



From the Chair

Professor J. Michael Parrish

The 2003-2004 academic year has been a challenging one for the Department of Biological Sciences, and for Northern Illinois University. The budgetary woes that have hit the state affected us directly in that our faculty has been downsized as a result of our being unable to replace two retiring faculty members, owing to taxes levied on the College of

Liberal Arts and Sciences. As a result of this attrition in teaching staff, we are making some reallocations regarding faculty teaching assignments, but we are doing our best to maintain our current undergraduate and graduate programs. Also, as a result of increased student interest in general education courses in the biological sciences, we are creating new sections of some 100-level courses in order to better serve students.

Department faculty have been in the news again this year. In June, *Science* magazine published an article, "In-Depth View of Structure, Activity, and Evolution of Rice Chromosome 10," which was authored by a multi-institutional, interdisciplinary consortium that included NIU faculty **Long Mao** and **Rick Johns**. This represents an important advance in our understanding of the structure and function of the genome of rice, with important applications not only to rice farming but to the management of many related crops. This summer, **Distinguished Research Professor Jozef Bujarski** was awarded the title of Professor by the president of his native Poland. Although this title indicated distinction in the United States, the conferring of the title of Professor on a scientist in Poland is a high honor awarded to only a few scholars.

We have continued to maintain important ties with area institutions. Faculty in both our department and the Department of Geology and Environmental Geosciences are involved in the study and scientific description of "Jane" a beautifully preserved new tyrannosaurid dinosaur that was found by project leader (and Curator of Geology) Michael Henderson of the Burpee Museum in Rockford. Department faculty are also involved in the development of the Midwest Museum of Natural History in Sycamore, where Rob McAfee, a doctoral student in our department, has been appointed as collections manager.

At the end of the last school year, we bid adieu to two long-time members of the faculty, **Pat Vary** and **Dan Griffiths**.

As discussed elsewhere in the newsletter, Vary is continuing NIH funded research in her lab, and Griffiths is moving to a new position as vice provost for Research and Graduate Programs at Marquette University. A search will be underway shortly for a microbial geneticist to join our faculty in the fall of 2004.

With the retirement of **Roger Lemke** from the storeroom last December, we changed over to a system where ordering and storeroom activities were combined, and **Kristi Rhodes** moved from her former post in the department office to assume the new duties. Shortly thereafter, we were pleased to welcome **Lori Judkins** to the office secretarial staff.

As of the fall of 2003, all of the departmental classrooms have computer projection capabilities, and access to the university network as well as to the Internet. This fall, one of our teaching classrooms, Montgomery Hall 443, is out of commission as the university is converting it into a state-of-the-art smart classroom.

In closing, I would like to thank the many alumni who have expressed their commitment to, and connection with, the Department of Biological Sciences through donations in the past year. The economy has made money tighter for all of us, and we are very appreciative of those who have chosen to direct some of their resources towards the maintenance of excellence in educating undergraduate and graduate students in our department. ♦

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John P. McKearn...Distinguished Alumnus Award



John P. McKearn

This year NIU recognized the significant contributions made by scientist **John P. McKearn**, (B.S. '75 Biology), with the prestigious Distinguished Alumni Award. The Distinguished Alumni Award is the most prestigious award given by the NIU Alumni Association to an alumnus who has achieved outstanding success in his or her profession.

Graduating in 1975 with a bachelor's degree in biology, John P. McKearn is a renowned scientist whose research and expertise in immunology, inflammation, and oncology has made him an unsung hero to the

general public. As a scientist with the Pharmacia Company (formerly Searle/Monsanto), McKearn established the groundwork for new studies that drove the company's entry into arthritis and oncology research. He was directly responsible for the development of comprehensive programs that resulted in the commercialization of several major products, including DayPro, Arthrotec, and most notably, Celebrex, one of the leading pharmaceuticals to treat arthritis. In August 2000, McKearn accepted a position as senior vice president of Pharmacia Discover Research, where he is responsible for more than 1,600 scientists worldwide and the strategic planning for six therapeutic areas and three major technical areas. The company honored McKearn with its highest recognition, selecting him to its prestigious, peer-reviewed "Pharmacia Fellow Program." This selection recognized McKearn's contributions by regarding him as a premier innovator, leader, and a scientific and technological "agent for change." He also holds more than 40 patents and numerous patent applications in the area of blood cell development, cancer and inflammation treatment. Additionally, he has co-authored more than 70 published, peer-reviewed scientific papers.

A major focus of McKearn's current work is the implementation of new technologies to dramatically improve the productivity of pharmaceutical R&D by increasing the success rate of compound moving into full clinical development (post Phase II a) and to generate expanded drug template information for unprecedented therapeutic targets. Previously, he led Searle Discovery Research as vice president. He held a variety of other pharmaceutical research and scientific management positions, particularly in inflammatory, immunological and oncology diseases research. Prior to joining Monsanto in 1987, he was a senior scientist in the medical products department of DuPont, a member of the Basel Institute for Immunology in Switzerland, and a post-doctoral research fellow in microbiology and immunology at the Washington University School of Medicine in St. Louis. ♦

About the Distinguished Alumnus Award

Northern's tradition of producing successful graduates is a testament to its quality academic programs, professors, and staff. Through its annual Awards Program, the Alumni Association recognizes the accomplishments of these outstanding graduates. Recipients are selected based on outstanding professional and personal successes, as well as involvement in civic, cultural or charitable activities.

Previous honorees include Speaker of the House J. Dennis Hastert, M.S.Ed. '67, Academy Award-nominated actress Joan Allen, B.A. '89, renowned paleontologist Paul Sereno, B.S. '79, and *Crain's Chicago Business* editor Robert Reed, B.S. '76.

Retirement... Professor Patricia Vary

by Professor J. Michael Parrish

Pat Vary joined our department as an adjunct assistant professor in 1973. In 1975, she became a part-time assistant professor and, after teaching at a couple of other institutions, became a tenure track assistant professor in 1977. She was tenured as an associate professor in 1983, and was promoted to professor in 1989. In 1991, Pat was recognized as a Presidential Research Professor, and then as a Distinguished Research Professor in 1995. From 1995 to 1999, Vary served as chair of the department, an interval, much like our present situation, of challenging state budgetary cutbacks. In 2002, she received the Wilma Stricklin Award for enhancing the campus climate for women at NIU.

During her time in the department, Vary brought in over \$800,000 in federal funding, and another \$350,000 in funding from industry. She holds two patents for Plasmidless strains of *Bacillus megaterium*. Although she has retired from teaching, Vary will continue to run her lab, as she is still funded by a grant from the National Institutes for Health, and continues to seek additional external funding. However, Pat hopes that retirement will afford her more time for family, community, and cultural activities. ♦



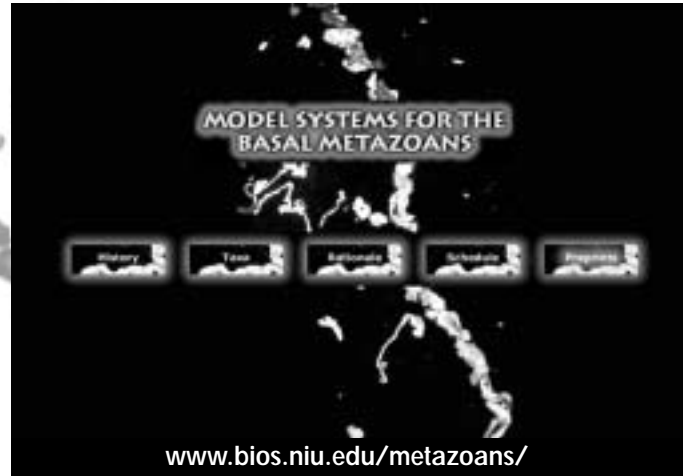
Professor Parrish with Professor Vary at a retirement luncheon.

New Models for Ancient Animals

by Professor Neil Blackstone

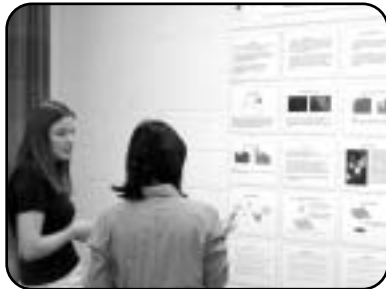
"Worms, flies, and mice" are among the most well-studied animals, and thus serve as "model organisms" to infer the characteristics of animals in general. Considerable progress in biology and medicine has resulted from this approach. In modern phylogenies, however, neither nematodes (worms) nor arthropods (flies) appear to be primitive, basal animals. Rather, sponges, placozoans, cnidarians, and ctenophores share this distinction. Without detailed knowledge of these basal metazoans, it is impossible to provide an effective comparative framework for animal evolution. To stimulate this process, for the annual meeting of the Society for Integrative and Comparative Biology (5 - 9 January, 2004, in New Orleans, see www.sicb.org), Neil Blackstone and colleagues are organizing a symposium, "Model systems for the basal metazoans: placozoans, cnidarians, and ctenophores." This symposium will stress the promise of genomics in the context of further progress both in phylogenetics and in the essential work of characterizing phenotypes in natural environments. A complementary symposium will also take place, "Sponges: new views of old animals." Proceedings will be published in Integrative and Comparative Biology. To stimulate discussion

before and during the symposium, the 21 national and international participants will post preprints on the symposium's website (www.bios.niu.edu/metazoans) developed by Barbara Ball. Check it out! ♦



Student Research Symposium

by Professor Kenneth Gasser



The Phi Sigma Biological Honor Society held its annual student Research Symposium on Saturday, April 12, 2003. The results of student initiated research was presented by 28 undergraduate and graduate students. A range of research projects representing the diversity of the departmental interests was on display. Topics



included mating behavior in parasitoid wasps, structural characteristics of scorpion toxins, an analysis of boronated polyamine analogs as potential chemotherapeutic agents, ecological studies of a threatened Lake Erie water snake, physiological studies on signal transduction in pancreatic acinar cells, ethnobotanical investigations, biochemical studies of key regulatory proteins in photosynthesis, and many more. Approximately 100 students, friends, faculty and staff attended the symposium. The event not only gives students the opportunity to discuss their research, but



recognizes the creative and scientifically significant achievements of our student body. The Department of Biological Sciences is indebted to Phi Sigma for their hard work and sponsorship of this important and educational event. Special thanks go to Phi Sigma members Molly Kelly, Trish Kaiser, Autumn Ervin, Laura Dunn, and James Caldwell for their work in organizing the symposium. ♦



Waubonsie Valley High School visits NIU Anatomy Lab

by James J. Donahue and Professor C. Hubbard



On Friday, April 11, Northern Illinois University hosted students from Waubonsie Valley High School anatomy and physiology courses. Sixty-five high school juniors and seniors, along with six science teachers, spent from 9 a.m. until 9 p.m. learning about the human body in the university's cadaver laboratory.

The idea for this type of field experience came about when one of the teachers from Waubonsie, **James Donahue**, attended NIU last year to obtain his M.S. in human anatomical sciences. Seeing the potential for a unique learning experience, he received permission from the NIU lab's professor and his high school to bring his anatomy and physiology students into the lab to dissect for a day.

The students spent the year preparing for the trip. Class time was spent learning the form and function of each body system. In addition, they practiced dissection skills on preserved animals, studying organs such as the heart, brain and eyes.

In April, they visited the cadaver lab at NIU. For the next 12 hours, the students were immersed in college-level human anatomy. Each group of 10 to 12 students spent an hour and a half dissecting and studying a prosected cadaver with Donahue and other faculty, or preparing for the comprehensive exam later that evening.

"It was simply the best learning experience and best hands-on activity I have ever participated in," said senior Andrew Block. "The best part was obviously us, being only juniors and seniors in high school, to be able to not just see a human cadaver, but actually take part in the dissection of it." Senior Patrice Delany added, "It gave us the opportunity to see hands-on what we had been talking about all year. It's one thing to look at a picture and comprehend where it is or how that works, but it's a whole new perspective to get your hands in there and trace it yourself." ♦

Awards... 2003 Honors Convocation

- **Department Honors** - Aaron F. Goldberg, Molly M. Kelly, Jennifer L. Morpew, Jace W. Robinson
- **Charles E. Montgomery Award** - David J. Stormont
- **Mortar Board - Senior Honors Society** - Michelle M. Bonar, Laura A. Dunn, Trish E. Kaiser, James T. Stork
- **Phi Sigma Graduate Research Award** - Rafal H. Wierzoslawski
- **Phi Sigma Undergraduate Research Award** - Wilhelmina Brooks
- **PMBC Graduate Research Assistantship** - Jennifer D. Kubic, Sandhya V. Royan
- **PMBC Undergraduate Research Fellowship** - Michelle M. Bonar, Tammy J. Russell
- **Dean's Award** - Molly M. Kelly
- **Harvey A. Feyerherm Award** - Bradley W. DeVrieze
- **George L. Terwilliger Award** - Muffie K. Slater
- **Sidney Mittler Award** - Rafal H. Wierzoslawski
- **Dissertation Completion Award** - Carrie L. DeBlecourt, Rafal H. Wierzoslawski
- **Amanda Mangold Scholarship Award** - Michelle M. Bonar
- **Jerrold H. Zar Scholarship Award** - Trish E. Kaiser
- **Cancer Federation Scholarship Award** - William E. Kyle, Harmony R. Leach
- **NIU at Oxford 2002 Biological Sciences Scholarship** - Nicole K. Boerboom
- **August M. Gorenz Award** - Tammy J. Russell
- **University Fellowship Award** - Virginia G. McHugh-Kurtz
- **SPS Presidential Award for Excellence** - Donna M. Prain



Ken Gasser presented the Amanda Mangold Award to Michelle Bonar.

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Mao, Johns Help Refine Genetic Map of Rice



Professor Long Mao



Professor Mitrick Johns

June 5, 2003, Northern Today

Two Northern Illinois University researchers are part of a team of scientists announcing that they have completed detailed gene mapping of a rice chromosome.

Long Mao and Mitrick Johns, both professors in the NIU Department of Biological Sciences, participated in the sequencing of chromosome 10. With 23 million base pairs of DNA, it is believed to be the smallest of the dozen chromosomes that make up the rice genome.

"This is the first completed map of this chromosome," Mao said. "Its sequencing is another key step toward unraveling the genetic makeup of the world's most important food crop."

Led by Rod A. Wing of the University of Arizona, more than 100 scientists from universities and research institutions across the country participated in the chromosome's gene mapping. The scientists describe their findings in the June 6 issue of the prestigious journal, *Science*.

The rice genome presents a potential genetic blueprint for other cereal crop plants. Last year, separate consortiums of scientists published draft genome sequences for the indica and japonica varieties of rice. But only now are scientists decoding precise sequences for each of the 12 chromosomes. The detailed information could lead to breakthroughs in the production of enhanced food crops with greater yields and improved disease resistance.

"Chromosome 10, in particular, appears to be a major player in disease resistance," Johns said. "We know this through comparisons to genes identified as playing a role in the resistance of disease in other plants. Our ability to understand what allows the plant to fight those diseases will allow us to manipulate the genetics to make improved crops."

Chromosome 10 contains 3,471 genes. An earlier draft sequence had estimated less than half that number, illustrating the importance of the more detailed mapping.

"We now have a much clearer picture," Mao said. "We know the structure of the chromosome, where the genes are located and how they correlate to important genetic traits."

About one-third of the world's inhabitants depend on rice for more than 50 percent of their caloric intake. Rice also is important in genetic terms because it is closely related to cereal crops such as wheat, corn, and barley. Mao said the rice genome is much smaller than other cereals, making it a logical choice for analysis. The wheat genome, for example, is 40 times bigger than the rice genome.

The NIU Foundation, the Graduate School, and the Plant Molecular Biology Center contributed funding toward the gene-mapping project. ♦

August M. Gorenz visits Montgomery Hall

Professor August M. Gorenz (B.S., NIU, Ph.D, UW) stopped by for a tour of Montgomery Hall by department chair Michael Parrish this summer. Gorenz had a long and successful career in plant pathology working at various locations around the world. The Dr. August M. Gorenz Award was established in 2000, and is presented annually to an outstanding undergraduate student in the department. Recipients so far:

- 2001 - Autumn J. Bricker
- 2002 - Mary G. Dykas
- 2003 - Tammy J. Russell



Professor Michael Parrish with Professor August M. Gorenz

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2003 Faculty ...Department of Biological Sciences

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- **Jozef Bujarski**—Plant Molecular Biology; Molecular Virology. jbjarski@niu.edu
- **Ana Calvo**—Microbiology; Molecular Biology; Fungal Genetics. amcalvo@niu.edu
- **Sonya Conway**—Endocrinology; Neuro-Endocrine Control Systems. sonya@niu.edu
- **Thomas Conway**—Immunology; Histocompatibility Antigens; Monoclonal Antibodies. tconway@niu.edu
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- **Christopher Hubbard**—Endocrine Cell Signaling and the Effects of Growth Factors on Cell Growth and Metabolism. chubbard@niu.edu
- **Michael Hudspeth**—Molecular Biology; Organelles; Mycology; Fungal Plant Pathogens. mykes@niu.edu
- **Mitrick Johns**—Plant and Animal Molecular Genetics; Bioinformatics. rjohns@niu.edu
- **Barbara Johnson-Wint**—Development; Matrix Modelling and Remodelling; Gravitational Biology. barbara-johnson-wint@niu.edu
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- **Richard King**—Evolutionary Ecology; Herpetology. rbking@niu.edu
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- **Michael Parrish**—Vertebrate Paleontology; Functional Morphology; Systematics; Paleocology. mparrish@niu.edu
- **Neil Polans**—Genetics; Mapping and Evolution of Complex Traits; Plant Systematics. npolans@niu.edu
- **Thomas Sims**—Self-incompatibility in Petunia; Molecular Biology. tsims@niu.edu
- **Joel Stafstrom**—Developmental Botany; Cellular/Molecular Biology. stafstrom@niu.edu
- **Ronald Toth**—General Botany; Economic Botany; Creation/Evolution Debate. t80rx1@wpo.cs.niu.edu
- **Carl von Ende**—Population and Community Ecology; Aquatic Ecology; Plant Ecology. cvonende@niu.edu
- **Linda Yasui**—Radiation Biology; DNA Damage and Repair in Chromatin. lyasui@niu.edu

Emeritus/Adjunct Faculty ...Department of Biological Sciences

- **Jack Bennett**—Genetics; Population and Behavior Genetics.
- **Anne Berg** (*visiting professor*)—Epidemiology of Epilepsy.
- **W. Elwood Briles**—Avian Immunogenetics.
- **Mason Fenwick**—Algology; Applied Botany.
- **Elon W. Frampton**—Microbiology; Molecular Biology; Virology.
- **James Grosklags**—Mycology.
- **Daniel Griffiths**—Radiation Biology; DNA Repair; Physiology; Cytogenetics.
- **Arnold Hampel**—Molecular and Cellular Biology; Biochemistry.
- **Laszlo Hanzely**—Developmental Biology.
- **Kenneth Harmet**—Plant Physiology.
- **Steven Kuhl**—Pathogenic Microbiology.
- **Darryl Lynch**—Microbiology.
- **Wayne McIlrath**—Plant Physiology.
- **Lowell Nicolaus**—Ethology.
- **K.V. Prahlad**—Devel. Biology.
- **Robert W. Pearson**—Environmental Biology; General Biology.
- **Charles Rohde**—Mite Biology.
- **O. Arne Schjeide**—Cell Biology; Animal Ultrastructure.
- **Paul Sorensen**—Plant Taxonomy; Systematics; Ecology; Conservation.
- **Marvin J. Starzyk**—Aquatic/Pathogenic Microbiology; Microbial Ecology.
- **Patricia Vary**—Microbial Genetics; Molecular Biology; DNA Replication.
- **Robert Wittrup**—Human Anatomy.
- **Jerrold Zar**—Physiological Ecology; Biostatistics; Environ. Biology.

SPS Excellence Award...

Madonna Prain

by Professor Richard J. Becker, assistant chair

Biology's own Donna Prain was selected as a recipient of a 2003 Presidential Award for Excellence. Honored at an April reception, Donna received the award from President Peters in appreciation for her outstanding contributions to biological sciences, and the NIU community. This award is quite prestigious as it is bestowed on only four individuals selected from a field of over 800.

Prain, an NIU biology alumnus. (B.S. 1979, M.S. 1986), came on-board with the Department of Biological Sciences as information systems manager in 1998. Since that time she has nurtured what is arguably one of the largest departmental computing infrastructures on campus. The department's current network includes seven servers, some 180 workstations, two computing labs, an extensive battery of network printers, several "smart classroom" installations, and a diverse and growing array of computer-interfaced research instruments.

Although Donna has made her indispensable work seem almost invisible, her positive attitude, technical performance, speed, and efficiency and many hours on nights, weekends, and holidays has not gone unnoticed by those who count on her.

"Probably the most dramatic evidence of Prain's excellent work is the virtually trouble-free performance that we experience," said J. Michael Parrish, chair of the Department of Biological Sciences. "The absence of glitches, and the regular, and virtually transparent, upgrades to software and hardware have allowed members of the department to stay on the cutting edge of the use of IT for research and teaching."

Challenges to information systems management continue to grow, particularly in security and maintaining network integrity. Although Professor Parrish wrote the above statement in April '03, it is striking given the events of just this past week (August '03). The "Blaster worm" has just wrecked havoc across the country, going so far as to shut several companies down completely. Literally hundreds of systems throughout NIU were impacted by this "virus," resulting in loss of productivity and requiring emergency quarantine action on the part of many system administrators. True to form, Donna had prophylactic software patches in place on biology systems in advance and only two biology systems were transiently impacted during the initial outbreak.

In addition to her system administration duties, Donna maintains an active role in the academic mission of the department. She has co-developed and co-instructs BIOS 480 – Biocomputing, now in its sixth year, and has contributed significantly to the recent genesis of bioinformatics as a sub-discipline in the department. Formally trained as an ecologist, Donna also contributes substantively to our bioconservation courses, and sits as a board member on various county environmentally oriented bodies. ♦



NIU's Loss is Marquette's Gain...

Professor T. Daniel Griffiths

by Professor Michael Parrish

At the end of the 2002-2003 academic year, T. Daniel Griffiths left the Department of Biological Sciences and Northern Illinois University to pursue a new position as vice provost for Research and Graduate programs at Marquette University. Dan came to NIU from a position as assistant professor at the University of Rochester in 1981 as an assistant professor. He was tenured in 1982, and promoted to full professor in 1988. For the last several years, Griffiths has become increasingly involved in administrative activities.

From 1997 to 2000, he was chair of the Rules and Governance Committee of the University Council. From 2000-2001, he was executive secretary of the University Council and chair of the Faculty Senate. In the summer of 2002, Dan assumed the post of acting vice provost for research and dean of the Graduate School, a position he held until leaving for Marquette in July. Throughout this time, Griffiths maintained an active research program focusing on the effects of UV light on DNA synthesis. In the last couple of years, he has developed a new research focus with Beth Gaillard of the Department of Chemistry and Biochemistry, focusing on retinal epithelial cells. Although Griffiths has left his full-time position at NIU, he will remain an adjunct faculty member in our department, and will continue to work on this project with Gaillard. ♦

Electronic Portfolios as a Means of Assessment for Teacher Certification Candidates in Biology

By Professor Jon S. Miller

The Teacher Certification Program in Biology has undergone some significant changes since the Illinois State Board of Education and the National Council for Accreditation of Teacher Education last reviewed it. Along with the development of new courses designed to give certification candidates opportunities to demonstrate their competency in meeting the numerous standards, a new way to assess candidates has been implemented as well. The program now requires all candidates seeking initial teacher certification in biology to develop an electronic portfolio.

An electronic portfolio is a purposeful sample of a candidate's work and progress through the teacher certification program in biology. It is not a notebook or resource file of what they have accomplished or experienced. The portfolio continues to grow as the candidate progresses through the various phases of the program and reflects the candidate as a professional. Furthermore, the electronic portfolio can be formatted to showcase the candidate's qualification for a teaching position.

There are a number of purposes for developing an electronic portfolio that extend beyond the traditional course-based system of evaluation. Some examples are:

1. To help certification candidates to reflect on their role and development as a teacher.
2. To summarize their knowledge as a teacher, i.e., to help them "put it all together."
3. To demonstrate to others that they have met the requirements of the Teacher Certification Program in Biology and provide evidence of the quality of their preparation.
4. To demonstrate that they have met the many standards.
5. To serve as the nucleus of future professional development portfolio.
6. To serve as an electronic resume for employment purposes.
7. To assist in the evaluation of the Certification Program in Biology.

Most students will begin to assemble their electronic portfolio during the professional development phase of the certification program, which generally starts with the junior year. The contents of the portfolio are reviewed at the end of each semester. Each candidate then receives feedback on his or her progress towards certification. Candidates are advised to have as much of their portfolio completed prior to student teaching. During the student teaching phase, candidates put the final touches on their portfolio and submit a finished product for final evaluation.

The kinds of evidence towards meeting the standards that candidates include in their electronic portfolio include:

1. A written expression reflecting a philosophy of science education based on journal entries, past science and education courses, present beliefs and values, and personal experiences. In addition, the portfolio should contain

documentation reflecting this philosophy and alignment with the Illinois State Board of Education standards for the professional preparation of teachers.

2. A reflective caption "tag" or explanation to the reader of the portfolio explaining the significance of the item presented in the portfolio. In other words, why such an item was selected and how this item demonstrates one's competency in meeting the standards. This "tag" is to be about a paragraph in length.
3. The portfolio begins with a table of contents, a resume, and a philosophy of science education. The remainder of the portfolio is organized into sections for each Illinois State Board of Education standard.
4. Suggested Portfolio items include, but are not limited to:
 - a) an ongoing resume
 - b) a favorite e-mail dialogue with a classmate
 - c) an exemplary lesson-plan
 - d) insightful/useful reflective analyses
 - e) anonymous student works and/or assessments including samples from student work depicting growth and/or evidence of student learning
 - f) a video recording depicting a worthwhile teaching experience, photographs, and/or videos from teaching
 - g) documentation of one's own professional growth experiences (attendance at a professional conference or annual meeting)

When certification candidates format their portfolio for employment purposes, they may include personal information, an unofficial copy of their transcript, a list of names and addresses of references, samples of course work of which they are especially proud, and resources they plan to use when teaching. The basic goal is to show A) where they were when they started the certification program, B) evidence of growth, and C) a plan for future professional development.

Using the electronic portfolio as a means of assessing candidates in the Teacher Certification Program in Biology provides a comprehensive coordinated plan for periodically monitoring the progress of candidates at different stages in their development towards becoming biology teachers. Moreover, the portfolios can be utilized to evaluate the efficacy of the certification program for the next accreditation review. The advantages are numerous. For example, the electronic format provides easy storage and distribution and virtually eliminates the use of paper. Also, because the electronic portfolio is designed to be aligned with standards, it serves as evidence of how certification candidates in biology are addressing and meeting the standards. During the next accreditation review, reviewers will be able to examine portfolios by way of computers rather than huge bulky three-ring binders. Finally, candidates can make changes to their portfolio to suit different purposes such as interviewing for a teaching position or future professional development. ♦

radix," at the annual meeting of the Illinois State Academy of Science in April '03. She received funding from the Illinois State Academy of Science in '02 and from the Chicago Herpetological Society in '03.

R. King lab members **Grue, Ray, Robinson, and Stanford** participated in a two-week annual spring Lake Erie water snake population census ('Nerodio 2003'). **Jen Cline** (M.S. '00) and volunteers from the Toledo Zoo and the Detroit Zoo, also participated. **Stanford** and **Ray** joined researchers from Oregon State University to conduct fieldwork at the world famous Narcisse snake dens in Manitoba in May '03. **Ray** also joined researchers from the University of Tennessee and the Milwaukee Public Museum to conduct fieldwork on the Apostle Islands in Lake Superior in July '03.

Carrie L. Simkus and **Thynn K. Thane** (Mitchell lab) presented their work at the Gordon Research Conference on Polyamines, New London, Connecticut, June 15-20, 2003: "Cellular Localization of Antizyme-1 in Mammalian Cells," **Carrie L. Simkus** and John L.A. Mitchell, and "The Role of Antizyme Inhibitor in Regulation of Cellular Polyamines" **Thynn K. Thane**.

Andrea Previtali (Meserve lab) and **D. A. Kelt** (M.S. '89 Meserve lab) presented their work at the American Society of Mammalogists meeting, June 2003, Texas Tech Univ., Lubbock, TX., "Effects of small mammal consumers on ephemeral plants in a northern Chilean semiarid system: disentangling the role of key players." **A. Previtali*** (poster; co-authored with J.R. Gutiérrez, P.L. Meserve, and D.A. Kelt); "Foraging ecology of small mammals in semiarid Chile: the complex interplay of biotic and abiotic effects." **D.A. Kelt*** (paper; co-authored with P.L. Meserve and J.R. Gutiérrez).

A paper coauthored by **Autumn Bricker Ervin** (Gasser lab) on the work that she did for her undergraduate honors project in the Duvall lab was accepted for publication in "Molecular Phylogenetics and Evolution," and is currently in press.

Robert McAfee (Naples lab) was awarded a Collections Study Grant of \$780.00 from the American Museum of Natural History, New York City, NY, to assist in travel and time spent studying their fossil sloths collections. He will visit the museum for this purpose in late December-early January. McAfee is also serving as the interim curator for the Midwest Museum of Natural History that is being built in Sycamore, Illinois.

Alumni:

Michael Andre (M.S., '03, R. King lab) presented a talk summarizing his research at the annual meeting of the Illinois State Academy of Science in April '03. He is now working for the Illinois State Police doing molecular forensics.

Marek Figlerowicz, (long-term postdoctoral fellow and collaborator in the Bujarski lab), has been appointed as an associate professor at the Institute of Biological Chemistry, Polish Academy of Sciences, in Poznan, Poland. He recently obtained a large research grant from the Committee of Scientific Research to study the effect of RNA interference (RNAi) on genetic RNA recombination in RNA viruses.

James Borneman (M.S. '90 Hahn lab, Ph. D. '94, M. Altschuler lab) received tenure and a promotion to Associate Professor at U. Calif., Riverside.

Maja Ordanic (Ph.D. Sims Lab '01) is carrying out postdoctoral research in the Department of Biochemistry at Emory University.

Adam Sperling (Research Assistant Sims lab, '01) is pursuing an M.. D.-Ph. D at UCLA.

Jennifer McGinnis (B.S. '02, Sims lab) is a research scientist at Chromatin Inc., a start-up biotechnology company in Chicago.

Kate Deig (B.S. '03, Sims lab) is a research scientist at Abbot Laboratories.

Christopher Kodani (Ph.D. '03, Meserve Lab), currently working as an assistant professor at Clayton State College and University, Morrow, GA, completed his Ph.D. degree this summer.

Jeff Noll, (intermittent student researcher, Duvall lab), successfully defended his M. S. in Plant Systematics at Iowa State University on 16 July '03.

Tonya Bittner (Ph.D. '03, R. King lab) gave birth to a daughter, Shannon Grace.

Phil Senter (Parrish lab) begins a tenure track position this fall in the biology department of Lamar State College in Orange, Texas. He is also polishing up his dissertation, which has been accepted in its entirety, pending revisions, in the British journal, *Systematic Paleontology*. ♦

Attention Alumni:

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