Illinois University.

The seminar series has been a yearly event since 2003 and is fully funded by the Biological Sciences Graduate Student Association. Speakers are chosen from nominations submitted by students and faculty. Graduate student Jeremy Klass said the department attempts to offer a diversity of topics and areas of interest in biological sciences when nominating potential speakers in order to attract more people to the seminars. "We bring in individuals who are conducting research on topics of interest in the department."

Graduate student Tim Rye said he attended all of the seminars offered this semester and feels they are important to the department's curriculum. "The seminars let students meet people in their profession, gain insight about career development, and learn more about new topics in biology," Rye said. "The students also have the chance to meet with speakers one-on-one." Klass said the seminars are "a useful resourceful tool" for graduate students but said more students should take advantage of them. "It fulfills its purpose, but it could definitely be used by more people," Klass said. "Even if the speaker doesn't pertain to your field of study, they can offer insight into what's going on in the broader world of the Biological Sciences."

Dr. Bud Fischer, a professor in the department, said one of the more interesting aspects of the program is that one speaker a semester is an alumnus of the department who is now working at another institution. He added that the seminars allow students to obtain information about opportunities available at other universities. "It provides students with an opportunity to network with other scientists in the field of biology," Fischer said. "The activities associated with each seminar speaker's visit offers students an opportunity to showcase their research and get positive feedback on their projects."

**FACULTY PROFILE BY MATT KELLY\***

The Biological Sciences department at Eastern has a simple goal: to produce biologists. As coordinator of the Environmental Biology program at Eastern for the past two years, Tom Nelson embodies this goal. In fact, one of his favorite duties is advising students. "I enjoy meeting with advisees because that's really the chance to sit down and find out what the students' dreams are," he said.

Natalie Morris, a junior Environmental Biology transfer student, is one of those advisees. Morris said her adviser at a community college would not make eye contact with students in the hallways. She said Nelson changed her opinion of advisers. "If I see Dr. Nelson somewhere, he'll straight up ask me how I'm doing. That's cool," Morris said.

Nelson teaches several classes in the department including two undergraduate courses and four graduate courses. When asked about his favorite class to teach, he started to laugh and said, "I actually like them all, believe it or not." Eventually, he decided undergrad ecology was his favorite because the students are deciding if they want to pursue Biology as a career. Whether working with students in the field or making presentations with them, Nelson enjoys the interaction.

Nelson is currently studying beaver populations in Illinois. He joked about how fortunate he was that a beaver is an animal people know, since sometimes the general public has no idea what animal he is talking about. At his most recent presentation given at the University of Massachusetts, Nelson addressed the American Society of Mammalogists. "It (the presentation) was a paper I gave with one of my grad students," he said. "It deals with the population dynamics of beaver populations."

Nelson considers students his team members when working on projects like these, and said none of it would be possible without funding. He receives research grants from many groups, but said the Illinois Department of Natural Resources funds the bulk of his work. This group is in charge of fish and wildlife management in Illinois. Nelson helps organizations like this perform vital research. "My students and I address a lot of questions about species that are in trouble — how to keep animals from extinction and things like that," he said.

In the realm of Biology there are several professional fields. "By training, I'm a mammalogist," Nelson said. "I've wanted to be a Biologist since I was a little kid. It's always been interesting to me."

Thirteen years ago, Nelson started at Eastern along with another Biologist, Bud Fischer. He and Nelson remain close, both professionally and personally. Fischer said Nelson is an excellent field biologist who knows his subject very well. When asked what Nelson's best quality is, Fischer replied, "He has a couple: He's incredibly personable and easy to approach, so students really like him." In his off-hours, Nelson said he and his family enjoy several outdoor activities including camping, canoeing, and fishing.

As for the future, Nelson said he plans to teach at Eastern for a long time: "The single most important outcome of my research is the success of the students. The research is all about teaching students to be Biologists. When I'm retired, I'm going to judge myself by looking back at the Biologists Eastern has produced."



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In addition to the CFR grant, Novak has applied for a grant from the Illinois Department of Natural Resources to develop a database system for selected harvested wildlife species, as well as designing a study to look at DNA damage to amphibians located throughout Illinois. Throughout his career, Dr. Novak has received 15 grants to research a wide variety of biology-related topics. When asked about his most gratifying experience as part of Eastern Illinois' Biological Sciences department, Novak commented that the "quality of the undergraduate and graduate students in biology and the great undergraduate student research opportunities as well as the dedication to learning...by both faculty and students."

During his two years at Eastern, Novak has offered much to the department. "His hands-on experience with real-world problems associated with anthropogenic activities" is one thing Gaines accredits Novak to adding to the success of the department. Novak has expanding plans for his future here at Eastern. He explains, "I hope to develop a course in conservation genetics and to increase my research program now that our new laboratory is completed."

*(Continued from page 1, Chair)*

Seminar Series that brings distinguished biologists from around the country to campus to present research seminars, create a fund to support a week-long Darwin Days program, renovate teaching and laboratory facilities including a new innovative computer teaching laboratory and purchase state of the art equipment for teaching and research. In short, your support has had a significant and positive impact on the learning opportunities that we can provide our students.

We hope you'll write to us and share news about your career and family. Better yet, the next time you are in Charleston, come back and visit us. You won't believe the things that have changed in the Life Science Building. Your friends in the Department of Biological Science extend our best wishes in your career and personal life.

Andrew S. Methven, Ph.D. Professor and Chair

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their students will use the lab for research in plant ecology, mycology, and plant anatomy and morphology, respectively. In addition to the major renovation projects, Fischer said additional improvements to the interior of the building include new paint, brighter lighting, remodeled lecture halls, and the installation of new teaching technology (computer work stations and laser projection systems) in most of the classrooms.

Fischer said the renovations were recommended to improve the student learning environment following a program review by the Council on Undergraduate Research. Individual room needs were subsequently identified following a faculty retreat in 2004. Since then, the department has made updating of facilities a top priority to improve the learning environment for students as well as the overall condition of the building. Fischer estimated that the projects cost between \$80,000 and \$100,000 to complete and included cost-sharing between the Department of Biological Sciences, the College of Sciences, Facilities Planning and Management, and Academic Affairs. Alumni donations also contributed toward the renovations.

With a significant increase in undergraduate majors from 350 in 2003 to 630 in 2006, Fischer said building renovations were "absolutely necessary" and long overdue. He said that the new laboratories can also be used as effective recruiting tools for the Biological Sciences with prospective students. "Alumni who have stopped in can't believe the changes," Fischer said. "Ten years ago, there were no research laboratories in the building. It's a completely different atmosphere...and we would love to have alumni stop by so we can show them what the building is like now."

**EASTERN ILLINOIS UNIVERSITY**

Name \_\_\_\_\_

Year Graduated from EIU \_\_\_\_\_

Current Occupation \_\_\_\_\_

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