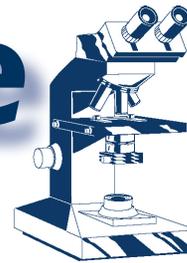


# The Life Scientist

UMD Biology Department News

Summer 2005



## Swenson Science Building Grand Opening Scheduled for September

by Randall E. Hicks

After groundbreaking in October 2003 and more than two years of construction, the new James I. Swenson Science Building will be occupied this summer and ready for fall semester classes in 2005. This modern science laboratory building houses parts of the Department of Chemistry & Biochemistry and the Department of Biology. The \$33 million facility, with an area of almost 100,000 square feet on three floors, will provide new instructional and research laboratories as well as a new departmental office suite for the Department of Biology. During this summer, biology faculty and staff members are packing instructional materials and research laboratory equipment in anticipation of the move. Offices, classrooms, and research labs are being moved into the Swenson Science Building from mid-June until the end of August.

The building will be officially dedicated with a two-day Grand Opening Celebration set for Thursday and Friday, September 15 and 16, 2005. On Thursday evening, two biology and chemistry alumni, Dr. Brian Kobilka and



Dr. Kathleen Annette will be inducted into the CSE Academy of Science & Engineering at a special dinner. Dr. James Gentile, president of the Research Corporation, will give the evening talk about the value of undergraduate research. The Research Corporation produced a study several years ago ranking UMD as a national leader in undergraduate research. At 1:00 pm on Thursday afternoon, both Dr. Kobilka, and Dr. Annette will give lectures that are open to the public. Dr. Kobilka is a

1977 graduate of both the Biology and Chemistry programs and is currently a Professor of Molecular & Cellular Physiology and Professor of Medicine at the Stanford School of Medicine. Dr. Kobilka's laboratory studies several aspects of adrenergic receptor biology, which form the regulatory interface between the sympathetic nervous system and the cardiovascular system. Dr. Annette is a 1977 graduate of the Department of Chemistry and completed her M.D. at UMD and the

University of Minnesota. She is the first woman in the Minnesota Ojibwe Nation to become a physician and is now the Director of the Bemidji Indian Health Service.

The Grand Opening Ceremony of the Swenson Science Building will kick off events on Friday. It will be held in the Swenson Science Building atrium at 11:00 am and is open to all students, alumni, faculty, and friends of UMD. James Swenson, university administrators, and local dignitaries will officiate. Throughout the afternoon on Friday, student guides will lead tours through the building. The Biology Department will serve refreshments on an outside plaza of the building for its students, alumni, and employees from 2:00 pm to 5:00 pm on Friday. We hope this will be a time for alumni to reconnect with their professors, for our current students to mingle with past graduates and learn of their successes, and for everyone to celebrate the opening of this outstanding science facility at UMD. We cordially invite all Biology alumni and current students to

(Continued on page 2)

attend the Grand Opening ceremony and stay for the refreshments later on Friday afternoon. It should be a great time of the year to visit UMD and northern Minnesota. The leaves won't quite be changing color yet, but the fall hawk migration should be in full swing and provide quite a show at Hawk Ridge!

### About the Swenson Science Building – a Verbal History and Tour

The James I. Swenson Science Building is named for Jim Swenson, a 1959 graduate of the Department of Chemistry, who conducted a research project on peat while he was an undergraduate at UMD. It will house 16 new instructional and 16 new research laboratories, in two separate wings, for the Departments of Biology and Chemistry & Biochemistry.

There are several focal points both outside and inside the building, as it will anchor the southwestern entrance to the UMD campus. The front of the building is easily recognized by the spiral staircase representing the double helix of DNA. Beneath it and still under construction, the large oval pond and wetland area will serve two functions. Besides being recognized for its natural beauty, this area will be used to instruct some courses and will become a type of rain garden to handle storm water runoff at UMD.

A large freestanding sculpture by John David Mooney will grace UMD grounds on the other side of the pond away from the Swenson Science building. Mr. Mooney is an environmental artist and one of the world's foremost sculptors and proponents

of public art. He takes inspiration for his sculptures largely from science, but with an interdisciplinary approach and the view that "Art and science are somewhat conscious of one another." He has been widely recognized for creating sculptural pieces for the Vatican Observatory, where he was the first artist in residence since the Renaissance. A book detailing his work was recently published by University of Notre Dame Press. John David Mooney's sculpture for the Swenson Science Building is called "Ricing Moon" and represents a full moon rising over a wild rice wetland so common in northern Minnesota.

Once inside the Swenson Science Building, students and visitors will appreciate the open two-story atrium area at the intersection between the instructional and research wings of the building. The Atrium serves as a commons area for students and has an electronic kiosk to find people and spaces, seek out information, and learn about events happening in the building at any time. Engraved hexagonal plaques, similar to a benzene ring and permanently fixed to the Atrium walls, will recognize donors who have named rooms or contributed to the building. Displays of departmental awards and posters explaining research conducted in the building can also be seen in this area.

The Department of Biology and its students will enjoy six new instructional laboratories for general biology, cell biology, animal systems biology, microbiology, and biochemistry/molecular biology. These labs were designed to integrate modern experimental methods with state-of-the-art instrumentation

to encourage student teamwork, meet all safety regulations, and allow for the expansion of undergraduate research.

The new research wing of the building will house twelve new biology research labs where faculty, staff, and students will conduct research in cell and molecular biology, genetics, microbiology, population genetics, neurobiology, and aquatic biology. An important feature of these laboratories is that each lab has a bay designated specifically for undergraduate research endeavors. In addition to the laboratories, there are a variety of rooms to support research, including cold and variable temperature rooms, tissue culture areas, freezer rooms, areas for working with radioisotopes, autoclave rooms, and scientific equipment and aquaria rooms.

The Swenson Science Building will also become the new home of the Department of Biology offices. The central office suite has a beautiful reception area, a large departmental meeting room, and offices for our receptionist, executive secretary, accounts supervisor, and department head. There is a separate room for mailboxes and document preparation, and two new seminar rooms for meetings and small classes. A classroom, computer

laboratory, graduate student offices, and an undergraduate tutoring room can be found in other parts of the building. Besides all the new technology and space, one of the best parts of the Swenson Science Building is all the natural light brought in by windows and skylights.

### Gifts and Naming Opportunities

The Grand Opening of the Swenson Science Building presents a once in a lifetime opportunity for biology alumni and friends to make a lasting gift. You can honor a loved one, memorialize a favorite professor, or commemorate your time at UMD in many ways. For a smaller gift, your name will be engraved on hexagonal plaque, representing a benzene ring, which will be permanently mounted with other donor plaques to the walls in the central Atrium of the Swenson Science Building. Larger gifts can be used to name the central Atrium, a biology teaching laboratory, a biology seminar room, a student study room, or an undergraduate research lab bay for biology students. All gifts go directly to the Biology Enhancement Fund to support the missions of the Department of Biology - which is focused on teaching, research and service with the ultimate goal of enhancing the UMD student experience.

Wouldn't it be wonderful to have the Swenson Science Building Atrium or a classroom named by your company, or have a seminar room or student research area named in honor of a relative, friend or former professor you treasure? If you or your company is interested, then it is not too



late to consider this opportunity. For more information on gifts and naming opportunities, please contact Tricia Bunten, the Development Director for the College of Science and Engineering, at (218) 726-6995, toll free at (866) 999-6995, by email (tbunten@d.umn.edu), or by visiting the Swenson Science Building web page at <http://www.d.umn.edu/cse/Swenson/gift.php>.

We invite all students, alumni, and friends of our department to attend the Grand Opening of the Swenson Science Building and Biology Bar-B-Q this September, so we can share the exciting things that are happening in our department.

### Renovation of the Life Science Building

Not all biology teaching laboratories, offices, and research areas will be housed in the new Swenson Science Building. Architectural planning to renovate the Life Science Building has sprung into high gear on the heels of moving part of our department to the Swenson Science Building. In May, the State Legislature approved funding to renovate this existing building, including asbestos abatement and a total redesign of the interior. The renovated Life Science Building will house parts of the Department of Biology on the ground and third floors and accommodate the School of Pharmacy on the first and second floors. The elevated causeway bridging the Swenson Science Building and the third floor of the Life Science Building will directly connect Department of Biology spaces in these buildings.

The Life Science Building was originally completed in 1967, at a time when there were fewer faculty members and students in our department. We have needed to upgrade spaces in this building for years because of safety concerns and because activities in our department have changed, including a growing focus on undergraduate research experiences. Even with the completion of the Swenson Science Building, we will still be bulging at the walls. Our department currently serves over 600 biology undergraduate and graduate students in addition to a large number of students from other departments at UMD, which makes the Department of Biology the largest unit in the third largest college within the entire University of Minnesota system.

When the Life Science Building renovation is completed, there will be six redesigned teaching labs for instructing courses in animal and plant biology, ecology, anatomy, aquatic biology, and to instruct non-biology majors. These labs will be state-of-the-art instructional facilities similar to those in the Swenson Science Building. A larger room to house our animal collections and a small aquarium room for instruction will be created, but the Olga Lakela Herbarium will move to newly renovated space in nearby Marshall Alworth Hall.

An existing research laboratory will also be renovated for a new faculty member and offices for other biology faculty members, staff, and graduate students will be redesigned. We are pleased this renovation project also allows us to create a larger area specifically designed for student organizations in our department.

Finally, our greenhouse support spaces, the stockroom, and chemical storage and preparation areas will be redesigned and brought up to current safety standards.

The schedule for this project includes completion of designing the new Life Science Building with architects during the fall, awarding the project to a construction company in January through February 2006, and starting asbestos abatement and renovation in April 2006. The projected construction period is 18 months, so we

hope to re-occupy the newly renovated Life Science Building in late 2007. In the meantime, some biology classes and offices will be relocated to the Chemistry and Swenson Science Buildings. We are extremely pleased the Life Science Building is being fully renovated so near to the completion of the Swenson Science Building and look forward to sharing this fine building and future collaborations with members of the School of Pharmacy at UMD.

### Professors Emeritus holiday dinner



Retired faculty members and spouses were invited to attend the annual holiday dinner in December hosted by Chancellor Katherine Martin. Those attending from Biology are pictured above. Seated (L to R): George Ahlgren, Elaine Ahlgren, Lucille Odlaug, Elaine Hofslund. Standing (L to R): Barb Collins, Doris Krogstad, Blanchard Krogstad, Paul Hanten, Helen Hanten, Betty Monson, Hollie Collins, Jack Hofslund, Martha Firling, and Conrad Firling

## Dr. Clay Carter Joins Biology Faculty

The Biology Department's newest faculty member is Dr. Clay Carter, a southern Minnesota native who received a bachelor's degree in Biotechnology from Minnesota State University at Mankato. He went on to



Dr. Clay Carter

complete his Ph.D. in Biochemistry at Iowa State University and spent two years as an NIH Postdoctoral Research Fellow at the University of California, Riverside in the Center for Plant Cell Biology. Dr. Carter assumed his position here in December 2004, and his first major assignment upon arrival was to develop and teach the cell biology course for spring semester. He also taught the molecular genetics laboratory and plans to develop a course in biotechnology in the near future.

Dr. Carter's research has focused on nectarins, proactive defense proteins expressed in the nectar of flowering plants. He has also studied protein transport mechanisms to the storage vacuoles of *Arabidopsis*, a small flowering plant of the mustard family, widely used as a model in plant cell and molecular biology. Floral nectar is required for the attraction of pollinators and results in billions of dollars of food crop production annually, but remarkably, little is understood about how plants

produce nectar. Dr. Carter hopes to make a scientific contribution to the areas of plant cell and molecular biology by elucidating the underlying molecular mechanisms of nectar production and membrane trafficking.

At UMD, Dr. Carter is continuing this research and will soon move into a new research laboratory in the Swenson Science Building. He recently made these comments: "Most researchers never get the chance to move into an entirely new facility, much less one as excellent as the Swenson Science Building. The prospect of setting up a research laboratory in the new building was an admittedly important aspect in my decision to come to UMD. I feel lucky to start my academic career with this opportunity."

Clay and his wife, Sunshine, along with their terrier named Bates, are settling into their new life in Duluth. Sunshine is completing requirements for a master's degree in Library and Information Science at the University of California, Los Angeles. She has accepted a position at the UMD library as a part-time reference librarian, beginning in July. The Carters both enjoy northern Minnesota, the city of Duluth and the University atmosphere. Outdoor activities such as hiking and canoeing are especially enjoyable when they can find the time. The Biology Department extends a warm welcome to Clay and Sunshine and wishes them a long and happy stay in Duluth.

## Virginia Borden Leaves UMD

The Biology department is very sorry to lose the teaching expertise of Virginia Borden, an instructor in the Biology Department for the last 12 years. Ms. Borden and her husband, Bill Maier, and their two children, Angelyn and Henry, left Duluth in June. They relocated in Irondequoit, a town north of Rochester in western New York.

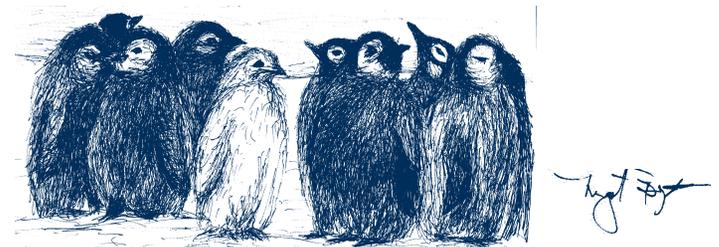
A very knowledgeable and versatile faculty member, Ms. Borden taught many courses in the department, including Biology & Society, Evolution, General Biology, Ecology lecture and labs, Plant Diversity, Plant Physiology, Biology of Women, Entomology, and a freshman seminar entitled Conservation Issues. Her wealth of experience in teaching classes at all levels will be sadly missed, as will her dedication to advisement of students, the Biology Club, and service to the department in many ways. She was also active in several campus organizations including the Commission on Women, where she served as Chair, and a member of the Environmental Studies Advisory Board. Outside of UMD, she served as president and long-time board member of the Duluth Audubon Society as well as a volunteer for Hartley Nature Center, where her husband was executive director until 2003.

In addition to her teaching duties, Ms. Borden collaborated with Colleen Belk, also a UMD Biology faculty member, in the authorship of two books, "The Second X", about the biology of women, and "Biology: Science for Life", written for non-majors. Both books are enjoying some success in the college



Virginia Borden pictured at her farewell reception

textbook market. Belk and Borden also developed a lab manual for non-majors courses and are in the early stages of writing a human biology book intended for health science professionals. We wish Gin the very best in her new location and thank her and Bill for their contributions to UMD, the community and the environment.



### Welcome:

Amanda Little will join the Biology Department faculty in August. During the past year, she has been completing her Ph.D. as well as holding a full-time teaching position at Edgewood College in Madison, WI. She fills Virginia Borden's position and will teach Genetics, Biology & Society and the botany portion of General Biology next year.

Dr. Tetyana Todosiychuk, a faculty member from the National Technical University of Ukraine, has been working since April as a visiting researcher in the laboratory of Dr. Raj Karim.

### Congratulations:

Allen Mensinger was recently promoted to Associate Professor with indefinite tenure.

Donn Branstrator and Anna Rachinsky were awarded single semester leaves for the 2005-2006 academic year.

John Pastor will spend a sabbatical leave next year at the Department of Animal Ecology, Swedish University of Agricultural Sciences, in Umeå, Sweden (near the Arctic Circle). While there, he will continue his long-term research collaboration with Swedish colleagues on the ecology of moose, writing a textbook on mathematical ecology, doing some drawing and painting, and enjoying Swedish hospitality.

### New Arrivals:

Meghan and David Brown are the parents of a son, Owen Harrison, born on Friday, April 1st. Meghan is completing her Ph.D. in Water Resources Management.

Jim and Sara Briggs welcomed their first child, a son Tucker James, born May 14, 2005. Sara is the Biology department receptionist and will be on family leave until August.

### In Memorium:

Retired University of Minnesota Professor Huai Chiang, age 90, died March 30 in Ithaca, N.Y. Dr. Chiang taught entomology and several other classes in the UMD Biology Department from 1953-1961. For the remainder of his career, until 1984, he served as an insect ecologist in the Department of Entomology at the University of Minnesota in the twin cities. He was internationally known for his work on the European corn borer, corn rootworms and the biological control and behavior of midges.

### Upcoming Retirements:

Andrew Klemer will begin his final year of a three year phased retirement this fall.

Linda Holmstrand has announced her retirement after fall semester, 2005.

## Recent Faculty Publications

**Andrews, M.T.** 2004. Genes controlling the metabolic switch in hibernating mammals. *Biochem. Soc. Trans.* 32: 1021-1024.

**Andrews, M.T.**, M.M. Tredrea, and A.K. Shaw. 2004. Steroidogenesis and the HPA axis during hibernation: Differential expression of the StAR Protein, in *Life in the Cold* (B.M. Barnes, H.V. Carey, eds.) pp. 407-415, Institute of Arctic Biology, Fairbanks, AK.

**Carter, C.J.** and R.W. Thornburg. 2004. Nectarin V is a flavin-containing berberine bridge enzyme-like protein with glucose oxidase activity. *Plant Physiol.* 134: 460-469.

**Carter, C.J.** and R.W. Thornburg. 2004. Nectarin III is a bifunctional enzyme with diaphorase and carbonic anhydrase activities. *Plant Molecular Biol.* 54: 415-425.

Rojo, E., R. Martin, **C.J. Carter**, J. Zouhar, S. Pan, J. Plotnikova, H. Jin, M. Paneque, J.-J. Sanchez-Serrano, F.M. Ausubel, B. Baker, and N.V. Raikhel. 2004. VPE exhibits a caspase-like activity that contributes to defense against pathogens. *Current Biol.* 14: 1897-1906.

**Carter, C.J.**, S. Pan, J. Zouhar, E.L. Avila, T. Girke, and N.V. Raikhel. 2004. The vegetative vacuole proteome of *Arabidopsis thaliana* reveals predicted and unexpected proteins. *Plant Cell.* 16: 3285-3303.

Price, P. W., T. Ohgushi, H. Roininen, M. Ishihara, **T.P. Craig**, J. Tahavanainen and S. M. Ferrier. 2004. Release of phylogenetic constraints through low resource heterogeneity: The case of gall-inducing sawflies. *Ecol. Entomol.* 29: 467-481.

Marchosky, Jr., R. J., and **T.P. Craig**. 2004. Gall-size dependent survival for *Asphondylia atriplicis* (Diptera: Cecidomyiidae) on Salt Bush *Atriplex canescens*. *Environ. Entomol.* 33: 709-719.

Galloway, L.F. and **J.R. Etterson**. 2004. Population differentiation and hybrid success in *Campanula americana*: Geography and genome size. *J. of Evol. Biol.* 18: 81-90.

Olson, M.R., R.P. Axler, and **R.E. Hicks**. 2004. Effects of freezing and storage on MS2 viability. *J. Virological Methods* 122: 147-152.

Richmond, H.E., **T.R. Hrabik**, and **A.F. Mensinger**. 2004. Foraging mechanisms of age-0 yellow perch (*Perca flavescens*). *J. Fish. Biol.* 65(1): 195-205.

Huy, L.D., R. Caple, C. Kamperdick, N.T. Diep and **M.R. Karim**. 2004. Isomeranzin against herpes simplex virus in vitro from *Clausena heptaphylla* (ROXB) W&ARN: Isolation, structure and biological assay. *J. of Chem.* 42(1): 115-120.

## Recent Faculty Publications

Gong, Y., **M. Raj Karim**, C.A. Luscombe, I. Gadawski, T. Tam, J. Chu, D. Gibson, R. Carlson and S.L. Sacks. 2004. The synergistic effects of betulin with acyclovir against herpes simplex viruses. *Antiviral Research* 64: 127-130.

Amjad, M., R.M. Carlson, P. Krasutsky, and **M.R. Karim**. 2004. Inhibition of Epstein-Barr virus by the triterpenoid *Betulin diphosphate*. *J. Micro. and Biotech.* 14(5): 1086-1800.

**Niemi, G.J.** and M. McDonald. 2004. Application of ecological indicators. *Annual Review of Ecology, Evolution, and Systematics* 35: 89-111.

**Niemi, G.J.**, D. Wardrop, R. Brooks, S. Anderson, V. Brady, H. Paerl, C. Rakocinski, M. Brouwer, B. Levinson, and M. McDonald. 2004. Rationale for a new generation of ecological indicators for coastal waters. *Environ. Health Perspectives* 112: 979-986.

**Niemi, G.J.**, J.M. Hanowski, N. Danz, R. Howe, M. Jones, J. Lind, and D. Mladenoff. 2004. Hierarchical Scales in Landscape Responses by Forest Birds. Pages 56-68 *In Landscape Ecology and Wildlife Habitat Evaluation: Critical Information for Ecological Risk Assessment, Land-Use Management Activities, and Biodiversity Enhancement Practices, ASTM STP 1458*, L.A. Kapustka, H. Gilbraith, M. Luxon, and G.R. Biddinger, Eds., American Society for Testing and Materials, West Conshohocken, PA, 1948-2959.

**Niemi, G.J.** 2004. Book review - *Essentials of Conservation Biology*, 3rd Edition by R. Primack. *The Auk* 121(3): 980-982.

Lind, J.W., N. Danz, M.T. Jones, J.M. Hanowski, and **G.J. Niemi**. 2004. Forest bird population trends in the Chequamegon National Forest, Wisconsin (1992-2002). *Passenger Pigeon* 65:233-244.

Lind, J.W., N. Danz, M.T. Jones, J.M. Hanowski, and **G.J. Niemi**. 2004. Forest bird population trends in Minnesota 1991-2002. *The Loon* 75:182-188.

Lind, J.W., N. Danz, J.M. Hanowski, and **G.J. Niemi**. 2004. 2004 Annual update report: breeding bird monitoring in Great Lakes National Forests: 1991-2004. *NRRI/TR 2004/xx*.

Persson, I.-L., **J. Pastor**, K. Danell, and R. Bergström. 2005. Impact of moose population density and forest productivity on the production and composition of litter in boreal forests. *Oikos* 108: 297-306.

**Pastor, J.** and R. Moen. 2004. The ecology of ice-age extinctions. *Nature (News & Views)* 431: 639-640.

Noormets, A., J. Chen, S. D. Bridgman, J.F. Weltzin, **J. Pastor**, B. Dewey, and J. LeMoine. 2004. The effects of infrared loading and water table on soil energy fluxes in northern peatlands. *Ecosystems* 7: 573-582.

## Biology Faculty



Faculty members gathered at the spiral staircase of the Swenson Science Building for this photo. Pictured in the front row (L to R): Donn Branstrator, Raj Karim, Matt Andrews, Linda Holmstrand, Carl Richards, Allen Mensinger. On the steps (L to R): Clay Carter, Anna Rachinsky, Randy Hicks, Colleen Belk, Tom Hrabik, Julie Etterson and Lyle Shannon. Not Pictured: Tim Craig, Andy Klemer, Dave Schimpf, Jerry Niemi, John Pastor

Keller, J.K., J.R. White, S.D. Bridgman, and **J. Pastor**. 2004. Climate change effects on carbon and nitrogen mineralization in peatlands through changes in soil quality. *Global Change Biology* 10: 1053-1064.



## Current Faculty Funding

**M.T. Andrews** (co-PI), Rolf Gruetter (PI), National Institutes of Health, "Dynamic MRI and MRS Studies of Focal Neural Activation," 04/03-03/07, \$1,457,013.

**D.K. Branstrator** (PI), University of Minnesota Faculty Grant-in-Aid Program, "Species invasion in Minnesota lakes: predicting establishment of *Bythotrephes*," 07/04-01/06, \$33,295.

**D.K. Branstrator** (PI), T.R. Hrabik, and B.D. May, Minnesota Sea Grant, "Mesoscale eddies and the distribution of biological productivity in Lake Superior," 03/05-02/07, \$33,544, plus \$30,000 ship time year 1, plus \$30,000 anticipated ship time year 2, and 1 GRA salary for 2 years.

**D.K. Branstrator** (PI) and L.J. Shannon, Minnesota Sea Grant, "Effects of physical and chemical stressors on survival of the resting egg stage of *Bythotrephes longimanus*," 03/03-02/05, \$54,867 and 1 GRA salary for 2 years.

**T. Craig** (PI), Chancellor's Faculty Small Grant Program, "Geographic coevolution of a three trophic level interaction," 4/05, \$750.



**J.R. Etterson**, 2004 Student Tech Fees, "Instructional equipment for Biol 3601, Plant Diversity and Biol 1012, General Biology II," 01/04, \$1,123.

**J.R. Etterson**, 2004 Student Tech Fees, "Instructional equipment for Plant Diversity (Biol 3601)," 10/04, \$2,066.

**L.J. Shannon and J.R. Etterson**, 2004 Student Tech Fees, "Purchase of Replacement Teaching Materials for GB II (Biol 1012)," 10/04, \$6,458.

**J.R. Etterson** (PI), Center for Community and Regional Research, "Collaborative effort to assess the risk to the threatened Minnesota American beachgrass population on Park Point posed by historical restoration projects that used nonlocal plants," 06/04-08/05, \$5,000.

**J.R. Etterson** (PI), Minnesota's Lake Superior Coastal Program, National Oceanic and Atmospheric Administration, "The risk to native Minnesota beachgrass posed by historical restoration efforts that used Michigan plants," 10/04-03/05, \$15,000.

**R.E. Hicks** (PI), M.J. Sadowsky, and L.B. Johnson, Minnesota Sea Grant College Program, "Identifying the sources of coliform bacteria in coastal ecosystems and their relationship to land use", 02/01-01/03, \$95,460, [grant extended to 1/05].

M.J. Sadowsky and **R.E. Hicks** (Co-PI), Minnesota Sea Grant, "Sources and impacts of 'naturalized' *Escherichia coli* in coastal environments," 02/03-01/05, \$100,000; \$46,440, [grant extended to 01/06].

**R.E. Hicks** (PI) and A. Rachinsky, University of Minnesota Faculty Grant-in-Aid Program, "Epifluorescence microscope for microbial, developmental, and neurobiological research," 01/04-06/05, \$30,000.

**R.E. Hicks** (PI) and M.J. Sadowsky, Minnesota Sea Grant, "Seasonal variation in sources of *Escherichia coli* fecal bacteria contributing to beach closures," 02/05-01/07, \$108,000.

J.P. Werne and **R.E. Hicks** (Co-PI), National Science Foundation (Chemical Oceanography), "Linking archaeal membrane lipids and ecology in Great Lakes: Understanding the TEX86 Paleotemperature Proxy," 08/05-07/08, \$537,294; (plus 30 days ship time on R/V Blue Heron).

**T.R. Hrabik** (PI), J. Stockwell, D. Yule and O. Gorman, Minnesota Sea Grant, "Habitat supply and trophic transfer in Lake Superior," 2005-2007, \$53,000 and GRA salary for 2 years.

**T.R. Hrabik** (PI), **D.K. Branstrator** (co-PI), N. Watrus, B. May, E. Ralph and S. Stark, Minnesota Sea Grant, "Assessing determinants of lake trout reproductive success: comparison of Lake Superior reef complexes with contrasting survival rates of young lake trout," 03/03-02/05, \$70,000 and 1 GRA salary for 2 years.

**T.R. Hrabik** (Co-PI), **D. Branstrator** and B. May, Minnesota Sea Grant Program, "Mesoscale eddies and the distribution of biological productivity in Lake Superior," 2005-2007, \$48,000, and 1 GRA salary for 2 years.

**T.R. Hrabik**, J. Vander Zanden, S. Chandra and collaborators J. Kitchell, E. Stanley, D. Gilroy, P. Moyle, Z. Hogan, B. Allen, M. Erdenebat, and A. Brunello, The International Finance Corporation (World Bank), "Development of a research program on the ecology and management of Hucho taimen in the Eg-Uur and surrounding watersheds (Mongolia)," 2003-2008, \$250,000.

**T.R. Hrabik** (PI), Bradley Fund for the Environment-Sand County Foundation, "Assessment of the restoration of winter-kill influenced fish community using winter aeration," 2002-2003, \$8,600, 2003-2005 renewal, \$19,300.

**T.R. Hrabik**, O. Gorman, and D. Mason, Ontario Ministry of Natural Resources, "Development of a lake-wide acoustic monitoring program for Lake Superior pelagic fishes," 2003-2005, \$80,000.

**T.R. Hrabik** and D. Schreiner, Minnesota's Lake Superior Coastal Management Program, "Development of a hydroacoustic survey design for the Minnesota waters of Lake Superior," 2004, \$36,900.

## Current Faculty Funding (continued from page 7)

**T.R. Hrabik** (PI), D. Schreiner, M.P. Ebener and M.H. Hoff, Great Lakes Fishery Commission-Coordination Activities Program, "Compilation and analyses of Lake Superior Salmonine diets: a multi-agency collaboration," 2002-2004, \$46,000.

**M.R. Karim**, Office of International Programs, University of Minnesota Twin Cities and CSE Dean UMD, "Travel and Research," 12/04, \$1,150.

**M.R. Karim**, Scholastic Mentor and Advisor (Co-PI) with Ben Clarke (PI), National Institute of Health, Minority Access to Research Careers, 9/02-6/05, \$450,000.

**M.R. Karim**, Research Mentor, McNair Scholars Program, 1/04-12/04, \$1,000.

**M. R. Karim**, Research Mentor and Collaborator with M. Gillespie, National Science Foundation, "Research instrumentation and supply support from Fond du Lac Tribal and Community College through Tribal College University Program (TCUP)," 1/02-12/05, \$9,500.

**G.J. Niemi** (PI), **Carl Richards**, Co-PI, et al, US Environmental Protection Agency, "Development of environmental indicators of condition, integrity, and sustainability in the Great Lakes Basin," 2001-2006, \$6,188,298.

**G.J. Niemi** (PI), National Aeronautics and Space Administration, "Development of environmental indicators for the

US Great Lakes using remote sensing technology," 2001-2006, \$600,000.

**G.J. Niemi** (PI), USDA Forest Service and US Fish and Wildlife Service, "Monitoring bird populations in Minnesota's national forests-North Central Forest Experiment Station, Chippewa National Forest, Superior National Forest," 1991-present, \$307,450.

**G.J. Niemi** (PI), USDA Forest Service, USDI-US Geological Survey, and US Fish and Wildlife Service. Cooperative Agreement through Minnesota Cooperative Fish and Wildlife Unit, "Canada lynx ecology in the Superior National Forest," 2003-present, \$225,000.

**J. Pastor** (PI), Y. Cohen, National Science Foundation, "LTREB: Spatial dynamics of the moose-forest-soil ecosystem on Isle Royale," 2004-2009, \$300,000.

**J. Pastor** (PI), National Science Foundation, "Wild rice population dynamics and nutrient cycles," 2002-2006, \$543,046.

**A. Rachinsky**, UMD Student Equipment and Technology Fees, "Digital imaging system for use in Developmental Biology (Biol 5361)," 02/04, \$13,000.

**A. Rachinsky**, UMD Chancellor's Faculty Small Grant, and University of Minnesota Office of International

Programs "Funds to attend the Invertebrate Neuropeptide Conference 2005 in Chiang Mai, Thailand, January, 2005," 07/04, \$750.

**A. Rachinsky**, (PI), University of Minnesota, Graduate School, Grant-in-Aid Program, "Differential protein expression during caste-specific ovary development in honeybees," 01/05-06/06, \$28,121.

B. Munson, R. Axler, C. Hagley, G. Host, **C. Richards** and G. Merrick, National Science Foundation. Training Water Science Technicians for the Future - A National On-line Curriculum using Advanced Technologies and Real-Time Data . NSF-ATE. \$800,000 2001 - 2004.

J. Schuldt, L. Johnson, **C. Richards**. Protocols for Selecting Classification Systems and Reference Conditions: A Comparison of Methods. U.S. Environmental Protection Agency STAR Program. \$747,404. 3/2001 - 2/2004

## Happy Birthday, Olga Lakela



### Happy 115<sup>th</sup> Birthday Olga Lakela!

Deb Pomroy-Petry and Dave Schimpf display a birthday cake in honor of Olga Lakela's birth on March 11, 1890. Her picture is in the background. Dr. Lakela was the first Biology Department Head on the UMD campus and the founder and namesake of the Olga Lakela Herbarium in the Life Science Building. For more information on the Herbarium, its scientific significance, public service and teaching missions or to contact personnel, see our website at: <http://www.d.umn.edu/biology/herbarium/>



## Graduate Commencement

The Graduate Commencement ceremony was held on Thursday, May 12, 2005 in the Romano Gymnasium. After a prelude concert by the UMD Symphonic Wind Ensemble and the traditional procession, the commencement address was delivered by Dr. Carol A. Bock, the head of the UMD English Department. The students listed below received the Master of Science Degree in Biology at this ceremony.

**Michael D. Aho**  
**Rebecca M. Anderson**  
**Michael R. Bourdaghs**  
**Katharine M. Brauch**  
**Christopher L. Burdett**  
**Daryn C. Collins**  
**Anna C. Peterson**  
**John J.G. Sandberg**



M.S. graduates — Daryn, Mike and Katharine

## Graduate Student Profiles

by Sara Briggs

The Biology Department gratefully acknowledges the teaching and research efforts of its graduate students. About 30 students are pursuing advanced degrees here under the mentorship of the graduate faculty. Most students are supported as teaching (TA) or research (RA) assistants.

The following graduate students began their studies at UMD this past year:

**Margot Bergstrom** is an Eagle River, Wisconsin native who received her undergraduate degree in biology from UMD in May, 2004. She was a teaching assistant for Animal Physiology and General Biology this past year. Working with Dr. Allen Mensinger, Margot's research focuses on animal behavior and sensory physiology, specifically with the round goby (*Neogobius melanostomus*) in western Lake Superior. She hopes to complete her degree May, 2006 and would eventually like to receive a Ph.D. in marine biology and continue conducting research. Margot's original artwork sketches are featured throughout this newsletter, showing her artistic talents as well.

**Olivier Brun**, from Toulouse, France, received his undergraduate degree in mathematics and premedicine from Hamline University in St. Paul. He was a teaching assistant for biochemistry and pharmacy this past year. He is

working with Dr. Lucia Barker on gene expression in *M. Marinum* biofilm. His research plans include determining what *M. marinum* genes are expressed during biofilm growth and designing a technique that to visualize the genes expressed in the biofilm. Olivier plans to complete his project June, 2006 and would like to continue on towards his MD/PhD in Immunology.

**Michael Dixon** is from Folsom, CA and has a degree in ecology and systematic biology from Cal Poly in San Luis Obispo. He is working with Dr. Tim Craig on the preference and performance of the tumbling flower beetle. He is busy collecting prairie and forest galls which will be dissected to determine what factors influence beetle fitness and also conducting a common garden experiment to look for evidence of local adaptation of the beetles to different biomes. He plans to finish his work in the spring of 2006 and would like to pursue a career in resource law enforcement.

**Allison Gamble** received a B.A. in Biology from Lawrence University and a M.S. in Natural Resources from Cornell University. She is now pursuing her Ph.D. in Water Resources Science under the advisement of Dr. Tom Hrabik. Her project involves understanding and modeling temporal variation and spatial scaling of zooplankton and fish in Lake Superior.

This past year, she was a teaching assistant for Ecology Lab and Animal Diversity. Her future plans include working in a research or assessment setting for a state or federal agency, NGO, or private environmental consulting group. In her leisure time, Allison enjoys kayaking, hiking, music, running and photography.

**Eric Jensen**, from Rhinelander, WI, received his undergraduate degree in wildlife from UW-Stevens Point. He is working with Dr. Gerald Niemi to develop a project research on American kestrel (*Falco sparverius*) population variability in relation to agricultural pesticide use. His objectives include determining impact, if any, of varying application of agricultural pesticides on American kestrel populations in central Minnesota and Wisconsin and assessing the American kestrel's potential value as an ecological indicator species of pesticide use at both a local and landscape level. Eric was a teaching assistant this past year for General Biology II. Eric hopes to continue with field research, hopefully with raptors, before pursuing his Ph.D.

**Terri Jicha** received her undergraduate degree in Water and Soil Resources from UW-Stevens Point and has now begun her Environmental Biology: Landscape Ecology work with Dr. Lucinda Johnson. Terri's project will supplement current research in the

USEPA ORD's EMAP-Great River Ecosystem program. She plans to explore the function a floodplain plays on a large river system nutrient budget through its structure and dynamics. Her future plans include continuing to work for the US Environmental Protection Agency's Office of Research and

Development as a research scientist studying landscape influences on riverine ecosystems. She anticipates completing her degree May 2007.

**Trent Liebich**, originally from Menomonie, WI, received his undergraduate degree in Biology from Lawrence University. He was a teaching assistant this past year for Biology and Society. He is working with Dr. Tom Hrabik researching water quality and atlantic salmon (*Salmo salor*) survival. His research includes studying the effects of water chemistry on endangered salmon

in eastern Maine, working with the National Marine Fisheries Services (NOAA-umfs) in Orono, ME and USGS-Conte Anadromous Fish Research Center in Turners Falls, MA. This research is being performed as a pilot study for a proposed whole-river liming project. Trent hopes to work for the DNR or teach in the future.

**Nick McCann**, from Lindenhurst, IL, received his undergraduate degree in Biological Aspects of Conservation from UW-Madison. He has begun his work

with Dr. Gerald Niemi and Ron Moen studying snowshoe hare population density and use of cover types in the Superior National Forest. Ideally, his research will allow wildlife managers to identify areas of high hare density using only fecal pellet counts, which is more efficient than trapping. Nick was a teaching assistant for General Biology I this past year and hopes to complete his degree Fall, 2006.

A Hermantown, MN native, **Lynsie Radovich** earned her undergraduate degree in Biomedical Sciences from St. Cloud State University. She is working with Dr. M. Reza-ul (Raj) Karim on synthesis and bioactivity of benzoboroxole and hydroxyguinoline compounds against M2 Murine Melanoma. Lynsie was a teaching assistant for Experimental Immunology this past spring. She hopes to complete her degree Fall, 2006 and to pursue her Ph.D. Her career goal is to enter the industry as a research biologist, preferably in a medical field, although she does plan to eventually return to academia to teach at the university level.

**Nicole Siegler**, from Cedar, MN, received her undergraduate degree in biology/pre-med from the College of St. Scholastica. She was a teaching assistant this past year for Animal Physiology and General Biology I. She is working with Dr. Allen Mensinger on sensory physiology

researching bile acids as migratory cues for steelhead trout. She has been working on the technical set-up and should be able to collect data this summer. Nicole hopes to complete her degree May, 2006. Her long-range career plans include research and development of medical neurological devices and biotechnology. On a personal note, Nicole has been a member of the MN-Army National Guard for 4 years and was recently commissioned to the position of 2nd Lieutenant. She is now one of three preventative medicine officers in the State of Minnesota.

**Julie Smith** received her undergraduate degree in biology and secondary education from UMD. She began her work in cell and molecular biology with Dr. Ben Clarke this fall.

Her project title is "CSE for the real world". In addition to her laboratory coordinator duties for the department, Julie was also a teaching assistant for Biology and Society and Cell Biology this past year. She anticipates completing her degree in 2007 and plans to teach at a community college in a warmer climate.

**Natalie White**, from Rochester, MN, received her undergraduate degree in biology from Iowa State University. She is working with Dr. David Schimpf to determine causes of invasive spread of the giant reed (*Phragmites australis*) in wetlands. She plans to look at reproduction



in native and alien strains of *Phragmites* and is investigating seed and pollen production and germination in the two strains. She hopes to complete her project in 2006. Natalie was a teaching assistant for General Biology I this past year. Natalie would like to continue research in wetland restoration and/or management. Natalie loves living in Duluth, next to the lake that provides lots of opportunities for kayaking and surfing.

The following graduate students are in various stages of completion of their work for the master's degree.

**Mike Aho**, a Duluth native, received his undergraduate degree from Minnesota State University – Moorhead. Mike has been a lab coordinator for General Biology I and a teaching assistant for Ecology and Ichthyology during his time here at UMD. He is studying phytoplankton under the direction of Dr. Andy Klemer and, at this writing, was busy writing his thesis and conducting the last of the light experiments. Mike plans to either teach or continue research in aquatic ecology.

**Becky Anderson** obtained her undergraduate degree in biology and environmental studies from Augustana College. She is working with advisors Dr. Julie Etterson and Dr. David Schimpf researching plant biology and restoration genetics. Becky is conducting her research to assess the potential impact of historical dune restoration projects that introduced nonlocal propagules of *Ammophila breviligulata* from

Michigan to Minnesota to augment the threatened native population. She has completed two summers of field work on Park Point, Duluth, MN and plans to complete the analysis at the end of this summer. She plans to continue teaching at the college level and doing plant-related research.

**Matt Balge** is from Westland, MI and received his undergraduate degree in biology and natural resources from Northland College and his M.S. in fisheries and wildlife from Michigan State University. He is working with Dr. Tom Hrabik conducting hydroacoustic assessment of Lake Superior forage fish. This information from this project will be used for fish species assignment to hydroacoustic targets, identification of spatial patterns in forage fish biomass distributions and lake trout foraging potential and efficiency. In 2003 and 2004, over half of the lake was surveyed and the remainder will be surveyed in 2005. In addition to his research, Matt was a teaching assistant for the first time this fall. In his leisure time, he enjoys agate and morel hunting and spending time with his nephew, when he gets a chance.

**Katharine Brauch** received her B.S. in Cell Biology from UMD and completed her M.S. this May. She worked with Dr. Matt Andrews focusing on gene expression in hibernating ground squirrel hearts. Katharine shared that the most challenging and enjoyable aspect of writing her thesis was creating hypothetical models to explain how differential gene regulation in

the hibernator heart results in altered metabolism, stricter calcium handling and increased contractility at low temperatures and metabolic rates. Katharine was a TA for Microbiology and Molecular Biology this past year. Katharine now plans to focus on basic cardiology research while keeping in mind that "Failure is as important to learning as success is".

**Daryn Collins**, from Waseca, MN, received his B.A. in chemistry from Gustavus Adolphus College. Daryn has been working with Dr. Cecilia Giulivi (UC-Davis) researching post-translational control of mitochondrial nitric oxide synthase by phosphorylation. He anticipates completing his project this summer and plans to begin medical school in August, 2005 at the University of Minnesota Duluth School of Medicine. In his leisure time, Daryn enjoys tennis, golf and traveling – his favorite locale – Melbourne, Australia.

**Jessica Grochowski** is from Alpena, MI and earned her B.S. in environmental science from Northland College, Ashland, WI. Under the advisement of Dr. Julie Etterson, her research involves the cytotype distribution of tall goldenrod, *Solidago altissima*, across the prairie/forest border of Minnesota. She has been working on identifying different ploidy levels in *Solidago altissima* using flow cytometry. So far her research has been on plants from prairie and forest populations located in Minnesota and this summer, she plans



on determining the ploidy levels of plants in additional populations in Minnesota and the Dakotas. She also plans to subject different ploidy levels of *Solidago altissima* to specific water treatments to test the ecological significance of polyploid distribution. She plans to complete her project next spring. Jessica served as teaching assistant and laboratory coordinator for General Biology II this past year.

**Wendy Hieb** has moved too many times to have a hometown, but she received her undergraduate degree in wildlife ecology and conservation from the University of Florida. She has worked under the tutelage of Dr. Randall Hicks on identifying the sources of fecal pollution in streams and trying to find out if the sources are related to the surrounding land use. She has been working outside of UMD since August, 2004 while she continues her thesis revision. Upon completion, she plans to work for a federal government agency such as the EPA and to be involved in policy-writing and enforcement.

**Beth Holbrook** is from Onamia, MN and received her undergraduate degree in natural science from the College of St. Benedict. She is working with Dr. Tom Hrabik on habitat quality assessment for age-0 lean lake trout at two spawning shoals in the Apostle Island region of Lake Superior. She will use GIS to create spatial foraging and growth rate potential models by using spatial data sets of plankton abundance and temperature and applying bioenergetics. She has been a teaching assistant and research assistant



during her time here at UMD. She is also a recipient of UMD College of Science and Engineering travel grant and plans to present a paper at the 2005 American Fisheries Society Meeting in September. After completing her project in October, 2005, she plans to find a job near a good trout stream and master her fly-fishing skills.

**Rhett Johnson** received his undergraduate degree in biology (botany) from Iowa State University. He has been working with Dr. David Schimpf researching the impacts of flooding on black spruce and tamarack and peatland plant communities. He has completed his field work and lab work and is now analyzing the tree ring series. He has been a teaching assistant for General Biology II, Biology and Society, and Ecology Lab and plans to complete his project Fall, 2005. He would then like to work outdoors as much as possible in management-related research.

**Winfried Ksoll**, from Gechingen, Germany, received his B.S. in environmental and resource management from Brandenburg University of Technology. Winfried is a Water Resources Science student working with Dr. Randall Hicks on the naturalization of *Escherichia coli* in Lake Superior epilithic periphyton. He plans to complete his second field season this summer, continue with lab experiments and finish the project by December, 2005. He has been supported by a research assistant position and also was a teaching assistant for Microbiology. He attended the ASLO Aquatic Sciences Meeting in Salt Lake City, UT

February, 2005. His future plans include continued research in aquatic ecology.

**Anna Peterson** obtained her undergraduate degree in biology with emphasis in ecology from Winona State University. She is working with Dr. Jerry Niemi on the evaluation of the Ohio Rapid Assessment Method (ORAM) for wetlands in the western Great Lakes using bird assemblages. Her research involved conducting bird surveys in over 50 wetlands along the south shore of Lake Superior and both coasts of Lake Michigan and then evaluating these wetlands using ORAM. Now she is concentrating on writing and rewriting her thesis, which she plans to complete this summer. Anna then plans to pursue her Ph.D. after a short break to conduct hawk migration research in the Rocky Mountains.

**Angela Rohweder** is originally from Houston, MN and received her B.S. in biology from Winona State University. Under the advisement of Dr. Patrick Schoff (NRRRI), she is studying environmental toxicology and the developmental biology of amphibians. For two field seasons she has been conducting wetland and amphibian research in the Prairie Pothole Region (PPR) of the United States. This year she will be in the lab performing amphibian gonadal histology in attempt to reveal a correlation between herbicide concentrations in PPR wetlands and

experimental mesocosms and the presence of gonadal abnormalities in *Rana pipiens* (Northern Leopard Frog). She attended a joint conference of the American Fisheries Society/Regional Society for Conservation Biology in Grand Rapids in March, 2005 and also presented a poster at the regional Society for Environmental Toxicology and Chemistry (SETAC) meeting in Madison in April, 2005 where she was named the runner-up for the best student poster presentation award. She plans to complete her degree sometime next spring.

**Kevin Russeth** is a Duluth native who earned his B.A. in biology and chemistry from Concordia College in Moorhead, MN. He is in the Biochemistry, Molecular Biology and Biophysics Graduate program working with Dr. Matt Andrews on the proteomic and NMR spectroscopic analysis of mammalian hibernation. So far he has completed his course work and nearly all his research with the exception of one hibernation season, and submitted a manuscript titled "Identification of proteins from non-model organisms using mass spectrometry: Application to a hibernating mammal" to Molecular and Cellular Proteomics (MCP). Two manuscripts on <sup>1</sup>H NMR are underway with a fourth manuscript on <sup>13</sup>C NMR that will be completed next year. While conducting his research, Kevin has also been a teaching assistant for Human Anatomy, Cell Biology and Genetics. He hopes to complete his project Spring, 2006 and begin a postdoc position next summer

and eventually obtain a faculty position at a university.

**Justin Spanier** is originally from Roscoe, MN and obtained his B.S. in cell biology from UMD. He is working under the tutelage of Dr. Lester Drewes, researching protein-protein interaction using functional regulation of Monocarboxylate Transporter 1 (MCT1). He hopes to complete his project December, 2005. Justin has been a teaching assistant for General Biology I and Developmental Biology. Justin plans to present a poster at the American Society for Neurochemistry meeting in Madison, WI in June.

**Chad Westberg** is originally from Rochester, MN and earned his undergraduate degree from Drake University. He is a student in the Plant Biological Sciences (PBS) PhD Program working with Dr. Julie Etterson researching population genetics. He presented a seminar for PBS Friday Seminar Series Fall, 2004 entitled, "Parental influence on the fitness of *Arabidopsis thaliana* and *Arabidopsis lyrata* offspring in different light environments". He anticipates completion of his project in May, 2007. In addition to his research, Chad has been a teaching assistant for General Biology II since September, 2003.

Other graduate students in the Biology department include: **Meghan Brown**, **Megan Forbes**, and **John Sandberg**.



## Brauch and Russeth Receive Outstanding Biology Graduate Teaching Awards

At a May ceremony and reception in Griggs Center, Katharine Brauch and Kevin Russeth were recognized for their excellence as graduate teaching assistants in the Biology Department. They were selected by the faculty from more than twenty graduate students who teach laboratory sections each year. Katharine and Kevin also received CSE Outstanding TA Awards, given to students selected from each department in CSE. Biographical information about both Katharine and Kevin can be found in the "Graduate Student Profiles" section of this newsletter.



Katharine Brauch and Kevin Russeth were named outstanding graduate teaching assistants.

## New Graduate Degree in IBS

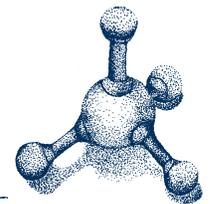
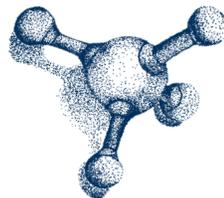
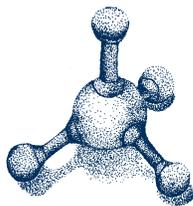
by Matt Andrews

A new graduate program in Integrated Biosciences (IBS) administered through the Graduate School of the University of Minnesota will soon be offered as an innovative mechanism of graduate training in the life sciences at the University of Minnesota Duluth. The IBS Graduate Program reflects trends of integration across the broad field of biological sciences. When fully implemented, IBS will be a combined M.S./Ph.D. degree-granting program unduplicated anywhere in the University of Minnesota system. To provide in-depth training in a specialty, students will choose to specialize in either a Cell, Molecular, and Physiological Biology track or an Ecology, Organismal, and Population Biology track

The IBS Program will provide training in integrative biology through the following mechanisms: (1) a one-week introductory orientation course at Itasca Biological Station during August for all incoming students in which students are exposed to problems, concepts, and techniques of integration;

(2) a first year course sequence required of M.S. and Ph.D. students which includes courses in integrated systems approaches in biology; advanced evolutionary biology; experimental design; a course in either animal or plant physiology; and professional practice and ethics; (3) student research/journal clubs in cell, molecular, and physiological biology and in ecology, organismal and population biology; (4) colloquia in current topics of research interest of the faculty; (5) for the Ph. D. students, rotations through at least three different faculty labs encompassing several subdisciplines in biology.

The Regents of the University of Minnesota gave their final approval to the IBS Program as a M.S. degree-granting program in 2005 with the intent of an M.S./Ph.D. program in 2007. We will begin the transition to the IBS program during 2005, and offer the full M.S. curriculum to our inaugural class in the fall of 2006. After meeting specific benchmarks outlined in the IBS proposal, we intend to offer the Ph.D. program beginning Fall 2007.



# Undergraduate Commencement

by Sara Briggs

## B.S. Biology

Matthew B. Abel  
Abby J. Anderson  
Jennifer L. Archer  
Andrea C. Biele  
Holly A. Blais  
Lindsey S. Blake  
Eric G. Bluemn, *summa cum laude*  
Christina L. Bogan, *magna cum laude*  
Alexis M. Catoe  
Cara R. Chapman, *magna cum laude*  
Melissa M. Christenson  
Christine Coc  
Laurel A. Chapman, *cum laude*  
Michael P. Daley  
Joseph J. Doerer, *cum laude*  
Jason C. Doering  
Jacob A. J. Drevlow  
Benjamin J. Drilling  
Benjamin M. Dumke  
Olufemi G. Ekisola  
Jill M. Ellestad  
Nicole M. Everson  
Amy M. Fairbanks  
David R. Farrar  
Amanda J. Feyma  
Kristina L. Flodquist  
Kristen L. Fritsch  
Amybeth Froehlich  
Vanessa M. Glieden  
John T. Guillard  
Terence R. Hams  
Jessie M. Hanson  
Emmy C. Hoff  
Kristen J. Holden  
Elizabeth A. Horinek  
Anne K. Hust, *summa cum laude*  
Aaron R. Johnson  
Benjamin D. Johnson  
Ryan M. Kavanagh  
Lisa M. Korte  
Benjamin J. Krekelberg  
Adam T. Lang  
Keith P. Leitzen, *summa cum laude*

The 105th baccalaureate commencement for the University of Minnesota Duluth, the largest ever, was held on May 14, 2005, at the Duluth Entertainment and Convention Center. More than 1700 students were eligible for diplomas with 1100 attending the ceremony. Richard Moe, a Duluth native who is currently President of the National Trust for Historic Preservation, gave the keynote address. Mr. Moe has been nationally recognized for his work in preserving historic places and at the commencement ceremony was awarded an honorary Doctor of Humane Letters degree. This is the highest award conferred by the University of Minnesota recognizing individuals who have achieved eminence in cultural affairs, in public service or in a field of knowledge and scholarship. The following students were recipients of undergraduate bachelor's degrees for summer, 2004, fall, 2004 and spring, 2005.

Jason C. Leveille  
Lindsay T. Mangan  
Elizabeth A. Mathias, *magna cum laude*  
Carrie E. Matson  
Kevin M. McCann  
Kirstin A. McKeown  
Angela M. Merritt, *summa cum laude*  
Nathan W. Mosner  
Jennifer L. Nagle  
Brian A. Ness  
John D. Notman  
Sara A. Palmer  
Matthew G. Penning  
Jason M. Pexsa  
Anthony J. Picconatto  
Bradley J. Poziembo  
Alison R. Pream  
Jeremy D. Rogosheske  
Benjamin L. Sand  
Laura J. Sauer  
Lenae M. Schaeftbauer  
Brian L. Schanzenbach  
Karen M. Schield  
Joseph P. Schowalter, *cum laude*  
Katie L. Schroeder  
Nathaniel A. Schroeder  
Jessica L. Schue, *cum laude*  
Lukas D. Sheild  
Jennifer C. Simi  
Jolen C. Sindelir

Molli S. St. Aubin  
Matthew M. Steller  
Ida E. Stevens  
Jessica E. Strange  
Jonathan J. Sturtevant  
Kevin A. Sundet  
Kent C. Swanson  
Stephanie L. Swanson  
Troy S. Taffe  
Michael J. Tholen  
Stephanie D. Thomas  
Jeremy D. Trevis  
Matthew J. VanWatermulen  
Nathan A. Vonderharr  
Peter J. Weitz  
Darran P. White  
Catrina M. Whitehead  
Rebecca A. Wiberg  
Lynsey M. Wieland

## B.S. Cell Biology

Justin K. Beldo  
Scott T. Bormann  
Scott C. Brandl  
Jonathan C. Dilley  
Gina R. Erdahl  
Jennifer A. Fern  
Eric A. Hanse  
Falesha C. Jaglowski  
Brian K. Jutila

Amanda H. Klein  
Brian W. Kram  
Peter A. Lennox  
Ann F. Liebl  
Jared E. Lund  
Munir M. Mosaheb  
Karen S. Myren  
Jessica M. Olson  
Mark R. Quale  
Tsanta I. Rakotojoelinandrasana  
Megan J. Schultz  
Joshua M. Skalicky  
Justin P. Stocks  
Angela K. Terwey, *magna cum laude*  
Jennifer L. Trettin  
Ashley R. VanDenBoom  
Tou Sou Vang  
Nicholas B. Vidor  
Pamela J. Walsh, *summa cum laude*

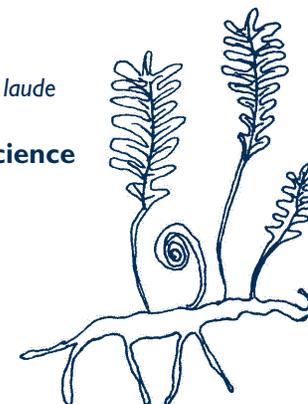
## B.A.S. Teaching Life Science

William W. Heitzman  
Nicholas W. Hempfer  
Jordan J. Herman  
Todd E. Hunter  
Mallory K. McGowan  
Laura J. Ricker  
Michelle A. Riley  
Sarah M. Royce  
Valerie M. Rudderforth

Jeremy R. Schultz  
Anna S. Thiede  
Erik A. Tvedten  
Melissa L. VanDerGeest  
Katherine C. Virkuc

## B.A. Biology

Michael J. Fudala  
Falesha C. Jaglowski  
Katie J. Jensen  
Jeremy D. Johnson  
Krystal A. Smolley



# Biology Awards and Scholarships

by Ruth Hemming

The generosity of family members, friends, and alumni makes it possible for the Department of Biology to present yearly awards and scholarships to our majors. The 2004-2005 awards ceremony and reception was held at the Griggs Center on Thursday, April 28, 2005 and was attended by family and friends of award winners, along with Biology faculty and staff. Colleen Belk, representing the Awards Committee, gave opening remarks. Dr. James P. Riehl, Dean of the College of Science and Engineering extended his congratulations to the award recipients and their families. The following scholarships and awards were presented by faculty members.

The T.O. Odlaug Award, our most long-standing award, is given each year in honor of former Professor and Biology Department Head, Dr. Theron O. Odlaug. This award is presented to an outstanding senior biology student who has demonstrated strong leadership qualities and service to the department. This year the award was given to **Christina Bogan**. Christina is a graduating senior biology major, from Red Wing, MN.

The Outstanding Freshman Biology Award is given to an incoming freshman who excels in the introductory biology courses, Biol 1011 and 1012, selected by the instructors of these courses. This year's recipient is **Adam Foss**, a biology major who is from Winsted, MN.

Each year two, Ed and Alma Turcotte Scholarships, are awarded to motivated and high-achieving biology and cell biology majors. This scholarship is dedicated with profound respect and everlasting love to the memory of Edgar (Ed) L. and Alma Turcotte, Carlton, Minnesota. Their three sons and two daughters, all attended UMD. This year's recipients of the Turcotte Scholarships are **Annelie Lindberg-Livingston**, a native Duluthian and senior biology major; and **Tara Pettersen**, a senior biology/mathematics major who is also from Duluth.

The T.O. Odlaug Scholarship was initiated when a donation was made by an anonymous alumni. This person remembered the inspiration and help that Dr. Odlaug had given, and made a donation in Dr. Odlaug's memory. Two \$1,000 scholarships are awarded each year to biology students with good academic standing and financial need. This year's recipients are **Megan Wehrwein**, a junior Pre-Veterinary Medicine major from Stevens Point, WI and **Scott Wendroth**, a junior Cell Biology major from Eden Valley, MN.

The purpose of the John McCabe Scholarship is to assist high achieving biology or cell biology students who demonstrate financial need. Two, \$1,000 scholarships were awarded this year to **Jenna Mollison**, a senior cell biology major from Duluth and



**Brandon Peterson**, a senior pre-medicine major from Frederic, WI.

The Pre-veterinary Medicine Award is sponsored by Dr. Reza-ul (Raj) Karim and family in memory of Dr. Karim's father, Sikander M. Karim. This year's

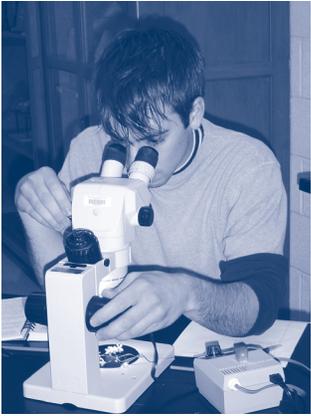
recipient is **Megan Wehrwein**. Megan is a junior pre-veterinary medicine major from Stevens Point, WI.

The Department of Biology extends its congratulations to this year's awards and scholarship recipients.



These students were recipients of awards or scholarships at the spring awards ceremony and reception held in Griggs Center on April 28. Front Row, L to R: Kevin Russeth, Brandon Peterson, Scott Wendroth, Annelie Lindberg-Livingston, Adam Foss; Back Row, L to R: Megan Wehrwein, Jenna Mollison, Amanda Carlson, Christina Bogan, Katharine Brauch, Tara Pettersen

# Senior Snapshots



Left: Brian Schanzenbach patiently dissects a flower as part of the Taxonomy lab final.



Right: Happy 2005 grads Nick Hempher, Linsey Wieland and Jon Sturtevant



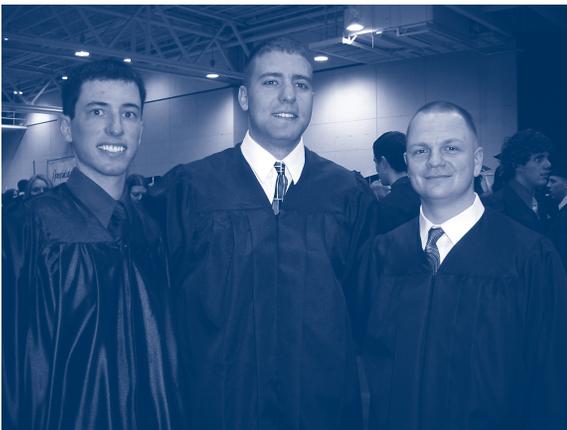
Above: Stacy Denny and Gina Erdahl use PowerPoint to report on "Lupus" for Experimental Immunology class



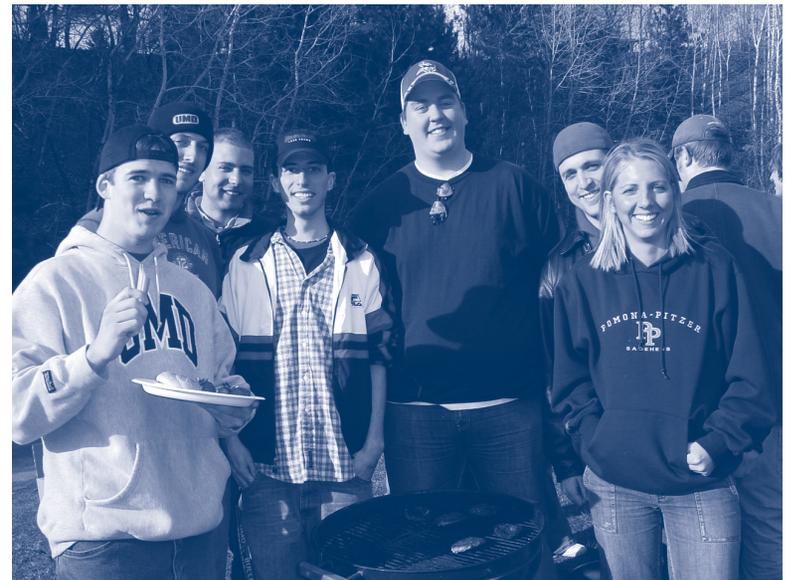
Left: Angela Merritt acs her Evolution final.



Above: With class members looking on, Ben Sand dissects a harbor seal in Animal Diversity class.



Left: Posing at the DECC before commencement are Nate Mosner, Ben Sand and Jeremy Trevis.



Below: Seniors enjoying the annual Biology Club picnic at Chester Park are(L to R):Aaron Johnson, Darran White, Ben Sand, Nate Mosner, Eric Uutala, Joe Doerer, and Christina Bogan

## Biology Club

by Rebekah Bolstad

The UMD biology club gives students with an interest in biology the opportunity to meet other biology students and the faculty while doing fun activities. The officers for the 2004-2005 school year were Caitlin Cleary, President; Julia Holmblad, Vice President; Jenna Mollison, Secretary; Tammy Tang, Treasurer and Sean Curry, Director of Membership and Activities. The club held at least one meeting per month and planned 2-3 outings a month. Members purchased green tye-dyed shirts with UMD Biology Club emblazed on the front and our quote: "Biology is the field where all the sciences are embodied. It is here that science truly becomes unified" by G.G. Simpson on the back. UMD Biology Club stickers were also sold.

The club sponsored a variety of social and educational activities. We ventured to Gooseberry State Park for fall camping, watched Lions of the Kalahari and The Vikings at the Omnimax and spent a few Friday nights skiing and snowboarding at Spirit Mountain. For the first time, we sponsored an open ice skating event for Out Cold week with cookies and cocoa. We had a Physics Club/Biology Club movie night where we watched the ever-popular movie Napoleon Dynamite. Team Red Blood Cell (RBC), our biology club broomball and floor hockey team,



Biology Club Officers, L to R: Sean Curry, Julia Holmblad, Tammy Tang, Caitlin Cleary, Jenna Mollison

performed well in their respective intramural seasons and the RBC floor hockey team took third place in the maroon division. We spent a Saturday exploring the Great Lakes Aquarium and a Friday night walking for Relay for Life. The highlight of the year was our spring trip to Ely, MN to visit the International Wolf Center. We met the wolves named Grizzer, Malik, Maya, Nyssa and Shadow and had an informational educational session about predators and prey.

Fundraising helped to keep the club adventure costs to a minimum. We sold candy grams for Halloween and Valentines Day and delivered them in costume to offices and on campus housing. We baked cookies for the biology department seminars, always a favorite. Also we will receive a stipend of money from John's Small Engine and Garden Center to help plant trees. We received a grant from the UMD Student Association to sponsor our own Earth Day seminar on April 22, 2005. Joel

## PreVetMed Club

by Kirstin McKeown

The UMD Pre-Vet Club is an organization made up of students interested in veterinary medicine, mostly pre-vet students. This year the club held activities in order for members to meet and get to know each other, the advisor, and other biology faculty. We also had meetings to learn about the veterinary field and applying to vet school.



PreVetMed Club officers, L to R: Theresa Dahlheimer, Kirstin McKeown, Mike Daley, Sara Tierney, Dr. Larry Bjorklund, U of M Director of Student Affairs and Admissions, Dr. Raj Karim, club advisor.

The school year began with a fall student/faculty picnic at Raj Karim's house. A representative from the DNR was there and informed the students about an opportunity to help monitor chronic wasting disease in deer during a weekend during hunting season. Larry Bjorklund, the director of student affairs and admissions at the U of M School of Veterinary Medicine, was also at the picnic. After the picnic, students were invited to hear him speak about admissions to the School of Veterinary Medicine at the university. At another meeting, an invited speaker Justin Dahl DVM, talked to the group about his experiences in school and in practice. It was a very informative talk and club members were invited to ask questions.

The officers for 2004-2005 were: Co-Presidents Kirstin McKeown and Mike Daley; Secretary, Theresa Dahlheimer and Treasurer, Sara Tierney. Elections were held and the new officers for 2005-2006 are President, Shena Fesenmaier, Vice-President, Megan Wehrwein, Secretary, Terri Albright, and Treasurer, Kristen Hasbargen. If you would like more information, please contact the president or Raj Karim, faculty advisor, at [rkarim@d.umn.edu](mailto:rkarim@d.umn.edu).



Biology Club continued

Peterson from the Minnesota Pollution Control Agency was invited to discuss some current environmental topics in the Duluth area. The school year ended with our annual biology department picnic in May at the Chester Park Recreation Area. If you are interested in the current updates please visit our webpage at [www.d.umn.edu/biology/club/home.html](http://www.d.umn.edu/biology/club/home.html)

## PreDent Club

by Kim Lynch

The PreDent Club at UMD is a great opportunity to get to know fellow classmates interested in pursuing a career in the field of dentistry. Our pizza party to kick off the year was a great success. Many new members had the chance to ask upper classman about applying to dental school, when to take the DAT, and so on. This fall many of our members had the chance to meet Gale Shea, Director of Enrollment Management for the U of M School of Dentistry. She provided very helpful information about the dental school application process and answered other questions about classes, grades, housing, financial aid and opportunities for the specialties in dentistry.

As usual, our PreDent Club's co-ed broomball team had another successful year during both the fall and spring semesters. Our team played hard



through the playoffs to finish just one game short of the championship game during the spring semester.

This spring several of our members attended Career Day at the U of M School of Dentistry. This event allowed future dental students to get a tour of the dental school and to learn about different opportunities that the field of dentistry has to offer. Also this spring for the first time ever, the PreDent Club participated in Relay for Life here at UMD. The club was able to raise quite a bit of money in the fight for the cure for cancer. This event was a great way for the club to help out the community and have fun at the same time.

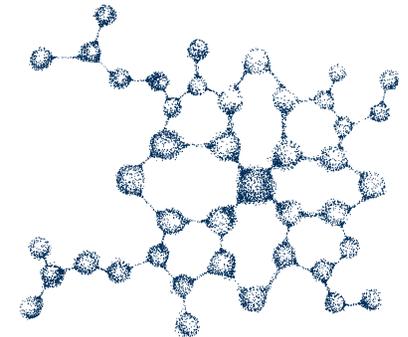
If you would like to be a part of the UMD PreDent Club or would like to find out more about the field of dentistry as a career, feel free to contact one of our officers: Kim Lynch-president, Erik Hensel-vice president, Brad Gardner-secretary, or David Farrar-treasurer or contact the club's advisor Linda Holmstrand, LSci 313, or email [lhalmstr@d.umn.edu](mailto:lhalmstr@d.umn.edu).

PreDent Club officers for 2004-2005 were, L to R: Erik Hensel, Brad Gardner and Kim Lynch. Not pictured: David Farrar

## PreMed Club

by Christina Bogan

The 2004-2005 school year was one full of accomplishments for the PreMed Club. In the fall semester, we focused on medical school admissions. Our meetings included a medical student panel, a tour of the cadaver lab, an MCAT informational meeting and a talk by Dr. Lillian Repesh, Associate Dean of Admissions at the UMD School of Medicine. Spring semester focused on the actual practice of medicine. Dr. Cunningham D.O. spoke about osteopathic medicine and Dr. Elliott addressed medical ethics. In addition, we had a physicians' panel, a careers in medicine panel and several social activities.



Officers this past year included Co-Presidents Christina Bogan and Joe Doerer, Vice President Scott Borman, Secretary Karen Myren, Treasurer Eric Bluemn, Public Relations officer Ryan Gaalswyk, Fundraiser Coordinator Jason Daffenbach and Volunteer Coordinator Charleen Balcer.

We would like to thank our officers this year for all their hard work and the members for making the club so enjoyable.



Premedicine Club officers this past year included (front row L to R): Joe Doerer, Scott Borman, Ryan Gaalswyk, Eric Bluemn; (back row L to R): Karen Myren, Christina Bogan, and Charleen Balcer. Not pictured: Jason Daffenbach.

# UROP Awards

by Linda Holmstrand

The Undergraduate Research Opportunities Program (UROP) is a University of Minnesota program available to students on any of the four university campuses. It encourages undergraduate students and faculty members to work together on research or other scholarly activities. Student applicants are required to write a competitive grant, and if successful, receive a stipend of \$1400 plus \$300 for supplies and expenses. Mentored by faculty researchers, this gives students an opportunity to design, implement and report on an actual research project. Since 1985, approximately 1700 UMD students have participated and have received funding amounting to more than 1.7 million dollars. UMD is nationally recognized for its undergraduate research opportunities. The Biology students and faculty receiving UROP awards for Spring, 2005, are listed below:

**Rachel Beukema**, Biochemistry/  
Molecular Biology, "Cell Cycle Stage  
and Interferon- $\gamma$  Production by HSV-1  
and HSV-2 Infected HEP-2 Cells Treated  
with Betulin"  
Sponsor: M. Reza-ul (Raj) Karim

**Sean Curry**, Biology, "When We Eat,  
Which Bacteria Should We Feed?"  
Sponsors: M. Reza-ul (Raj) Karim and  
Thomas Hrabik

**Amanda Feyma**, Biology and  
Biochemistry/Molecular Biology,  
"Synthesis and Biological Evaluation of  
New Boronic Acid Based Molecules as  
Antibacterials"  
Sponsor: M. Reza-ul (Raj) Karim

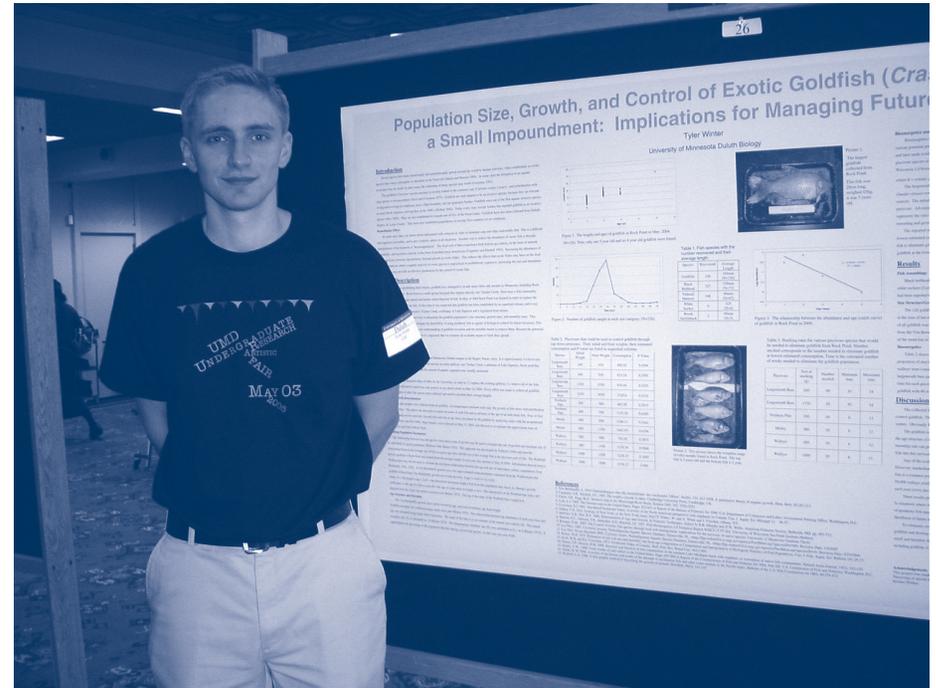
**Michael Fudala**, Biology, "Global  
Comparison of Insect Communities on  
*Solidago altissima*"  
Sponsor: Tim Craig

**Eric Hanse**, Cell Biology, "Identification  
of Unknown Genes Expressed From the  
Heart of a Hibernating Mammal"  
Sponsor: Matthew T. Andrews

**Brian Kram**, Cell Biology,  
"Electromagnetic Fields and the Activity  
of DNA Repair Mechanisms in *Serratia  
marcescens*"  
Sponsor: M. Reza-ul (Raj) Karim

**Munir M. Mosaheb**, Cell Biology, "In  
vitro Effects of Betulin, Betulinic and  $\gamma$ -  
Cyclodextrin Alone and in Combination  
Against HSV-1 and HSV-2 Infection in  
Vero Cells"  
Sponsor: M. Reza-ul (Raj) Karim

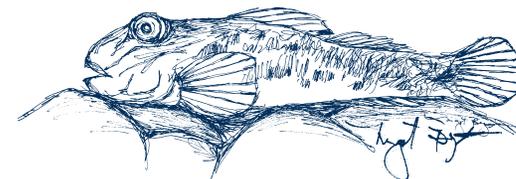
**Kevin Prodinsky**, Biology, "Herbivory  
and its Effects on Offspring in  
*Campanula cervicaria*"  
Sponsor: Julie Etterson



Tyler Winter poses beside his research poster entitled "Population Size, Growth and Control of Exotic Goldfish (*Crassius atratus*) in a Small Impoundment: Implications for Managing Future Invasions" at the Tenth Annual UMD Undergraduate Research/Artistic Fair held May 3 in Kirby Ballroom.

**Steven Skolasinki**, Cell Biology,  
"Antimicrobial Properties of Epidermal  
Mucous on Fish Native to the Lake  
Superior Region"  
Sponsor: M. Reza-ul (Raj) Karim

**Jasmine Wagner**, Biology, "Effects of  
the Maternal Herbivory of *Campanula  
cervicaria* on Seed Fitness"  
Sponsor: Julie Etterson



## Peterson inducted into UMD's Academy of Science and Engineering

Dr. Rolf O. Peterson, UMD Biology Department alumnus, returned to campus in October to be inducted into the CSE Academy of Science and Engineering. Dr. Peterson was recognized along with four alumni from other departments in the college. He also presented a seminar, open to faculty, students and the public entitled "The Wolves and Moose of Isle Royale - What have we Learned?" The UMD Academy of Science and Engineering was established in 2002 to give public recognition to distinguished alumni and special friends of the College of Science and Engineering, who have brought distinction to themselves through their participation, commitment, and leadership in their chosen professions.

A native of Minneapolis, Dr. Peterson came to UMD in 1966, graduated with an undergraduate degree in zoology in 1970, and won the Outstanding Senior Award in Biology that year. After earning a Ph.D. at Purdue University in 1974, he joined the faculty at Michigan Technological University, where he is now a professor of wildlife ecology in the School of Forest Resources and Environmental Sciences. He has continued a long-term study of wolf and moose predator-prey interactions in Isle Royale National Park, a project begun by his major professor at Purdue, Dr. Durward Allen. He has also studied wolf populations in Alaska, Minnesota, and mainland Michigan, and has advised research programs involving recovering

wolf populations in Yellowstone National Park and in Norway.

Dr. Peterson is the author of two books, "Wolf Ecology and Prey Relationships on Isle Royale" and "The Wolves of Isle Royale – A Broken Balance", as well as the author of 94 technical articles published in Science, Nature and other scientific journals, as well as chapters in 11 books and conference proceedings. During the past decade he has been awarded the Distinguished Moose Biologist Award, from the 26th North American Moose Conference for major contributions toward management of moose in North America and a reporting award for an article published in Lake Superior magazine entitled "Of Moose and Wolves".

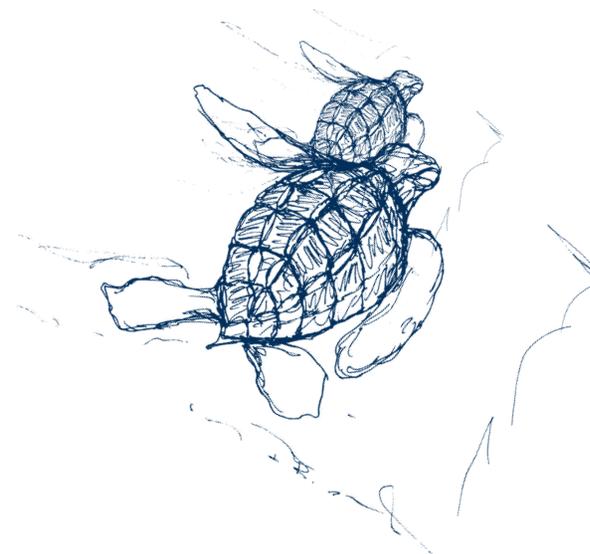
## Alumni News

Please take the time to return the "Alumni Update" on the back of the newsletter or email your information to us. Our faculty, staff and alumni look forward to hearing about you!

**Pat Collins** (B.S. '87 and M.S. '91) has been working for the Minnesota DNR since 1993 and is currently program manager of Minnesota's Lake Superior Coastal Program, a program that provides funds, education, outreach and technical assistance to communities and organizations. He and his wife Tambrey (Foster) have two children – Brennen, 16 and Reid, 13. The Collins family hosted a foreign exchange student from Germany during the past school year.



Dr. Randall Hicks, Biology Department Head and Dr. Rolf Peterson, newly inducted into the CSE Academy



**Amanda (Cornell) Holloway** (B.S.'98) was married in July, 2004, to Alan Holloway of Rochester, MN, and is currently employed by Mayo Clinic where she directs their recycling program.

**Jerome A. Eckrich, M.D.** (B.A.'54) is working part-time in Aberdeen, SD with his son Paul who took over his urology practice in 1993. He plans to spend winters in California or Arizona and still flies his seaplane out of Lake Vermilion at Cook, MN.

**Pamela Elf** (B.S.'88) completed a Ph.D. at UND and is now an assistant professor of Biology at the U of M Crookston campus, teaching courses in anatomy & physiology, genetics and cell biology. Her research focuses on maternal contributions to offspring and temperature-dependent sex determination in certain reptiles. In June she was an invited symposium speaker at the 5th World Congress of Herpetology in Stellenbosch, South Africa.

**Nicole Gilles** (B.S.'01) is working for NOAA Fisheries Northeast Coast Observer Program as a data editor in Woods Hole, MA.

**Brent Haglund** (B.A.'70) is the President of Sand County Foundation in Madison, WI, an organization that works in developing private conservation leadership through ethics, science and incentives.

Congratulations to Jeff and **Charlene Johnson** (B.S.'00 and M.S.'02) on the birth of twin daughters in April. They join brother Alex, age 3. After graduation, Charlene worked for the City of Superior for 14 months, then took a job with SEH, an engineering firm in Duluth that deals with stormwater planning and wetland management and mitigation.

**Rob Kittay** (B.S.'78) is an environmental senior scientist for the State of South Dakota Drinking Water Program. He is also the Secretary/Treasurer of the South Dakota Water and Wastewater Association and the Pierre, SD Varsity Hockey Coach.

**Camille Kundel** (B.S.'99) graduated from the Doctor of Pharmacy program at the University of Minnesota – Twin Cities May, 2004.

**Joe Mayasich** (M.S.'81) became the Director of Environmental Services at WLSSD in April, replacing Joe Steppun who retired. While at UMD, Joe's research was directed by his advisor, the late Dr. Jack Hargis. He will remain in an adjunct position at NRRI and as a member of the graduate faculty, will continue to co-teach Ecotoxicology in the UMD Biology department. Joe and his wife Sally and their children Olivia, 9 and Spencer, 7, live in Cloquet.

**Kurt Mead** (B.S. Biology and BFA, '92) is a naturalist working mostly out of Wolf Ridge Environmental Learning Center near Finland, MN, where he lives with his wife, Betsey, also a naturalist and two daughters, Yarrow and Lily. Kurt is the author of "Dragonflies of the North Woods", a field guide to more than 100 species of odonates found in Minnesota, Wisconsin, Michigan and Ontario. He regularly gives talks and workshops on dragonfly identification and ecology throughout Minnesota.

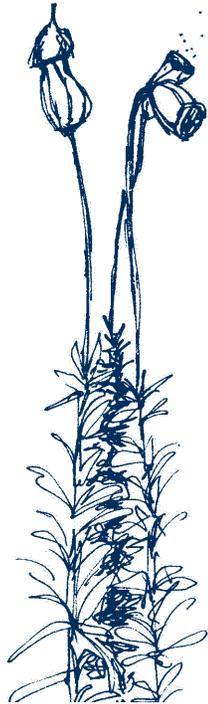
**Cherokee Rova** (B.A.S.'90 Teaching Life Science) began graduate school Fall 2004 at the University of Montana – Missoula working towards her Master's of Pharmaceutical Science.

**Carl Sandness** (B.S. and B.A.S.'94) received his M.S. in Chemistry in October, 2004 and returned to Hibbing, MN to teach Physics and Chemistry at Hibbing High School. He worked at the Soudan Mine for the Minos Project, giving summer tours. His first child,

Matthew John, was born in February of 2004, and Grandpa John Sandness (below) is waiting for his new fishing partner to grow up.

**John Sandness** (B.S.'60) is enjoying a life of trout fishing, tying flies, writing and photography in Princeton, British Columbia. After leaving UMD, he taught in eastern Washington for a number of years before taking a master's degree at Oregon State University. He then moved to Canada and continued his teaching career there. John is the author of a book entitled "Trout Talk" and is working on a second book. He also creates and sells thousands of hand-tied flies each year.

**Bob Spehar** (B.S.'71 and M.S.'74) is completing 35 years at the Duluth EPA lab (Mid-Continent Ecology Division, NHEERL), formerly known as the National Water Quality Laboratory. Starting as a biology laboratory technician in 1970, he has since been responsible for managing toxicity test research at local and national levels.

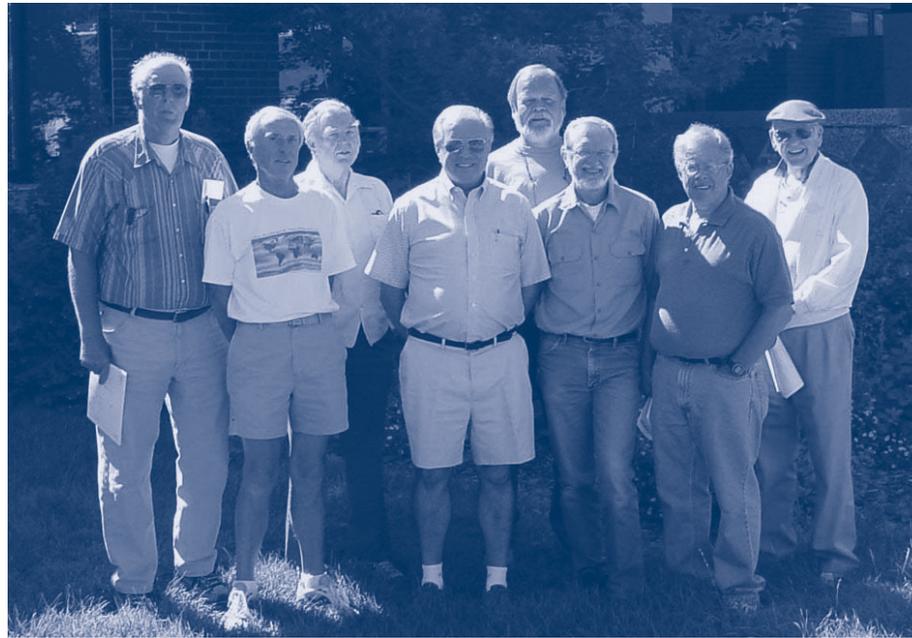


He has held numerous positions of leadership in agencies involved with water quality and effects of pollutants on aquatic organisms, as well as threatened and endangered species. Bob and his wife Diane have two married daughters, both of whom graduated from UMD and live in Duluth.

**Dr. William Schmidt** (B.S.'77) is currently working as Director Commercial at Conoco Phillips in Illinois. The oldest of his four children is a freshman in college. He enjoys events with his kids, wife and pets and is looking forward to retirement.

**Dr. William Schneider** (B.S.'91) gave an invited lecture on emerging and re-emerging diseases to the UMD microbiology class last summer. Bill received his B.S. in Biology from UMD (where he also was as student worker in the greenhouse), then went to Michigan State for his Ph.D. He now works for the USDA Agricultural Research Service in Fort Detrick, MD.

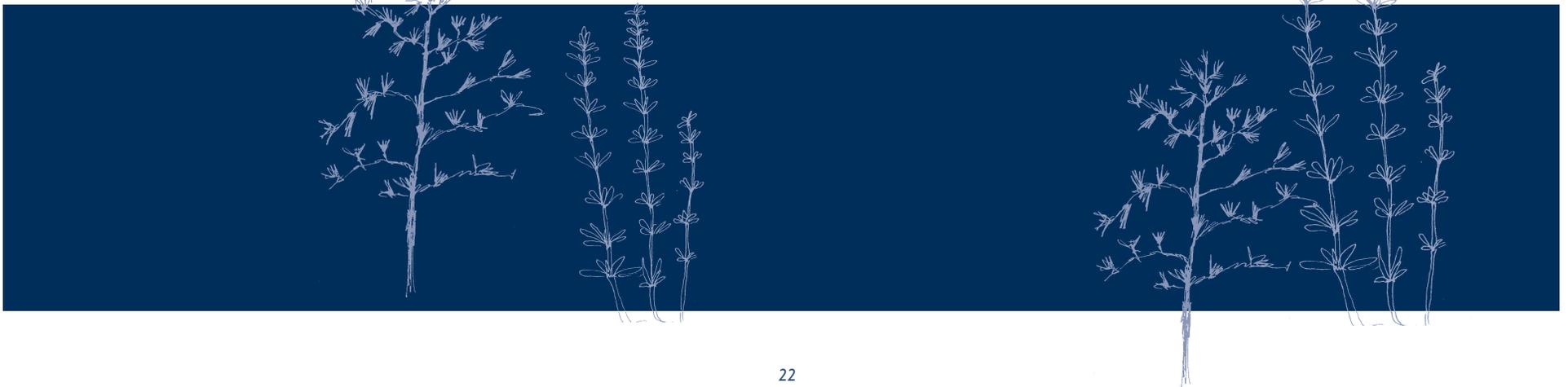
## Alumni return to campus



Alumni from the early 60's, along with retired faculty members Blanchard Krogstad and Jack Hofslund, visited the UMD campus and Biology Department last summer. They include (L to R): Gary Kuyava, Tom Mowbray, Blanchard Krogstad, Lance Peterson, Jon Maki, Keith Severson, Dick Hassinger and Jack Hofslund.

## “Mystery Person” Identified

The last issue of the Life Scientist contained a picture entitled “mystery lady”, a face from the past. She was correctly identified by Cherokee Rova (B.A.S.'90 Teaching Life Science) as Jeanne Mendoza, a former receptionist and secretary in the Biology Department office. Cherokee received a copy of the book “UMD Comes of Age, The First One Hundred Years” by Ken Moran and Neil Storch. It is a photo history of the Duluth Normal School, Duluth State Teachers College and the University of Minnesota Duluth.



## Gifts and Donations

The Biology Department would like to acknowledge the following individuals and organizations for donations received during the period June 1, 2004 through May 31, 2005. The financial gifts received are used to support the department in a variety of ways including student awards and scholarships, research support and the costs associated with our annual newsletter. We are pleased that nearly \$4000 was given to the newly established Paul H. Monson Memorial Fund. Thank you all for your generous contributions.

Nancy A. & Martin T. Auer  
Samuel J. & Ardis Beard  
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## In Memoriam: Barbara Nygard Wilson

The Biology Department is a beneficiary of the estate of Barbara Nygard Wilson, who passed away on October 9, 2002 in Naperville, Illinois. According to Barbara's wishes, the proceeds from a parcel of land near Cloquet were donated to the university and were placed into an endowment fund to support environmental research at the "farm" on Jean Duluth Road. In addition, a monetary gift of \$15,000 was given to the Biology Department and will be used to designate a room in Barbara's name in the new Swenson Science Building.



Barbara was born in Cloquet and earned her bachelor's degree in 1970 at UMD, majoring in Biology, Chemistry and Mathematics. She went on to earn a master's degree in Plant Physiology in 1972 at the University of Minnesota twin cities campus and later received her doctorate in 1987 from Michigan State University. She was, at the time of her death, employed as a forensic scientist for the Illinois State Police in the Chicago and Joliet labs.

The Biology Department is grateful to Barbara for her annual gifts to UMD Biology and especially thankful to Barbara and her mother, Helen Nygard of Cloquet, for these lasting gifts to Barbara's memory.



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Class of 19 \_\_\_\_ Class of 200 \_\_\_\_ EMAIL ADDRESS \_\_\_\_\_

UMD DEGREE  MS  BS  BAS  BA

WHAT'S NEW? (change of job, special recognition, family, civic involvement, travel, etc.)  
\_\_\_\_\_  
\_\_\_\_\_

TO

### The Life Scientist 2005

An annual newsletter for alumni, faculty, staff, students and friends of the UMD Biology Department

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