

# BIO-FEEDBACK

## DEPARTMENT OF BIOLOGY

June, 2001 Newsletter

Volume 1

### FROM THE CHAIR

We are very excited to introduce the first edition of Bio-Feedback in at least ten years. The main focus of this issue is to bring you up to date with all of the changes that have occurred in the department during this time. There have been five retirements: Bob Calentine, Carl Finstad, Jack Bostrack, Jim Richardson, and John Hudson. Although those individuals are impossible to replace, we have hired new faculty who bring their own unique contributions to the department. You can read about them inside this issue: Brad Mogen, E. Katherine Miller, Kim Mogen, Grace Thornhill, and John Wheeler. We are also in the process of hiring one more tenure-track faculty member to teach Anatomy and Physiology. Another big change is that, after 12 years of excellent service to the department, Doug Johnson stepped down as Chair in 1999 to take a half-time position as Associate Dean in the College of Arts & Sciences.

The field of Biology also has changed in the last decade, and our challenge has been to continue to provide students with an education that will prepare them for a future in this dynamic field. The number of Biology majors has nearly tripled in the last ten years, and we continue to have students interested in all areas of biology, including field biology, laboratory biology, pre-professional, and biology education. As the interdepartmental Biotechnology major was being developed in the early 1990's, we put a lot of resources into improving our course offerings and lab facilities in this area, and we have incorporated biotechnology-related lab activities into many of our courses. In the last few years, we have tried to improve support in the field biology and the pre-professional/biomedical areas. We also have increased the use of computer technology in biology courses and are trying to expand opportunities for student research experience. We appreciate your feedback on how well we are accomplishing these goals.

In future issues we hope to highlight alumni accomplishments and activities. In order to do that, we need your help! Please return the information form on the back page or respond on our web form so that you can be included in the next issue.



### KAREN KLYCZEK DEPARTMENT CHAIR

Ph.D. Biochemistry, University of Wisconsin-Madison. Teaches Immunology, Virology, Molecular Biology, Animal Cell Culture, and Introduction to Biology. She also participates in the university's interdepartmental Biotechnology major and advises these majors as well as biology majors interested in biomedical research. Research interests: Regulation of gene expression in virus-induced tumor cells; expression of HIV receptors on white blood cells; isolation and identification of genes from archaeobacteria; computer applications in biology education. Personal interests: running, biking, gardening, music, dogs.

# BIOLOGY FACULTY/STAFF



## MARK BERGLAND

Ph.D. Wildlife Biology, University of Michigan. Teaches Freshman Colloquium, Introduction to Biology, General Zoology, Wildlife Biology, and Ornithology. He also advises wildlife students. Research interests: Currently involved with Case It!, an NSF-sponsored project to

enhance biology undergraduate education worldwide through the use of molecular biology computer simulations and Internet conferencing. In addition to this project, he is interested in analyzing song dialects of local bird populations. Personal interests: birding, choral and quartet singing, piano (watching his daughter play it, that is), running, horses, dogs (Shelties in particular).



## BRAD MOGEN

Ph.D. Plant Pathology, NDSU. Teaches Plant Pathology, Cell Biology, Introduction to Biology, Microbiology & Seminar. Advises undergraduate and graduate level biology education majors. Research interests: Molecular detection and diagnostics of plant pathogens; applied plant pathology & plant molecular biology.



## JODIE DESHLER LAB TECHNICIAN

B.S. Genetics & Cell Biology, University of Minnesota. Jodie joined our staff in 1998. She maintains supplies & equipment. Manages & trains student workers, assists undergraduate researchers, and is departmental safety

manager. Personal interests: enjoys the outdoors and music, but now spends most of her time with her 7-month-old daughter, Rose.



## ROBBIE OBERMUELLER PROGRAM ASSISTANT

B.S. Bus. Communications, UW-River Falls. Replaced Marge Filkens who retired in February. Before joining the Biology Department, she was program assistant in the Political Science Dept. and Admissions. Personal inter-

ests: golfing, biking, attending her children's sporting events, and hanging out at her cabin in Gordon, WI. You may reach Robbie Monday through Friday, 7:45 a.m. – 4:30 p.m. Mid-August – June 1, 715-425-3591.



## CLARKE GARRY

Ph.D. Entomology, University of Wisconsin-Madison. Teaches Introduction to Biology, General Zoology, Field Research Experiences, Entomology. Research interests: Biodiversity and Ecology of macroinvertebrates of the Kinnickinnic River Watershed; using macroinverte-

brates as indicators of water (stream) quality. Personal interests: Canoeing, running.



## BETSY GERBEC

Ph.D. Environmental Toxicology, Miami University (Ohio). She has extensive background with the Minnesota Department of Health working in toxicology issues, superfund cleanups and health risk assessment. Teaches Comparative Anatomy and Senior Capstone-Sci-

ence. Personal interests: gardening, camping, attending her boys activities.



## DOUG JOHNSON

Ph.D. Genetics, University of Minnesota. Doug has, in the words of his colleagues in the Biology Department, “gone over to the Dark Side” of administration. He is an Associate Dean in the College of Arts and Sciences and now spends most of his time on campus in the Kleinpell Fine

Arts building. He also serves as the Chair of a faculty development council associated with the Office of Professional and Instructional Development at UW-System Administration. This position keeps him on the road to Madison on a regular basis. He continues to advise pre-vet students in the Biology Department and will teach Senior Capstone—Science course this summer. At home, he and his wife, Patrice Veit, try to keep up with their sons Will (age 10) and Gabe, (age 8).



## KIM MOGEN

Ph.D. Botany, NDSU. Teaches Introduction to Biology, General Botany, Microbiology, Plant Physiology. Advises pre-vet and general biology majors. Research interests: As a plant person, she is intrigued by the tallgrass prairie. As a microbiologist, she finds the microbe-plant in-

teractions fascinating. Because plants can't run away from predators like animals can, they have to employ a different kind of defense system. She is examining the Streptomyces populations in prairie soils. These are the bacteria that produce the majority of natural antibiotics. Personal interests: gardening (until the weeds take over), camping, and fishing.



## E. KATHERINE MILLER

Ph.D. Cell and Molecular Biology, University of Texas Southwestern Medical Center at Dallas. Teaches Introduction to Biology, Cell Biology, Histology, Molecular Biology, Application in Molecular Biology, and Senior Colloquium. Research interests:

The mRNA expression of Heat Shock Protein 70 Gene Family members in SCID mouse brain and lung. Advising responsibilities: General Biology, Pre-Nursing, Pre-Dentistry, Pre-Medical, Pre-Optometry, Pre-Chiropractic, Pre-Physical Therapy and Pre-Graduate programs in biomedical sciences.



## JESSICA DANIELS

M.S. Molecular, Cellular, Developmental Biology and Genetics, University of Minnesota. Teaches Human Biology, Human Heredity, Genetics, Senior Seminar, and Introduction to Biology.



## JOHN FORD

M.S. Biology (emphasis in stream ecology), UW-Eau Claire. Teaches Introduction to Biology, Fresh Water Biology, Senior Seminar, and Ichthyology. Research interests: salmon ecology, species specific interactions within flowing systems, non-intrusive fish population as-

essments and winter ecology of coho salmon in Lake Superior tributaries. Personal interests: conservation, fishing, bowhunting, turkey hunting, basketball, golf, snorkeling and scuba diving, hiking and exploring, reading and spending time at my cabin in Northern Wisconsin.



## GRACE THORNHILL

Ph.D. Microbiology, University of Minnesota. Teaches Microbiology, General Biology, and Senior Seminar. Research interests: microbial ecology of freshwater psychrophiles. Her research project currently involves the isolation and metabolic characterization of psychrophiles (cold-adapted organisms) in the Kinnickinnic

River Watershed. Assessment of the distribution, numbers and diversity of psychrophiles may lead to their use as bioindicators of stream degradation due to thermal pollution and urban-run-off. Advises Pre-Med, Pre-Vet, and General Biology students. Personal interests: reading, growing flowers, quilting, soccer mom.



## JOHN WHEELER

Ph.D. Plant Ecology and Plant Systematics, Oregon State University. Teaches General Biology, General Botany, Ecology, and Identification of Plants. Research interests: Plant demography and plant succession with broad interests in ecology that extend to animals and

the interactions between plants and other organisms (animals and fungi). Systematics is the part of science that strives to discover, describe and interpret biodiversity—the spectacular variety of living things on earth (both past and present). Phylogenetics is that part of systematics that strives to understand how biodiversity happened—how modern living organisms are related to each other—their evolutionary histories. Molecular phylogeneticists use information preserved in DNA sequences to reconstruct these evolutionary histories. His specific research experiences in plant systematics include bryology, biogeography and molecular phylogenetics. Personal interests: Outdoor activities that relate to natural history.

## GRANTS ACTIVITY

External Grants received by Biology faculty since 1991:

Miller, E.K. *The Stress Response in Mammalian Lung*, American Lung Association of Wisconsin, 2001-2003.

Miller, E.K. *Characterization and Cellular Location of the Messenger RNAs for Three Members of the Heat Shock Protein 70 Gene Family*, National Institutes of Health Academic Research Enhancement Award, 2000-2002.

Garry, C. *Inventory of the Aquatic Macroinvertebrates of the Kinnickinnic River Watershed*. Local chapter of Trout Unlimited, the Wisconsin Academy of Arts, Letters, and Sciences, and the Wisconsin Department of Natural Resources (WDNR). 1999-2001

Bergland, M.B., Klyczek, K.K., Lundeberg, M.A., Mogen, K.L. and Johnson, D.J. *Integration of collaborative case-based learning into undergraduate biology curricula via molecular biology computer simulations and nationwide internet conferencing*. National Science Foundation Course and Curriculum Development Program, 1998-2003.

Mogen, B., Milner, J., and Mogen, K. *Laboratory Materials and Multimedia Resources for Plant Pathology Education*. USDA Challenge Grant, 1997-1999.

Bergland, M.B., Klyczek, K.K., and Lundeberg, M.A. *Interactive Multimedia Simulations of Experimental Biotechnology Laboratories for Introductory Biology Students*, National Science Foundation Course and Curriculum Development Program, 1995-1998.

Klyczek, K.K., *MHC class I gene regulation in tumor cells*. National Cancer Institute, National Institutes of Health Academic Research Enhancement Award, 1992-1995.

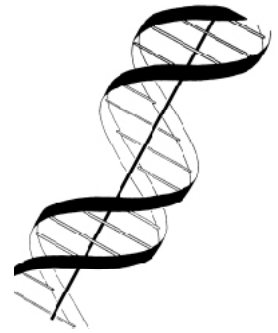
Bergland, M.B. and Klyczek, K.K. *Interactive experimental hypermedia simulations for introductory biology and cell biology students*, National Science Foundation Course and Curriculum Development Program, 1992-1994

Klyczek, K.K., Neel, P.L., Wieghart, M., Johnson, D.J., and Jensen, R. *Inservice program in biotechnology for secondary Biology and Agriculture teachers*, National Science Foundation Teacher Enhancement Program, 1991-1993 and 1994-1996.

Klyczek, K.K., Wieghart, M., Johnson, D.J., and Keenan, M.V. *Molecular Biology for Biotechnology Majors*, National Science Foundation Instrumentation and Laboratory Improvement Program, 1991-1993.

## E. KATHERINE MILLER RECEIVES AWARD

Dr. E. Katherine Miller received the College of Arts & Sciences Outstanding Faculty Award in the area of mathematics/sciences. Nominations focused on excellence in teaching, understanding, helpfulness as advisers, and ability to motivate students. Since joining the faculty in 1994, Miller has supervised student research projects, independent studies and internships. She is also a College Camp instructor and teaches neuroscience for Kids to College Camp participants. She supervises the maintenance and care of the Biology Department's laboratory animal research facility. Among the comments offered by students and recent graduates who nominated her were, "Exceptional instructor and a person who made the college experience very meaningful," and "I thought cell biology would have been the hardest class in my major. However, Dr. Miller made the class my favorite; it was fun and she made it very easy to learn a difficult subject. She made college fun and educational, the way it should be. Courtesy UW-RF News Bureau



## KAREN KLYCZEK NAMED UW-RF 2000 DISTINGUISHED TEACHER

Professor Klyczek became the 37<sup>th</sup> recipient of the most prestigious award presented by the University to recognize excellence in fulfilling the University's 125-year-old primary mission of undergraduate education.

"Dr. Klyczek takes great joy in teaching and I believe that it shows to all of her students." "She is enthusiastic about teaching, gets the students involved, has a sense of humor, and creates a fun learning environment." "Excellent teacher. Delivers information clearly and completely. Makes students think... generates interest in the subject. Major part of why I went on to grad school." "She loves what she

teaches and builds good bonds with students." These are just some of the comments from her students.

The nomination was greeted warmly by Dean Gorden Hedahl of the College of Arts & Sciences. "I applaud the selection of Karen Klyczek as this and to teaching and advising them. She is an articulate campus leader in the efforts to involve undergraduate students in research, scholarly and creative activities. Dr. Klyczek is a wonderful role model and an excellent representative of the many dedicated teachers at UW-RF."

Klyczek has been extraordinarily successful at attracting

nine state and federal grants totaling \$1.45 million from such agencies as the National Science Foundation, National Institute of Health and the Eisenhower Math and Science Education Act to develop curricular materials for classes in biology and biotechnology. Often these funds are used to train returning K12 teachers in the sciences and biotechnology, as well as for UW-RF undergraduates.

In addition to her teaching and administrative responsibilities as department chair. Dr. Klyczek continues to be active in scholarly publishing and presentations, with more than three dozen to her credit. Courtesy UWRF News Bureau



## KAREN K. KLYCZEK DELIVERS FALL COMMENCEMENT ADDRESS

Karen Klyczek, the 2000 Distinguished Teacher, delivered the fall commencement address saying: "Your diploma means that you have learned a lot about certain subjects, a little bit about other subjects, some practical experience that you can apply directly to a job. Through your classes and other experiences here you may have learned something about yourself—who you are who you want to become. But most importantly, you'll leave here knowing how to learn and prepared to keep on learning for the rest of your lives. And that is the main point that I want to make today—that you have an opportunity, even a responsibility, to continue to build on the educational foundation that you began here." Courtesy UW-RF News Bureau

## NEW GRADUATE PROGRAMS

For alumni who might be interested in considering returning to UW-RF for a master's degree, there have been significant changes in the graduate programs. The degree that was formerly called the Master of Science in Teaching is now the Master of Science in Education-Post Certification. As its name implies, this program is intended for certified teachers who want to upgrade their credentials to the master's degree level. More important than the name change is the change in the structure of the program to allow the degree to be completed in summers only. For teachers interested in science programs, new summer courses are being developed and offered in biology, chemistry, geology and physics. Furthermore, these courses are open to those who do not want to enter the degree program but just want to improve their knowledge and skills or to expand their areas of certification. More information on the degree program and the courses offered in Summer Session 2001 can be found at <http://www.uwrf.edu/summer/mscience/>.

The graduate program that was called the Master of Arts in Teaching is currently undergoing a similar revision to become the Master of Science in Education-Secondary Educational Initial Licensure. This program is intended for those who have completed an undergraduate degree without teaching certification and have decided that they want to become teachers. It provides all the education requirements and field experiences to acquire teaching certification while obtaining a master's degree. Information on the current version of this program can be found at <http://www.uwrf.edu/college-of-education/GRADUATE/Secondary.html>.

## STUDY ROOM FOR BIOLOGY STUDENTS

The faculty have wanted, for a long time, to have a room dedicated to students for gathering and studying, and also to have a place where students can work on on-going research projects. Our dream is getting closer to reality! We have identified a space (Room 420), between the microbiology / cell biology prep room and the ecology lab) that we are planning to convert to a student study lounge and student research space. Many of the initial hoops we must crawl through in order to make this new space happen have been navigated. Others loom ahead. In any case, when the UW-RF Foundation calls for your support this fall, please consider earmarking your donation to the Biology Department. We plan to use Foundation funds to purchase comfortable furniture and computer equipment for the student lounge.

## A SUMMER IN BAR HARBOR MAINE

I came to UW-RF determined to become a large animal veterinarian. I imagined a career in vet medicine that would be exciting and fulfilling. As I entered more biology classes, a whole new world was opened to me. Biology fascinated me. There was so much to learn, to see, to explore. I soon realized that combining my two interests would be a way to satisfy my curious mind. Although I am still interested in veterinary medicine, my focus is now on the research aspect of the field.

I dove into research by working with Dr. Miller, developing a lab for Biology 100 class on chemotaxis and the nematode worm, *Caenorhabditis elegans*.

I have presented the work at two symposiums. This project prepared me for what was to come.

This past summer, I had the honor to participate in the Summer Student Training Program at the Jackson Laboratory in Bar Harbor, Maine. Every summer the lab accepts high school and college students from all over the U.S. and allows them to experience the world of research first-hand. I was placed in the Cryopreservation Laboratory working on the cryopreservation of mouse sperm. I was looking for genetic factors that potentially influence the viability of sperm following freezing. I learned how to humanely handle the mice, collect sperm and eggs, perform

in vitro fertilization using fresh and thawed sperm, and how to determine linkage relationships between phenotypes and genotypes.

I also spent the summer living in a 40-room mansion on the ocean. The mansion even came complete with its own chef and maids. I had a memorable summer that was filled with firsts. My first time seeing the ocean, my first time being in the ocean, my first time sea kayaking and water rafting, and my first extended period of time away from home. It turned out to be the best summer of my life!

*By Michelle Theobald-Biology Major*

## KINNIKINNIC RIVER AS A CLASSROOM



Faculty and students in the Biology Department use the Kinni in a variety of ways. Students in the wild-life biology class taught by PROFESSOR MARK BERGLAND have the opportunity to study a real-life situation. During the recent construction of some buildings on campus, some wetland areas were filled in, and as a result storm water was flowing untreated into the Kinni. The class sat in on meetings with the committee set up to determine how feasible it would be to recreate the wetlands. Students were involved in discussions of the pros and cons of creating new wetlands. A series of wetlands would process the storm water by removing pollution, but in turn the water could be warmed in the wetlands, which would cause thermal pollution. Some of the students have also worked in pairs to develop management plans for the areas behind the Agricultural-Science Building, Hathorn Hall and the proposed new Student Center, to see how they could be improved and restored.

In a study to estimate the size of brown trout and brook trout populations, students of LECTURER JOHN FORD'S freshwater biology class snorkeled in tributaries of the Kinni. "The purpose of this exercise was to teach students non-intrusive methods of sampling fish populations," Ford said. In another exercise, Ford said, he and the class toured sites along the Kinni that have been rehabilitated by the DNR. They looked at the

construction methods used by the DNR to create a new habitat for fish in the stream. The techniques included placement of logs in the riverbed as protective cover for fish and installation of overhanging vegetation to control erosion of the riverbanks.

Students study "habitat islands" in the ecology class taught by PROFESSOR JOHN WHEELER. "Ecological theory predicts that large islands of habitat will contain more species diversity and small ones will not support as many kinds of species," said Professor Wheeler. "We collected samples of invertebrates on different size river rocks to see if this is true." He looks forward to doing research projects with his students that demonstrate ecological theories and principles with the least amount of disturbance to the river. One project Dr. Wheeler will use for students to introduce their own habitat islands, different size mesh cages with gravel, then check them regularly to see which species have arrived and when they arrived. Courtesy Linda Robinson - RFJ

## ALUMNI NEWS

The purpose of this newsletter is to keep you informed of departmental happenings and more importantly, keep everyone from the UWRF Biology community informed about the activities of our members – that's you! Many of you answered our anonymous survey (thanks!), so we know that as a group you are up to great things, but individually we have collected little information. Please let us know what you've been up to. In the next newsletter we will share as much alumni information as you give us permission to do so. You can call us, email us, mail us, or just fill out the form on the web: [www.uwrf.edu/biology/alumniform.html](http://www.uwrf.edu/biology/alumniform.html). Don't forget to visit our departmental home page: <http://www.uwrf.edu/biology/welcome.html>.



CONTACT INFORMATION:  
Biology Department  
UW-River Falls  
410 S. 3<sup>rd</sup> St. – 414 Ag.-Science Bldg.  
River Falls, WI 54022  
715/425-3591  
[kim.l.mogen@uwrf.edu](mailto:kim.l.mogen@uwrf.edu)

**BIOLOGY ALUMNI INFORMATION**

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

Email: \_\_\_\_\_

Years attended UWRF: \_\_\_\_\_

May we share this information with your fellow biology alumni? Yes No

Employment or other news: \_\_\_\_\_

\_\_\_\_\_

May we share this information with your fellow biology alumni? Yes No



**Biology Department**  
414 Ag.-Science Bldg.  
UW-River Falls  
410 South Third St.  
River Falls, WI 54022

Non-profit Organization  
**U.S. POSTAGE  
PAID**  
Permit No. 32  
River Falls, WI