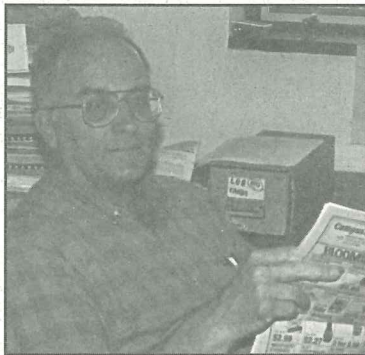


**GEORGE AHLGREN RETIRES**



At the end of Fall quarter, 1995, Dr. George Ahlgren will officially join the ranks of retired UMD faculty members. This marks the end of a long career which began and ended at the University of Minnesota

Dr. Ahlgren is a native of nearby Cloquet, Minnesota, where he graduated from high school, then spent several years as a laborer at the Wood Conversion Company (now USG) before being drafted into the army in 1952. Trained as a radio repairman, he served in Korea and was discharged in 1954.

George began his university training at UMD, where his interest in botany was stimulated by Dr. Olga Lakela. He transferred to the St. Paul campus of the University and received a B.S. degree in Agricultural Education in 1959 followed by an M.S. in Agricultural Botany in 1962 and a PhD in Plant Physiology in 1966. During those years as a student, he held appointments as research assistant, research fellow and instructor. It was here also where he met and married Elaine Komula, a UMD graduate and home extension economist from Wawina, Minnesota, and where the first two Ahlgren children, Valerie and Erik, were born.

Dr. Ahlgren joined the UMD Biology Department in 1966. He taught a variety of courses in the department including General Biology, Biology and Society for non-majors, Plant Physiology and Cellular Biology; the latter course he developed and taught for more

than 20 years. His research interests centered on wild rice, *Zizania aquatica*, and in collaboration with colleagues in the Biology department, he was involved in projects on the dormancy of wild rice grains and the tissue culture of wild rice embryos. From the mid-70's to mid-80's, Dr. Ahlgren served as graduate advisor for six master's thesis students including Helen Hanten, now also a retired UMD faculty member, David Ongaro, Robert Pillsbury, Terry Flum, Richard Subra and Lonnie Baumgart.

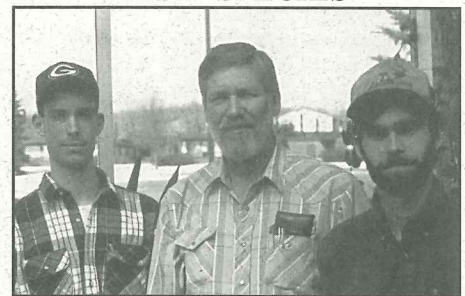
In Duluth, the Ahlgren family grew to five children, all of whom have now graduated from UMD. Valerie Patterson, a chemist for Minnesota Power, and her husband Darrell reside in Duluth. Erik is a lawyer in general practice in the twin cities. He and his wife Lisa are the parents of the Ahlgren's two year old grandson, Aaron, and are expecting another in July. Karl lives in Japan, where he teaches English, but he and his bride Yukie (married March, '95) returned to the U.S. for a visit this spring. Sarah and her husband Terry Bogie are both working in the twin cities. Anna, the most recent Ahlgren to receive her college degree, majored in English education and is currently substitute teaching, but is seeking a teaching position in the southwestern U.S.

Elaine and George have many shared interests which they are pursuing in their retirement. They have always been interested in their Finnish heritage, and continue to perform with a Finnish folk dance group, "Vihurit", translated as twirlers or whirlwinds, that performs in costume, at Iron World and other Finnish activities. Both Ahlgrens also belong to a mixed Finnish chorus and Elaine is active in an international Finnish organization, the Ladies of Kaleva. Many of these activities involve travel opportunities, for example, last June they traveled to Montana. When asked about other plans for his leisure years, Dr. Ahlgren spoke of gardening, home maintenance,

and possibly an addition to their small cabin on Linwood Lake, north of Duluth.

Whatever he chooses to do, the Biology Department faculty, staff and students wish him and his family the happiest and healthiest of retirements. Poik - "Onnellista uutta elämää hyvää ystävä ja virkaveli! Nakemiin! Tervetuloa takaisin - kahvi pata on aina kuuma!"

**RUFFE STUFF — GRAD STUDENTS STUDY EXOTIC FISH SPECIES**



L to R: Andy Edwards, Dr. Hollie Collins, Pat Brown

For the past few years, considerable local attention has been focused on the Eurasian ruffe, a small member of the perch family which has been found in the St. Louis River Estuary (SLRE). The ruffe, thought to have been introduced to the Great Lakes through ballast water discharge of international vessels, has apparently found a suitable niche in the cold waters of Lake Superior. The reason for all the fuss is that the ruffe is now the most abundant species in the estuary, and is a successful competitor for resources. It feeds voraciously on eggs and fry of native fish and enjoys some protection from predation because its strong, stiff dorsal fin rays make it difficult to swallow. Unfortunately, despite its abundance, the ruffe is too small to be sought by anglers.

Sampling programs for ruffe have been ongoing since 1989 by several agencies, including the Minnesota and

continued on page 2

## BIOLOGY DEPARTMENT FACULTY



**Front Row L to R:** V. Borden, L. Holmstrand, D. Christian, D. Schimpf, S. Hedman.

**Back Row L to R:** C. Firling, C. Belk, A. Klemer, J. Gunderson, M. Whiteside, R. Karim, H. Collins, G. Niemi, Q. Liu, A. Hershey, Z. Gagnon.

Continued from page 1.

Wisconsin DNR and the National Biological Service (NBS), formerly the U.S. Fish and Wildlife Service. The information collected is continually being added to the ruffe data base.

Two UMD Biology graduate students, Pat Brown and Andy Edwards, under the direction of their advisor Dr. Hollie Collins, have sampled and collected a variety of data on the ruffe since the spring of 1992. Adult and larval ruffe were collected at predetermined sites by trawling, using a variety of standard capture techniques.

Pat's portion of the study focused on the early life history of the ruffe, starting with the spawning period and the subsequent dispersal of the larval ruffe after hatching. According to his data, female ruffe spawned over a period of nine to ten weeks, when the water temperature was between 12-14 degrees C. Larval ruffe were captured in May in both '93 and '94 and were present through the first week of July. Larval ruffe are similar to other percid larvae, but can be distinguished on the basis of microscopic characteristics. There is some evidence to indicate that larval ruffe may make vertical migrations.

Andy used geographic information system (GIS) software to map the distribution and abundance of ruffe and 12 other species of fish in the SLRE. The maps were then examined for each species to identify trends in changing distribution or abundance over time. His findings showed that not only are ruffe firmly established in the estuary and upstream, but also their densities have increased since 1989. For other species,

the yellow perch and spottail and emerald shiners for example, densities declined, but distribution was not greatly affected. This may mean that some native species are capable of co-existing with ruffe throughout the system, but at reduced numbers. For others, such as the brown bullhead, densities declined dramatically and this decline was also accompanied by a major reduction in distribution. Species such as this may suffer greatly from the effects of ruffe increase.

Studies on the ruffe are progressing and will seek to answer questions about possible control techniques. But since the ruffe is apparently here to stay, the most important question might be how to slow its spread to other areas of North America and ultimately, what will be the impact on the freshwater fisheries.

### Biology Department STAFF

Ruth Hemming  
David Janssen  
Phyllis Jensen  
Mike King  
Nancy Kirsch  
Courtney Kowalczak  
Jason McCrea  
Bette McNamara  
Paul Mickelson  
Deb Shubat

### NEW FACULTY ENHANCE DEPARTMENT DIVERSITY

**Dr. Zophia Gagnon** joined the department faculty last fall in the plant physiology position. Dr. Gagnon holds a Ph.D. in Biology from Wroclaw University in Poland and M.S./B.S. degrees in botany from the University of Nicolaus Copernicus, also in Poland. She has held postdoctoral research positions at the University of London and at Michigan Technological University where she worked most recently as a research scientist and adjunct professor, teaching both graduate and undergraduate courses. She has published extensively, including papers on physiological responses of plants to ozone exposure, elevated CO<sub>2</sub>, nitrogen deposition and to electromagnetic fields. Dr. Gagnon's teaching responsibilities in the department, besides plant physiology, have included general botany and plant tissue culture. She has also been involved with undergraduate students in the UROP program.

**Dr. Qinqin Liu**, pronounced "chinchin", was born in China in the capital city of Qin Dynasty. She received an M.S. degree in biology from the University of Wisconsin, Madison and holds a Ph.D. from the University of California, Davis. She also has postdoctoral experience from the University of California, Berkeley. Dr. Liu's research in cell and developmental biology will be developed by combined approaches in cell, genetic, and environmental biology, using plants as the model system. Her teaching duties this past year have been in the course Plant Development and Structure. Qinqin says she is pleased to be in this "land of Snow White".

**Sabbaticals...**

Faculty members **Dr. David Schimpf** and **Dr. Randall Hicks** have been on sabbatical leave during the current academic year. **Dr. Schimpf** has been modeling evaporation rates for the northeastern Minnesota landscape, plus developing a field study of the ecological significance of Canadian yew. After participating with Russian scientists last summer on several research cruises, **Dr. Hicks** is spending his sabbatical leave at the Center for Microbial Ecology at Michigan State University.

**Dr. Don Christian...**

In addition to surviving his first year as department head, served on a statewide roundtable that formulated approaches and policy recommendations for forest management in Minnesota. Don is the program manager of a research project on brushland ecology and sharp-tailed grouse ecology that has been recommended for funding through the Legislative Commission on

Minnesota Resources. Along with Jerry Niemi and JoAnn Hanowski, he and several graduate students have continued to study birds and mammals on hybrid poplar plantations in western Minnesota, through projects funded by the U.S. Department of Energy and the U.S.D.A. Forest Service.

**Dr. Conrad Firling...**

was elected Secretary of the Biology Division at the National Conference of the Council of Undergraduate Research (UROP), held at Bates College, Lewiston, Maine.

**Dr. Raj Karim...**

chaired a session entitled "Antimicrobial Chemotherapy and Drug Resistance" at the Pakistan International Society for Microbiology (PSM) Meeting in Karachi, Pakistan in January of this year.

**Dr. Paul Monson...**

has received a certificate of appreciation for providing training in plant identification to U.S. Forest Service staff. He is also continuing to work on an assessment of plant communities bordering a stretch of Hwy.53 in northwestern Wisconsin. The project is funded by WI D.O.T.

**Jeff Gunderson...**

extension educator and professor with Minnesota Sea Grant, presented a paper on exotic species in February at the combined North Central and Ninth Annual Minnesota Aquaculture Conference and Trade Show in Minneapolis. He also attended the Zebra Mussels and other Aquatic Nuisances Conference held in Toronto, Ontario. Jeff is now affiliated with the Biology Department as part of an effort by the Minnesota Extension Service to develop stronger linkages between extension and academic departments.

**GRANTS AND PUBLICATIONS**

Research by Biology faculty and students has resulted in many recent publications. The following are some of these that were published during 1994. Due to space limitations, full citations are not included, and only co-authors linked to UMD Biology are indicated:

**Don Christian...**Perspectives on biomass energy tree plantations and changes in habitat for biological organisms, *Biomass and Bioenergy*, 1994 (coauthored with Jerry Niemi, JoAnn Hanowski, and Pat Collins; JoAnn and Pat received their B.S. and M.S. degrees in biology from UMD, as did Jerry, who later joined the faculty)

**Conrad Firling...**Aluminum effects on blood chemistry and long bone development in the chick embryo. *Archives of Toxicology* (one of coauthors is former biology student Theresa Hill).

**Anne Hershey...**Stable isotopes resolve the drift paradox for *Baetis* mayflies in an arctic river. *Ecology*, 1993. Long-term trends in an arctic ecosystem. Chapter in "Ecological Time Series" published by Chapman Hall, 1994.

**Randy Hicks...**Deposition, resuspension, and decomposition of particulate organic matter in the sediments of Lake Itasca, Minnesota, U.S.A. *Hydrobiologia*, 1994 (coauthors are former undergraduate student Chris Owen and former graduate student Peter Aas).

**Larry Hufford...**Shoot architecture and evolution of *Dicentra cucullaria* (Papaveraceae, Fumarioideae). *International Journal of Plant Sciences*, 1994 (lead author is current biology undergraduate student Gary B. Walton).

**Jerry Niemi...**Annual variation in bird populations of mixed conifer-northern hardwood forests. *Condor*, 1994 (coauthors include JoAnn Hanowski and Pat Collins).

Multivariate association of graph-theoretic variables and physicochemical properties. *SAR and QSAR in Environ. Research*, 1994.

Perspectives on biomass energy tree plantations and changes in habitat for biological organisms. *Biomass and Bioenergy*, 1994 (also cited above under Don Christian).

Experimental design considerations for establishing an off-road, habitat specific bird monitoring program using point counts. Chapter in "Proceedings of the

symposium on Monitoring Bird Population Trends by Point Counts," 1993 (JoAnn Hanowski is coauthor). Breeding birds of Rice Lake National Wildlife Refuge, Aitkin County. *Loon*, 1993 (JoAnn Hanowski is coauthor). Report of the international workshop on Molecular Similarity in Risk Assessment, 1993. EPA/CR Technical Report, 1993.

Biology faculty also were successful at obtaining grant funds to support their research and research-related activities. During 1993-94, biology faculty received approximately \$53,000 from university sources, including the Graduate School, Office of International Education, and institutional sabbatical funding. At the same time, faculty received 9 new or continuing grants totalling about \$659,000 from agencies and organizations outside the university. These grants do not include funding obtained by Jerry Niemi, who is a professor in the department but also is Director of Center for Water and the Environment at the Natural Resources Research Institute; the institute lays claim to funding he obtains!

## DAVID SCHIMPF NAMED NEW HERBARIUM DIRECTOR

David Schimpf, Associate Professor of Biology, has been named Director of the Olga Lakela Herbarium. He replaces Larry Hufford, who was director for three years and has since left UMD and moved to Washington State University. Dr. Paul Monson, now a retired biology professor, preceded Hufford, and served in the position since 1958.

"This is a new area for me, so it'll be interesting to learn about this, and to see what I can do to serve the public as much as possible with this facility," said Schimpf. When asked if he has any specific ideas or plans for the herbarium, he said "Well, we're looking into the possibility of expanding the size of the collection in the long-term, which would involve the need to install a compactor system." A compactor system would allow the addition of more specimens in the same amount of floor area.

The Olga Lakela Herbarium is located in Life Science 214, across the hall from the Biology Department office. It contains a collection of more than 40,000 museum specimens, mostly plant samples from the northeastern Minnesota region, although it also contains specimens from

other areas, Florida in particular. The herbarium holds an important historical record of the plants in Minnesota's past. Many of them are irreplaceable because their site of origin has been changed through such things as housing projects and highways, and so may no longer exist there. According to Gary Walton, a botany student who works in the herbarium, a few of the species found are not native to this area. It is believed that their seeds were brought over on European ships and later washed up on the shores of Lake Superior.

Part of the work done in the herbarium is microtechnique, a process of slicing plant specimens into thin sections of tissue that can be placed on glass slides, stained and examined under a microscope. Work is also done here in the area of landscape ecology, the study of the distribution of plants as related to soil types, land formations and water sources. Weed flora are also collected and documented, in an effort to trace their history and distribution within the region.

The herbarium is named for the

woman who founded it. Olga Lakela was a UMD Biology Professor whose plant collections make up the core of the herbarium holdings. She retired from UMD in 1958, but continued her work at the University of North Dakota and the University of South Florida. It was during this time that she accumulated the Florida plant samples that are now a part of the Olga Lakela Herbarium. Eventually she moved to Arizona, where she lived out her last years. Lakela's donations continue to support the herbarium today.

New director Schimpf believes that the Biology Department will be working much more closely with the Minnesota Department of Natural Resources in the near future. Until recently, the DNR concentrated its efforts on the southern and western portions of the state, but now there is new interest in the plant life of northeastern Minnesota. Schimpf believes that the herbarium will serve as an important resource for their studies.

(Permission to reproduce portions of this article granted by the *UMD Statesman*; original article by Karin Hill)

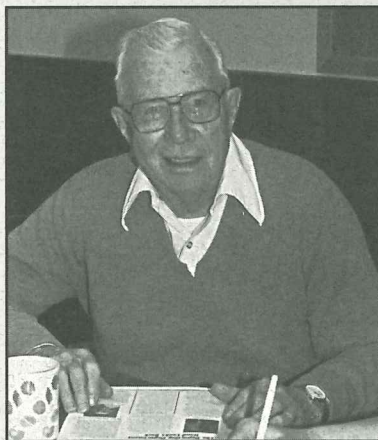
## First in a series.....VISIT WITH A PROFESSOR EMERITUS

Dr. Theron O. Odlaug retired from the Biology Department after serving UMD for 31 years, including 24 years as the head of the department. He actually began his career here at a time when the school was known as the Duluth State Teachers College. In his tenure in the Biology Department, he taught courses in Human Anatomy, Comparative Anatomy of Vertebrates, Animal Parasitology and Helminthology. In addition he served as advisor to hundreds of undergraduates and a number of Master's and PhD students affiliated with water quality investigation and techniques in the School of Public Health on the twin cities campus.

On a mild spring day last March, I was privileged to share a coffee break with Dr. Odlaug. Here is some of our dialogue:

QUESTION: When you first retired, what activities occupied your time?

DR. ODLAUG: "I spent about 7 or 8 years as a volunteer at St. Luke's Hospital, where I filed medical records. This lasted until I had cataract surgery and was no longer able to serve in that capacity."



Dr. Theron O. Odlaug

QUESTION: Have you and your wife Lucille done any traveling? Or is travel part of your future plans?

DR. ODLAUG: "Yes, quite a lot, actually, through the years. We've been to Australia and New Zealand; on a ship through the Panama canal and on to South America, and have walked on the Great Wall of China. Now we limit our travel to Seattle, Washington where our son Mike and his family are located, and to Minneapolis where our daughter Margaret lives."

QUESTION: What does your weekly schedule include now?

DR. ODLAUG: "I'm an active member of the Kiwanis Club of Duluth and my church, where I participate regularly in Bible study. I do a lot of reading (out of my "good" eye), and visit the library once a week."

QUESTION: What is your favorite topic for leisure reading?

DR. ODLAUG: "I like espionage, stories about Nazis, Russians..... I've read all of Tom Clancy's books, and since we now have a VCR, seen the video's too."

QUESTION: Are there some words which would describe or summarize your thoughts about your career at UMD?

DR. ODLAUG: "As I recall, it was a pleasure to come to work every day."

Dr. Odlaug and his wife Lucille still reside at 102 East Wabasha Street in Duluth, 55803. They would enjoy hearing from alumni and former students.

The tremendous recent upswing in activities and numbers of students - referred to in last year's newsletter - continued unabated this past year. Biology remains the largest undergraduate program at UMD. The number of graduate students has shrunk in the last year to a somewhat more manageable number, but the Biology Graduate Program remains one of the largest graduate programs at UMD. Providing high-quality lecture and laboratory education and research opportunities to so many students is indeed a challenge for faculty, staff, and administrators. Campus and collegiate administrators have been supportive in providing resources to hire temporary faculty and additional graduate teaching assistants and to purchase necessary materials so that we can offer more sections of some courses.

We keep striving to update our edu-

cational offerings to students. For example, this past year the department was able to purchase a number of new computers earmarked for classroom use. Mel Whiteside adopted a series of new exercises that integrated computer use into the general ecology laboratory course, which is required of all biology students. Alumni gifts also allowed us to purchase CD-ROMs of bird songs and identification which have received extensive use by students in the ornithology course taught by Jerry Niemi. This past year, the department made major revision in the general biology sequence, switching from the two-quarter sequence to a new three-quarter sequence (general biology, animal biology, plant biology) to begin in fall 1995. We continue to progress in developing a new undergraduate major program in cell biology, to be presented to the university's Board of Regents this coming fall. We plan to implement this new program beginning fall 1996.

The Biology Department continues to be one of the strongest research departments on the campus, as reflected by external grant funding, numbers of publications and presentations, and research-related service activities, and other measures. Other articles in this newsletter describe the variety of research projects conducted by biology faculty and their students. This research addresses a number of fundamental questions and problems in areas ranging from cellular biology to ecosystem functioning, as well as applied problems that are of important environmental significance to the state and the region.

The successful research activity in the department provides many opportunities for research by both graduate and undergraduate students. Many of our graduate students develop thesis research related to funded research programs of their advisors. Undergraduate students gain valuable research experience through projects that they develop in association with a faculty advisor, and through summer or academic-year employment on research projects in the department. Many biology undergraduate students have engaged in research supported by the UROP program (Undergraduate Research Opportunities Program) and advised by biology faculty. This experience has proven a tremendous asset to students as they move on to employment or graduate or professional programs. We believe that

the dual emphasis on high-quality undergraduate education and strong research programs is an important and largely unique hallmark of the biology program at UMD.

The support of friends and alumni continues to make a real difference in our efforts to serve students well, particularly when exciting growth and change in our programs coincides with an era of tightened funding for higher education. On behalf of the students, faculty, and staff in the department, I want to thank friends and alumni throughout the country for their generous contributions to the Biology Gift Account and the Jack Hargis Lecture Fund during 1993 and 1994. We deeply appreciate your philanthropy. These funds have supported the T. O. Odlaug Award for outstanding Biology majors (see page 10), this newsletter, and purchases of audiovisual equipment and computer software for use in our classrooms. We did not bring in a lecturer through the Hargis Lecture Fund last year, choosing instead to let funds accrue in that account.

Contributions may be made at any time to the Development Office, Darland Administration Building, UMD, Duluth, MN 55812, earmarked "Biology Department" or "Hargis Fund." Donations to the Hargis Lecture Fund are used solely to fund a lecture visit to UMD of a distinguished environmental scientist. The department uses contributions to the gift account for a variety of purposes closely related to the undergraduate educational mission, and for preparing this newsletter. Clearly, donors should feel free to earmark their gift for other, specific educational or research uses in the department. We remind you that many corporations and organizations will match individual donations to educational institutions, and urge you to inquire whether your employer will match a contribution you might make to UMD Biology.

On behalf of students, faculty, and staff in the department, I send you - our friends and alumni - the best wishes of the Department and our thanks for your continuing moral and financial support. I urge you to consider visiting the department when you are in the region so that you can see firsthand some of the changes in the department and some of the new activities in which we are engaged. Of course, we welcome a letter or card letting us know where you are and what you are doing.

### ALIENS ON CAMPUS?



No, the Biology Department has not been invaded by aliens. The white suit is just part of the new protection gear worn by members of the campus HAZMAT Response Team, while responding to a chemical spill in a biology research lab. Although the spill was not life-threatening, the team took the opportunity to turn it into a "major spill" training exercise.

The HAZMAT team consists of staff from the various science departments and personnel from the Health and Safety Department. Under the direction of Bette McNamara, the Biology Department continues to comply with safety regulations and health concerns through safety training, proper chemical labeling and storage, and hazardous waste management.



# Focus on:

## DEAD FISH IMPACT NORTH SHORE STREAMS

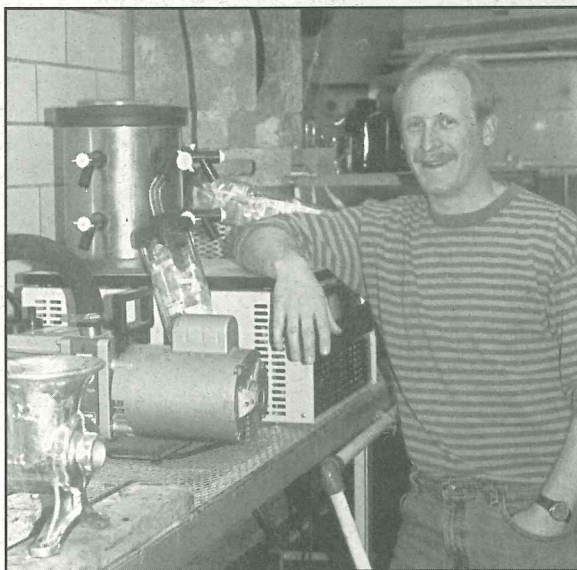
What could be more appealing to a young outdoorsman than an opportunity to pursue his education in the setting of lakes, rivers and streams in northeastern Minnesota? That scene is part of the magnet that drew Jeff Schuldt to UMD. A native of Faribault, Minnesota, and a graduate of Gustavus Adolphus College, Jeff was attracted by the ecological strengths of the Biology Department and the availability of water, necessary for his favorite pastime - fishing.

Jeff's master's thesis bears the lengthy title "Daily Ration Estimates for Young-of-the-Year Yellow Perch and Sunfish in Lake Itasca, Minnesota", and was completed under the direction of Dr. Melbourne Whiteside. That work was part of a study designed to assess the role of predation by young fish on populations of zooplankton. Jeff completed his study and received his M.S. degree from UMD. He then spent a year as an instructor at Gustavus, teaching courses in freshwater biology, animal behavior, vertebrate zoology and comparative anatomy.

Jeff returned to this area and is currently completing a doctoral project on the effects of salmon carcass decomposi-

tion in North Shore streams. This may, at first, seem to be a strange subject for study, but because thousands of salmon enter the North Shore streams to spawn each fall, then die, their collective decomposing carcasses impact the nutrient base of the stream. Inhabitants of the Life Science Building during the last several years also have been keenly aware of the malodorous presence of Jeff's samples - his work was dubbed by other graduate students the "stinkiest project". In the picture accompanying this article, Jeff can be seen next to a freeze-drying apparatus, used to prepare samples for weight and nutrient loss resulting from carcass decomposition.

Working under major advisors, Dr. James Perry of the Department of Forest Resources on the St. Paul campus and Dr. Anne Hershey of the UMD Biology Department, Jeff is also advised by Dr. Ken Brooks and Dr. Thomas Burk of Forest Resources and Dr. Gerald Niemi of the Natural Resources Research Institute (NRRI). His program is a good example of the cooperativity of units within the University of Minnesota system.



## GIFTS AND DONATIONS

Our records show that the following alumni and friends made a donation to the Biology Gift Account or the Jack Hargis Lecture Fund during 1993, 1994, or during both years. We deeply appreciate their generosity and thoughtfulness.

- Sheila R. Arimond, Hibbing, MN
- Roger K. Aronson II, Minneapolis, MN
- David Bearman, Memphis, TN
- Thomas E. Becker, Clive, IA
- William J. Bellamy, Duluth, MN
- Edward T. Bersu, Madison, WI
- Jon C. Birch, Durhamville, NY
- Beverly J. Cackoski, Hibbing, MN
- Anne F. Dehring, Madison, WI
- Margaret T. Dooley, Tuttle, OK
- Mary L. Ebert, Cincinnati, OH
- David M. Egan, Champlin, MN
- Joy and Scott Eskuri, Rochester, MN
- Mitchell D. Forstie, Odin, MN
- Maureen J. Frikke, Salt Lake City, UT
- Helen B. Hanten, Duluth, MN
- Bruce Highland, Jr., Two Harbors, MN
- Julie M. Hustad, Fayetteville, NY
- Cynthia & Gary Johnson, Northford, CT
- Donn & Paula Johnson, Fayetteville, AR
- Julie and Daniel Jordan, Hibbing, MN
- John and B. J. Kohlstedt, Finland, MN
- Edward R. Lance, Rochester, MN
- Philip D. Loucks, Longwood, FL
- David C. Lurye, Winter Park, CO
- Joseph Mayasich, Cloquet, MN
- Beth A. Middleton, Carbondale, IL
- Rodney C. Mowbray, La Crosse, WI
- Barbara A. Peterson, Cocoa Beach, FL
- Margery M. Salmon, Cuttingsville, VT
- Mark S. Schaberg, Maplewood, MN
- David J. Schimpf, Duluth, MN
- Daniel R. Sherry, Ellsworth, WI
- Lorinda J. Stevens, Lakeville, MN
- Gayle E. Stroup, Duluth, MN
- Richard Subra, Duluth, MN
- Margaret B. Thomas, Duluth, MN
- Hans J. Trieselmann, Hibbing, MN
- Timothy S. Velner, Duluth, MN
- Paul and Janice Wicklund, Wayzata, MN
- Steven J. Wilkowski, Aitkin, MN
- 3M Foundation, Inc., St. Paul, MN



**Kathryn (Kitty) Gronlund** was selected to receive the OUTSTANDING GRADUATE TEACHING ASSISTANT AWARD for '93-'94. Kitty taught laboratories in General Biology, Human Anatomy and Genetics of Prokaryotes. She also has served as an Research Assistant, currently working with Dr. Lester Drewes in the medical school. Upon graduating this spring, Kitty plans to pursue a degree in teaching at the college level, and has several applications submitted to colleges in the southeastern U.S.

### 1994 BIOLOGY GRADUATES *Master of Science Degree*

Carol A. Willis Pearson, Prior Lake, MN  
Oksana Piterman  
Elizabeth A. Schneider, Inver Grove Heights, MN  
Anne E. Sigford  
Daniel T. Weaver, Duluth, MN

### *Bachelor of Science Degree*

John D. Anderson, Duluth, MN  
Adam C. Ankrum, Little Canada, MN  
Christopher J. Bell, Bloomington, MN  
Katherine A. Bell, Wyoming, MN  
Brenda A. Bergquist, Lindstrom, MN  
Joshua M. Brekken, Crookston, MN  
Daniel M. Bronson, Duluth, MN  
Lori J. Collins, Duluth, MN  
Mya Lisa Crotty, Duluth, MN  
Charisse I. DeGeer  
Danielle L. Downey, Rapid City, SD  
Eric C. Engstrom  
Glenn A. Gehrke, Fridley, MN  
Kimberly Gemlo, Spring Lake Park, MN  
Tracy A. Giller, Luck WI  
Matthew A. Greuel  
Eric M. Groth, Roseville, MN  
Tracy L. Hartwig, Austin, MN  
Christina M. Heintz  
Lisa D. Held  
Amy K. Hilde  
Jamie D. Hoerter  
Joy A. Hyytinen, Aitkin, MN  
Lori R. Johnson, St. Cloud, MN

Jamie L. Juenemann, Two Harbors, MN  
Penny S. Juenemann, Amboy, MN  
Steven P. Karg, Isle, MN  
Hollie A. Kitterman, Max, MN  
Robert M. Konen, Hibbing, MN  
Darlene R. Kukanich, Eagle River, WI  
Tyler J. Lampella, Palo, MN  
Leslie R. Laznicka, Warroad, MN  
Chadwick P. Lehman, Luck, WI  
Jamie A. Lehti, Wright, MN  
Laurie A. Lennartson  
Gregory P. Mattsen, Eveleth, MN  
JoEllen M. Meier, Fargo, ND  
Melissa R. Miller  
Nicloe F. Misuraco, Ironwood, MI  
David D. Mullen, Toronto, Ontario  
Darcee K. Munsterteiger, Ogilvie, MN  
Bruce A. Myers, Bradley, IL  
Tim A. Nordlof, Baudette, MN  
Matthew R. Oakes, Bloomington, MN  
Robert P. Olson, Two Harbors, MN  
Vicki M. Otis, Rochester, MN  
AnneMarie S. Palm, Hoyt Lakes, MN  
Geoffrey M. Petkovich, Toronto, Ontario  
Ann L. Ploetz, Boy River, MN  
Shannon M. Redmond, Hayward, WI  
Kari A. Retzer, Superior, WI  
Robyn M. Richie, Duluth, MN  
Roger D. Riley, Montevideo, MN  
Tammi K. Roalstad, Kiester, MN  
Jay O. Sandal, Coon Rapids, MN  
Carl N. Sandness, Princeton, BC  
Todd A. Schad, Oxford, WI  
Monica R. Scheflo, Bottineau, ND  
Jesse D. Schomberg, Fairmont, MN  
David J. Schornstein, Cambridge, MN  
Christopher T. Siewert, Winona, MN  
Jeffrey P. Smith  
Beth L. Sommers, Glencoe, MN  
Thomas A. Spizzo, Breezy Point, MN  
Alyson L. Thomford, Zumbrota, MN

Roberta L. Turnwall, Chanhassen, MN  
Amy Jo Underberg, Crystal, MN  
Darren J. Vogt, Hibbing, MN  
Scott D. Wahnoutka, Eden Prairie, MN  
Timothy Zensen, Inver Grove Heights, MN

### *Bachelor of Applied Science*

Michael D. Andres, Roseville, MN  
Brenda A. Bergquist, Lindstrom, MN  
Keith E. Camburn  
William R. Crandall, Duluth, MN  
Diane M. Grell, Duluth, MN  
Kent E. Johnson, Hermantown, MN  
Martin E. Johnson  
Penny S. Jeunemann, Amboy, MN  
Kara C. Kinzel, Brainerd, MN  
Brian R. Lokken, Maplewood, MN  
Gregory P. Mattsen, Eveleth, MN  
Deborah M. Nyquist, Duluth, MN  
Carl N. Sandness, Princeton, BC  
Mark P. Schlangen, Richmond, MN  
Bradley L. Takkunen  
Daniel G. Trockmen, Golden Valley, MN

### *Bachelor of Arts*

Michael D. Andres, Roseville, MN  
Kari C. Ellingson, Ashby, MN  
Kevin P. Frank  
Julie A. Hoeft, St. Louis Park, MN  
Kara C. Kinzel, Brainerd, MN  
Patricia J. Kuka, Lakeville, MN  
Tamara L. Larson, Morris, MN  
George A. Olson

## SIGMA XI PRESENTS ELEVENTH ANNUAL POSTER SESSION

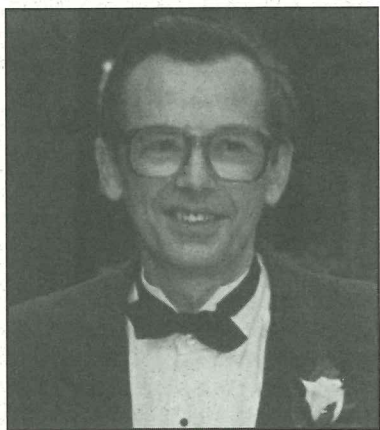
In February, the UMD chapter of Sigma Xi held a four day poster exhibit in the atrium of the School of Medicine. Sigma Xi is an honor society for research scientists with 120,000 members



across North America and abroad. Broad goals of the organization are to advance scientific research through the understanding of science and to ensure companionship and cooperation among scientists in all disciplines. The UMD chapter of Sigma Xi has about 120 members and represents researchers from UMD and area colleges and universities mainly in the areas of

Biology, Chemistry and Medicine. This years exhibit, co-sponsored by NRRI, featured 26 posters, each focusing on a specific research project. Participating Biology Department faculty included Anne Hershey, Randy Hicks and Conrad Firling, together with undergraduate and graduate students, some of whom are pictured above.

## FACE FROM THE PAST...



If you were on campus between the late 50's and mid 80's, you may remember Walter Fluegel, who always wryly introduced himself as the Biology Department's micro(small)biologist. He was involved in teaching a variety of courses including microbiology, chronobiology and several general classes. Mr. Fluegel and his family moved to the twin cities in 1985, following the budding career of his wife, Maxine, in the field of home decorating. Today they live in northeast Minneapolis and have remodeled a 1930's vintage tudor house to its former elegance. Mr. Fluegel has a "studio" where he paints from his photos. Always a photography buff, he enjoys the contacts with a local camera club and works "on assignment" for his daughter, Margo, who owns two community newspapers in north Minneapolis. The Fluegel's son Grey and his family also live and work in the area.

## BIOLOGY GRADUATE STUDENTS

**Shane Yokom**, a 1992 graduate of Michigan Technical University, has been working with Drs. Rich Axler and Mike McDonald on issues relating to aquaculture. He recently gave a presentation entitled "Recovery of a Mine Pit Lake Following Removal of Aquaculture Loading: Observed Changes and Model Predictions" at the North American Lake Management Society Symposium in Orlando, Florida.

**Richard D. Gitar** is a lecturer at the University of Wisconsin- Superior and a graduate student working with Dr. David Schimpf. He has concentrated his research on collecting and identifying the vascular flora of Gooseberry Falls State Park. As well as creating a herbarium record of these plants, Rick hopes to identify their ethnobotanical importance.

**Joan Weyandt-Fulton** has about "ten million pages of data" for analysis, but hopes to finish in the Spring of 1995. Her work, culminating in a thesis entitled "Vegetation Composition and Mineral Nutrition in an Ombrotrophic Bog Receiving Wastewater Effluent" will be used to assess impact on a wetland used by the city of Biwabik to polish its wastewater. Joan works with Dr. David Schimpf.

**Kathryn Gronlund** recently gave her graduate seminar on "The Distribution of GLUT3 in Rat Brain." Kitty presented results from this work, with Dr. Richard Leino of the UMD School of Medicine, at the Human Disorders of the Blood-Brain Barrier Conference in Chicago, Illinois in November of 1994. Her future plans include finishing two manuscripts based on her research results, and looking for employment at a community college or research lab.

**Jay Sandal** is just completing his first year as a graduate student, after finishing his undergraduate degree at UMD. Working with Dr. Mel Whiteside, Jay will concentrate on providing additional scientific information for the Superior Lakewatch Project. He is currently refining his research plans for the summer of 1995.

**Tamara Swanson** is a 1993 graduate of Northland College, in Ashland, Wisconsin. She works with Dr. Carl Richards of NRRI on aquatic invertebrates and benthophagous fishes of the St. Louis River. After completing her coursework in the spring of 1995, Tamara plans to finish identifying aquatic invertebrates from her 240 mud samples, finish her thesis, and begin a job search for a position as a fisheries biologist or researcher.

**Amy Fisher Wold** has finished and defended her thesis entitled "The Effects of Salmon Carcass Decomposition on Periphyton Growth, Aufwuchs Growth, and Wood Decomposition." She will present a portion of her results at the North American Benthological Society Meeting in Colorado in June of 1995. Amy is currently teaching at Duluth Business University, and is searching for other teaching opportunities at the college level. Amy's advisor is Dr. Anne Hershey.

**Andy Wold** is finishing his second year working under the direction of Dr. Anne Hershey on "Seasonal Nutrient Limitation in Six North Shore Tributaries to Lake Superior." A graduate of Luther College in Decorah, Andy longs for the Upper Iowa River, but thinks North Shore Streams are "okay." Andy will also present his research

results at the 1995 North American Benthological Society Meeting in June.

**Frank Kaszuba** has focused his research interests on fine particulate matter in a river near Toolik, Alaska—the LTER site for Arctic research. Before coming to UMD, Frank earned a B. S. in Biology and Geology from Beloit College, and worked as a Geologist for an Alaskan gold mine. He will present his research at the 1995 North American Benthological Society Meeting, and then return to the Toolik station this summer, to continue research led by Dr. Anne Hershey.

**Tyler Lampella**, another Toolik veteran, began his first year of graduate school in 1994. As a UMD undergraduate, he presented research done on FPOM (fine particulate organic matter) in Arctic Alaska at the North American Benthological Society Meeting in Orlando, Florida in 1994. He plans to return to Alaska again this summer, to work on his thesis research, and other projects, under the direction of Dr. Anne Hershey.

**Sarah Crawford** completed field work in the summer of 1994, and plans to finish her thesis entitled "Small Mammal Distribution and Abundance in Hybrid Poplar Plantations" after ironing out the statistical analysis. Sarah has been a teaching assistant and a research assistant for her advisor, Dr. Don Christian, during her two years at UMD. She will sample small mammals for the Minnesota County Biological Survey during the summer of 1995.

**Michelle Barlow**, a 1990 graduate of Colorado College and a native of Wyoming, has been working with Dr. George Host of NRRI. Her thesis work consists of analyzing forest vegetation data to create maps that will be examined for their utility in predicting forest bird community attributes. After completion of her degree, Michelle hopes to find employment as a Natural Resource Manager.

**Cindy Hale** has completed her field work, and is concentrating on data analysis. Working with Dr. John Pastor of NRRI, Cindy is investigating forest ecology in her work: "Decompositional Pathways of Hollow Vs. Solid Logs—Red Oak and Sugar Maple. This is research conducted in the context of a larger study that is designed to quantify structural and compositional characteristics of old growth vs. mature hardwood forests. Cindy has presented findings from 1993 and 1994 at the Special Features/Research in Chippewa National Forest Seminar in 1994.

**Lisa Schulte**, a native of Eau Claire, Wisconsin, is studying birds of



the Tower Burn Area, and nearby clearcut areas, to determine the effects of anthropogenic forms of disturbance on bird populations. Working with Dr. Gerald Niemi of NRRI, Lisa plans to spend another summer collecting data. Her career plans include obtaining a Ph. D. in Ecology, and teaching at a small college or university.

**Anne Gingery** is currently working with Dr. John Pastor at NRRI, studying microbial decomposition. She plans to complete her degree in the spring of 1995, after which she will pursue a Ph. D.

**Pat Brown** is in the process of finishing his work with Dr. Hollie Collins on "The Early Life History of Ruffe in the St. Louis River." A graduate of Northland College, Pat plans to continue work in fisheries management or research after completing his thesis.

**Andy Edwards**, a Missouri native and student of Dr. Hollie Collins, is also completing research on the St. Louis River Ruffe project. Andy has monitored spatial and temporal changes in the distribution and abundance of Ruffe and native fishes through the use of a Geographic Information System (GIS). After finishing in spring of 1995, Andy hopes to land a position in fisheries management.



**Cathy Podeszwa** is finishing her thesis project on movement patterns of small mammals in a hybrid poplar/woodland/grassland landscape mosaic. A 1988 graduate of Carleton College, Cathy came to UMD to study small mammals after discovering the magic of voles in Dr. Don Christian's Mammalogy course at the Lake Itasca Forestry and Biological Station. She will be presenting a poster at the U. S. Meeting of the International Association for Landscape Ecology in April of 1995.

**Jeff Schuldt** and his UMD advisor, Dr. Anne Hershey, will publish a paper—"Impact of Salmon Carcass Decomposition on Lake Superior Tributary Streams"—in the Spring 1995 issue of the Journal of the North American Benthological Society. Jeff is

dividing his time between finishing his Ph. D. and working with Drs. Rich Axler and Mike McDonald on aquaculture at NRRI. He will present a portion of his research at the 1995 North American Benthological Society Meeting in Colorado.

**Charlie Barnes** started his first year as a graduate student in 1994, after working in medical research in the twin cities. He plans to investigate the fungal spores present in vole feces. Working with Dr. Don Christian, Charlie hopes to successfully germinate these spores, showing that they are still viable after passing through a rodent gut.

**Kate Michmerhuizen** is completing her thesis on "Potential Methane Emission From North Temperate Lakes at Spring Ice Melt." She is a graduate of Lawrence College, in Appleton, Wisconsin, and works with Dr. Mike McDonald. Kate has secured a research position with the U. S. Geological Survey, and will relocate to Denver, Colorado in June of 1995.

**Joe Whittaker** has completed his M. S. degree at UMD under Dr. Don Christian. He is currently pursuing a Ph. D. at Southern Illinois University, studying shrews.

**Mark Nelson** is investigating small mammal use of hybrid poplar plantations and adjacent croplands and grasslands with Dr. Don Christian. Before coming to UMD in 1993, Mark worked on a wide range of projects, including sea lamprey control in Wisconsin, small mammal work in Michigan, and spotted owl work in the Pacific Northwest.

**Chris von Rabenau** received his B.S. at UMD in 1994, and is continuing work with Dr. Don Christian on small mammal abundance in St. Louis County. Chris is employed as a teaching assistant in the Biology Department, and as a manager at the Whole Foods Co-op in Duluth. As a representative of the Co-op, Chris has taken active part in getting a labeling law passed—identifying milk products from cows that have been treated with the synthetic Bovine Growth Hormone (BGH).

**Randy Hedin** is a research assistant working with Dr. Andy Klemer. His work includes investigation of how nutrient supply affects blue-green algal growth rates and competitive abilities. Randy is a native of Two Harbors and received his B.S. degree at UMD in 1991.

**Paula Holter** received her B. S. degree from St. Scholastica, and is currently working with Dr. Lillian Repesh from the UMD School of Medicine. Her work, entitled "Effects of Transforming Growth Factor Beta on the Adhesion,

Migration and Invasion of High and Low Metastatic Variants of a Murine Melanoma in Response to Type IV Collagen and Peptide IV-H1," continues the work done by former UMD Biology Graduate Student, Karen Ellingson.

**Denise Mayer** works with Dr. Randy Hicks and Lyle Shannon on the effect of introduced bacteria on mortality of bacterioplankton. A resident of Superior, Wisconsin, Denise also plays violin in the Duluth-Superior Symphony Orchestra.

**Kathy Mayo**, a graduate student working with Dr. Mike McDonald, will finish her coursework in the spring of 1995. Her thesis project: "A Test in Experimental Management: Use of a Bioenergetics Model to Evaluate a Top-Down Control Strategy" evaluates the DNR strategy for controlling River Ruffe in the St. Louis River. Kathy works for the National Biological Service in Ashland, Wisconsin.

**Dave Pascoe** presented results from his thesis, "Genetic and Metabolic Similarities of Bacterioplankton of the North American Great Lakes," at the American Society for Microbiology Meeting in Las Vegas in May of 1994. Dave will continue work with Dr. Randy Hicks during the summer of 1995, and investigate Ph. D. programs.

**Mark Tapper** finished his graduate work, under the direction of Dr. Randy Hicks, in winter of 1995. His thesis dealt with the "Abundance of Free Viruses in Lake Superior and the Induction of Temperate Phage by Mitomycin C and UV Light." Mark is currently working at the EPA in Duluth.

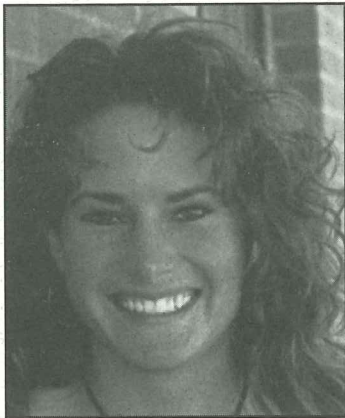
**Tammy Rieber** works with Dr. Andy Klemer on buoyancy of algae as related to phosphorus enrichment. Tammy is a second-year graduate student.

**Ann Thering** is currently working full-time at WLSSD. She is completing her thesis work on wetlands under the direction of Dr. David Schimpf.

**Tim Fenske** earned his B. S. at University of Wisconsin-Madison, and now works with Dr. Gerald Niemi of NRRI. He recently gave a slide-lecture at the Duluth Audubon Society meeting entitled "Nest Predators of the Chippewa National Forest."

**John Terwilliger** is an Ely resident working with Dr. John Pastor of NRRI. His research interests include colonization of beaver meadows, and small mammal-mycorrhizal fungi associations.

Other Biology Graduate Students include **Steve Garske, Scott Stai, Michele Hughes, Kurt Johnson, Paul Tucker** and **Fred Asare**.



## SENIOR SPOTLIGHT

by Heather Elton

Do you recall the first day of your college career? For some students, breaking away from parental ties and developing their own identity brings on eager anticipation of the future. For others it symbolizes a distressing departure from family and friends, an entrance into the frightening world of independence. We made some very important decisions as freshmen, and now as college seniors, we have arrived at another intersection and need to decide which way to turn.

**Michelle Arnt** will receive her B.S. degree in Biology this spring. She represents a portion of graduates that have chosen to continue their education in graduate school. Michelle became interested in pharmacology research after working on a UROP project with Dr. Jean Regal of the UMD Medical School. She travelled to Atlanta, Georgia in April to present her findings at a national meeting of experimental biologists. Michelle has not chosen a graduate school, but is interviewing at several universities across the country. She hopes to earn her Ph.D. in pharmacology and to eventually conduct research for a pharmaceutical company.

Other graduates are postponing their academic lifestyles. **Tina Bertrand** and **Craig Peterson** are following this route. Tina plans on taking a year off to gain experience working in a hospital before applying to graduate school. She would like to earn a master's degree as a physicians assistant. She will be applying to several graduate schools including Denver, Iowa and Illinois. Craig is interested in the area of cell and molecular biology, sparked by a UROP project with Dr. Jon Holy. His long-term plans are either to teach in that area or to pursue a PH.D. and possibly work in industry.

**Hope Book**, like many other graduates, is ending her formal education with a B.S. degree in Biology. She says, "I'm ready to learn by hands-on experience rather than going back to the class-

room." She has added an exciting dimension to her biology background, that of photography. Hope would like to pursue a career in taking textbook photos. Her immediate plans involve traveling overseas for more learning and for relaxation.

Still other students are planning to use their college degree for "insurance" or for a backup plan. **Jennifer Olin**, who also graduates this spring, plans to own and manage a chain of gift stores and art galleries. She begins work in June as the first step in reaching that goal, but will always have her degree to fall back on.

Now that a fraction of life's arduous decisions have been made, graduates will take another step on the path to success. After graduation, it's time to start the journey again - whether its going to be new classes and new faces, or plunging into the job market. A final thought....keep in mind that you're in the driver's seat and anything is possible!

## BIOLOGY CLUB

by Heather Elton

The kick-off for the Biology Club's '94-'95 season was a combined mixer and election meeting. More than 50 students signed up and elected the following students as officers for the coming year: President - Kevin Hinton; Vice-President Kraig Larson; Secretary - Katie Kalka; Treasurer - Kaci Goldman; and Historian - Heather Elton. Dr. Don Christian will again serve as the faculty sponsor.

Although primarily a social club, the Biology Club has objectives other than fun. The club promotes interactions between students and faculty by inviting faculty members to club functions, in an attempt to dispel the usual intimidation felt by students toward their professors. The club meeting room in LSci 235 provides opportunity for Biology students to form study groups and share resources such as study guides and old tests. A meeting and/or social function is held once each month.

Among the most recent activities was a trip to the Minnesota Zoo, where members enjoyed a "behind the scenes" tour of the facilities. In December, club members were awed by the bowling skills of Dr. Christian, in what turned out to be a fun bowling/pizza party at Skyline Lanes. A variety of social activities are in the planning for this spring, including a camping trip, a picnic, and possibly a visit and tour of the Minneapolis campus.

The Biology Club is continually



Biology Club Officers 93-94

involved in fundraising activities, this year starting with a jewelry sale in December. An ongoing weekly endeavor is to bake and provide cookies for the departmental seminars. Spring fundraising plans include a car wash and sale of boxer shorts with an environmental theme..

As always, students interested in the Biology Club are encouraged to visit the clubroom, LSci 235, where officers and members will gladly answer questions and provide arrangements for membership.



Biology Club Officers 94-95

## T.O. ODLAUG AWARD

**Cammie Wendling** is the recipient of the '93-'94" Odlaug Award, and has been presented with a reference book of her choice. The award is given annually in honor of a longtime former department head (see "Visit with a Professor Emeritus" in this issue). Cammie exemplifies the qualities of scholarship, leadership and service to the department. She is currently in her first year of medical school on the Minneapolis campus where her focus is on family medicine. Besides her studies, she is involved in a research project at the Hennepin County Hospital emergency room, studying hemorrhages in the subarachnoid layer of the brain.

## UROP AWARD WINNERS

UMD's Undergraduate Research Opportunities Program (UROP) is a competitive program offering financial assistance to high-ability undergraduates for research or other scholarly projects performed under the mentorship of a faculty member. Faculty sponsors assist UROP students in developing research skills, often as part of their own ongoing research. Through this interaction, students gain experiences that classroom activities cannot duplicate and gain a better understanding of an academic discipline. During the past year, nearly \$50,000 was made available to CSE students who wished to apply. Biology award winners, along with the title of the research project and the faculty advisor are listed below:

**Kristina Bertrand** (Dr. D.P.

Christian) "Relationship between heavy metal levels in small mammal tissues and fungal consumption"

**Aaron Johnson** (Dr. M. Raj

Karim) "In vitro effect of six different plant extracts on HSV-1"

**Shara Johnson** (Dr. M. Raj Karim)

"Synergistic effect of three plant extracts against HSV-2 in VERO and Hep2"

**Ashley Moerke** (Dr. A. Hershey)

"Melanadin ingestion by larval black flies"

**Shao-En Ong** (Dr. C. Firling)

"Effects of aluminum on vitamin D levels in developing chick embryos"

**Patrick Shannon** (Dr. Z. Gagnon)

"Effect of interacting ozone and elevated CO<sub>2</sub> on conductance of white pine"

**Nathan Swanstrom** (Dr. C.

Firling) "Collagen levels in aluminum treated embryonic chicks"

**Matthew Thompson** (Dr. M. Raj

Karim) "Effects of absinthe, borage, mastic, rose, cardamon, and jadwar on herpes simplex virus type two in vitro"

## ALUMNI NEWS

**Roger Aronson** ('89) graduated from U of M Medical School and is entered in the Pediatric Residency Program at the U of M hospitals.

**Arne Nystuen** ('93) is in the second year of the genetics Ph.D. program at the U of Iowa. He is working in the Cooperative Human Linkage Center in Iowa City.

**Susan Erredge** ('77) has been certified by the American Board of Podiatric Surgery and the American Board of Podiatric Orthopedics. She is in practice in Moline, IL.

**Bernard Erickson** ('87) completed a residency in internal medicine at the U of M and has accepted a cardiology fellowship at Cleveland Clinic.

**Marlys (Reuvers) House** (M.S. '93) is



## Focus on:

Shara Johnson is one of the Biology Department's outstanding graduating seniors. Besides excelling in her academic work, she has an impressive list of accomplishments and awards, plus a busy schedule of extra-curricular activities. A Biology major with an English minor, she has been a member of Phi Kappa Phi for the past two years and is the recipient of the Biology Department's Odlaug Award for 1995.

Shara was part of a group presenting a poster on nutrient deprivation in *Pseudomonas* at the Sigma Xi exhibit and presented the results of that work also at the Minnesota Academy of Science meeting in the spring of '94 and the UROP Conference this past spring. In April she attended the Academy meetings again, this time with a UROP project which studied the in vitro synergistic effects of certain plant extracts on the herpes simplex virus in humans.

Throughout her college years, Shara has had a strong commitment to serving others. She coordinated tutoring of high school dropouts seeking a GED at the Youth Opportunity Center, served as a Women in Science and Engineering mentor, and has volunteered at St. Luke's Hospital, the UMD Life Fitness Program and the Super Cities walk for Multiple Sclerosis. In addition, she is currently the President of the UMD PreMed Association, this year organizing a very successful preparatory programs seminar for club members.



Shara Johnson

A variety of other interests and hobbies round out Shara's life. She is an outdoor enthusiast, taking part in camping, windsurfing, rock climbing and biking activities. This summer she will run her third consecutive Grandma's Marathon race and compete in her first four day Border to Border Triathlon across the State of Minnesota. Besides all this, she finds time to enjoy reading and to attend music and theater events.

This fall, Shara will be starting her first year of medical school at UMD. Her long-range goals are to be a rural family physician, while keeping active in the field of medical research. Congratulations, Shara, and Good Luck!

a high school teacher in Eagle, Alaska. She teaches U.S. History, Computer Applications, Applied Biology and Chemistry, U.S. Literature, Health/P.E. and Science 5-8. She was chosen to help develop school district goals for Alaska 2000.

**Guy Farish** ('85) has completed a Ph.D. in Biology at the U of North Dakota. He currently is teaching introductory biology at UND and continuing research on maize embryo development.

**Brian G. Johnson** ('91) is in his fourth year at Johns Hopkins University School of Medicine.

**Julie Boyden** ('93) is an Environmental Analyst for the Minnesota State Department of Health.

**Connie Lutkevich** ('92) is a class of 1997 medical student at the U of M Medical School in Minneapolis.

**Ray Hepburn** ('85) supervises the quality control lab of Bacardi and Co. in the Bahamas. He is also a minister of the gospel of Jesus Christ at his local church.

**Dan Bronson** ('94) is enrolled in a master's program in wildlife management at St. Cloud State U. He is working on a project involving Lyme disease in red squirrel's.

**Julie (Kelm) Taffe** ('90) has returned to Duluth after three years of employment with Mycogen Plant Sciences of Prescott, Wisconsin, doing electrophoresis and gas chromatography work.

**Kevin Nelson** ('79) is a Health Physics specialist at 3M in St. Paul.

**Kelly Jewett** ('84) has completed her Family Practice residency in St. Paul and spent time working on a Navajo reservation in New Mexico.

Winter '95  
the Life Scientist

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Class of \_\_\_\_\_

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\_\_\_\_\_

UMD Degree (M.S.,B.S.,B.A.S., B.A.) \_\_\_\_\_

What's News? (Promotions, special recognitions, change of job, civic involvement, family,  
research activity, travel, etc.)

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