



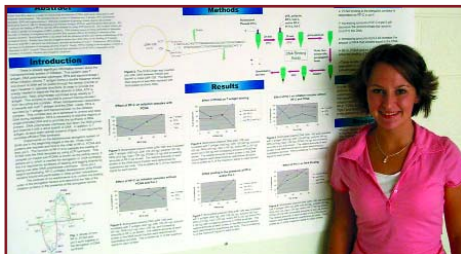
The Department of Biological Sciences

The University of Delaware

December 2004

Greetings from the Chair

It's been another great year for the Department of Biological Sciences. We have introduced current research problems into our undergraduate laboratory experiences and our students are enjoying the experience of being part of the "real" scientific process. Undergraduate researchers in our program again walked away with multiple awards at national meetings reinforcing the notion that the University of Delaware is now among our nation's elite in providing undergraduate research experiences. These programs continue to receive support from the Arnold and Mabel Beckman Foundation, the Howard Hughes Medical Institute and the NIH-funded BRIDGES minority research program. Funding is complemented by several sources from the University of Delaware as well as the nationally recognized research programs of our faculty that brought in over \$10,000,000 of grant support during this past year.



Undergraduate Allison Wojcik with her poster at UD's Summer Undergraduate Research Symposium in August

We have enjoyed continued growth in the quantity and quality of our undergraduate majors as well as our graduate student population. Our graduate students also are receiving national recognition for their discoveries both in the form of peer-reviewed publications as well as recognition at national meetings. It has been gratifying to all of our faculty members to watch the tremendous synergy between our undergraduate and graduate training programs. This has fostered a robust and stimulating intellectual environment where concepts learned in the classroom are rapidly translated into new discoveries.

Major training grants from the National Institutes of Health and National Science Foundation provide support for these outstanding graduate students who, upon graduation, are moving on to fellowships at premier research institutions throughout the world. While Delaware may be small in size, it is developing a large reputation in the biological sciences arena!

Drs. David Sheppard and Roger Wagner have announced their plans to retire after this year. Dr. Sheppard has been a mainstay in teaching our challenging genetics lectures and labs. Dr. Wagner has lent his rigorous and discriminating eyes to teaching of our histology and anatomy courses. The service, advice and interactions of these colleagues will be missed by all. We wish them both the very best in their new endeavors.

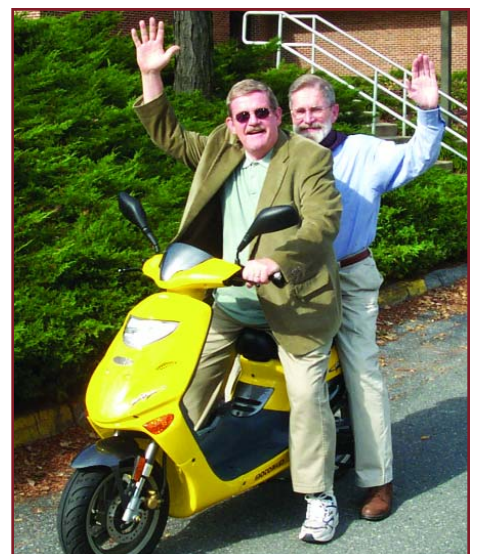
During this next year, we look forward to continued refinement of our curriculum, recruitment of new faculty members and further improvement of our facilities. A major renovation of our animal facilities along with the plaza between Wolf Hall and McKinly Lab will add both to the research capabilities as well as the physical beauty of our environment. We hope to provide pictures of the "new-and-improved" plaza in our next newsletter.

We greatly appreciate the generosity of many of our alumni/ae in helping support our programs. We look forward to establishing several endowed Professorships as well as a named lectureship series. You can be a major and lasting part of these traditions by your contributions, large or small. If you share our pride in the successes, past and present, of the University and Department, we hope you will consider a donation. Information on how to do so is included both later in this Newsletter as well as our web site. Please visit our web site at <http://www.udel.edu/bio/> and browse around to get news and maybe even see some familiar faces!

- Daniel Carson
Trustees Distinguished Professor and Chair
Department of Biological Sciences

Greetings from the Chair

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Drs. Roger Wagner (left) and David Sheppard (right)

McNair Program Names David Usher 'Mentor of the Year'

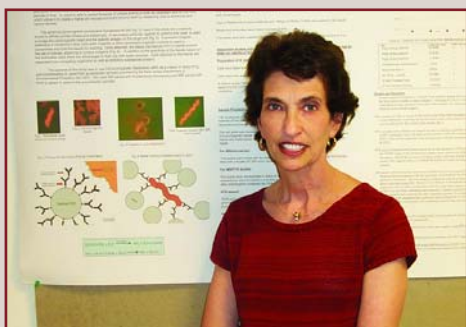
The Ronald E. McNair Post-Baccalaureate Achievement Program is administered by the U.S. Department of Education to assist low-income, first generation college students, and underrepresented students in the ultimate completion of a Ph.D. degree. A key component of this program is the involvement of students in undergraduate research to increase their preparation for graduate school. The Department of Biological Sciences has been heavily involved since the pro-

gram began on our campus, with our activities headed by Dr. David Usher, Associate Chair of the Department. Dr. Usher is tireless in his efforts to help students with lab placements and many other aspects of their careers at UD. In recognition of this outstanding service, Dr. Usher received the award as Mentor of the Year at an August ceremony. Congratulations to Dr. Usher on this well-deserved honor.



Dr. David Usher displays his 'Mentor of the Year' award after a McNair Scholars Program reception in August

What's New with Diane Herson



Dr. Diane Herson

When Dr. Diane Herson began her career in the Biology Department in the fall of 1968, she was fresh out of graduate school at Rutgers, where she earned her Ph.D. in Bacteriology. A native of New York City, Dr. Herson was an undergraduate at Cornell University, where she majored in Microbiology.

During the ensuing 36 years, Dr. Herson's microbiological research has shifted from cyanobacteria (called blue-green algae then) to bacteria in the pipes of the water delivery system to bioremediation (using microorganisms to clean up pollution) to her current work on the detection of *Helicobacter* and *Salmonella* bacteria in water. Both of these organisms are serious public health concerns. Her diverse proj-

ects have been supported by the American Waterworks Association, Water Environmental Research Foundation, Environmental Protection Agency, United States Geological Survey and Philadelphia Water Department.

Dr. Herson has a remarkable record of mentoring students, with over 60 undergraduates and 15 graduate students working under her direction throughout the years. When she talks about her experiences with students, the first thing she mentions is the pleasure of the individual interactions. The best memories of her career have come from watching the young investigators make discoveries and learn the details of how science is done. The lasting effect she has had on the lives and careers of these students is shown by the fact that so many stay in touch with her long after they have left the University.

Dr. Herson continues to be an active and respected teacher in various Microbiology courses at all levels, from non-majors to graduate students. In addition to Introductory Microbiology (now BISC 300, but previously BISC 371), she has taught Viruses, Genes and Cancer, Bacterial Physiology, Microbial Associations, and Bioremediation.

While performing these many activities, Dr. Herson has always remained mindful of her position as a role model for female students. She is the first woman to have earned tenure in Biology at the University of Delaware and she has always been outspoken in her advocacy of equal opportunities for women. In her early years at Delaware she earned the nickname of "the Herson person" for her insistence on equal treatment and respect for women.

When asked how much longer she plans to continue as a professor, Dr. Herson answered "I have no timetable. I can't imagine doing anything else."



Dr. Herson with Ph.D. advisee Brady Redmond (left) and M.S. advisee Todd McVoy (right) at convocation in May

Virtual Microscope Draws National Attention

Dr. Robert Ketcham has worked closely with the staff at The PRESENT (the university's classroom technology support center) to address an old problem in the teaching of Introductory Biology, namely the use of the microscope. Dr. Ketcham's

project, called the Virtual Microscope, allows one to simulate the use of a microscope from a computer. All the controls work the same way as the actual physical instrument. One consequence is that the frustration factor goes

down dramatically and the students are able to use the microscope to address biological topics. This project has received national acclaim for making microscopy accessible to more students than ever before.

Record Number of Students Participate in Summer Undergraduate Research Symposium

The undergraduate Summer Research Symposium is the creation of Dr. David Usher as part of his work to increase research opportunities for undergraduate students. In August of 2004, the symposium drew a record 94 participants. Dr. Usher has led the way in securing funding for the symposium from a large number of sources. Primary support has come from the Howard Hughes Medical Institute. The National Science

Foundation also has contributed funds along with the University of Delaware's Undergraduate Research Program, Charles Peter White Fellowship and College of Marine Studies. Students gain valuable experience in making presentations of the type and form that are made at national scientific conferences. "In previous years our students have participated in the undergraduate poster competitions at international and national meetings of the

American Society for Biochemistry and Molecular Biology (ASBMB). ASBMB's official publication this year noted that our students have won more first place awards during the last four years than any other University in the country," said Dr. Usher. UD senior Amanda Peters won a first place award for her work on cholesterol and adipocytes at the society's Undergraduate Poster Competition in June.

For more on most of these and other stories, visit the News Archive section of our web site at: <http://www.udel.edu/bio/news/archive/>

Alumni News

Martin Jadus (B.A. 1975) does tumor immunology research with the U.S. Department of Veterans Affairs in Long Beach, CA. He also has a joint appointment at the University of California, Irvine, and an adjunct position at California State University, Long Beach.

Cynthia Tynan (B.A. 1977) is currently a Visiting Investigator in the Department of Physical Oceanography at the Woods Hole Oceanographic Institution.

Charles Grier (B.S. 1980) is Director of GSK Ventures at GlaxoSmithKline, and was appointed to the Board of Directors of Affinium Pharmaceuticals in 2003.

Marian Wachtel (B.A. 1987) completed a postdoctoral fellowship in microbial pathogenesis at the Uniformed Services University of the Health Sciences, and is currently a Scientific Review Administrator at the National Institutes of Health in the Infectious Diseases & Microbiology Integrated Review Group.

Sharon Wampler (B.A. 1988) is now Director of the Bioscience Department at the University of California, San Diego Extension.

Chelsea Specht (B.A. 1993) just received a Ph.D. in Biology with a focus in Plant Systematics, Tropical Botany, and

Evolutionary Biology from New York University.

Ron Castaldo (B.A. 1997) completed an M.S. at Columbia University in 2002 and is currently a Certified Registered Nurse Anesthetist at Anesthesia Services, P.A. in Newark, DE.

Karen Kinkel (B.A. 1999) attended the University of Maryland School of Medicine and is now an Internal Medicine resident at Christiana Hospital in Newark, DE.

Thanks to everyone who sent us their news!

Have exciting and interesting things happened to you since you left UD? Do you wonder if the same is true of other students you knew here? The Department of Biological Sciences is asking you to tell us so we can share your stories with fellow Biology alumni in future editions of our newsletter. Let us know what special things have been going on with you, personally or professionally, by filling out the form below and sending it in, or better yet, complete the online form at: <http://www.udel.edu/bio/news/alumni/>

Please fill-out the following form, cut along dotted lines and return.
Name

Last First M.I. Maiden

Biology Degrees and Dates ____ BA ____ BS ____ MS ____ PhD

Comments

Please return completed form to Dr. David W. Smith, Department of Biological Sciences, University of Delaware, Newark, DE 19716. Thanks for your cooperation!

We need your help!

Biology has been busy on all fronts. Your tax-deductible gifts are deeply appreciated and make a huge difference in program development. If you are already planning on donating to the University of Delaware, you may target your support to the Department of Biological Sciences. Please join us in this effort by sending your donation to:

Department of Biological Sciences

University of Delaware, Wolf Hall, Newark, DE 19716

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Please make the check payable to: University of Delaware. Contributions can also be made by credit card online at <http://www.udel.edu/bio/about/support/>

Multi-talented Grad Moves to Next Level in his Studies

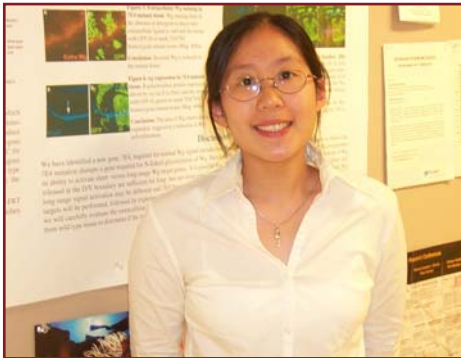
Bryan Townsend received an Honors Degree with Distinction at the May 2004 commencement. This significant accomplishment is just one of the many awards Bryan gathered during his time at Delaware. He was a Dean's Scholar with an interdisciplinary program in Biology, Philosophy and Economics. He earned Bachelor's and Master's degrees in Economics before he received his Bachelor's in Biology. He was also the winner of the Biology Department's Academic Excellence Award this spring.

In 2003, Bryan was the recipient of the very prestigious Truman Fellowship which will help support his graduate education. Bryan's strongest interests are in health care from all perspectives, clinical, political and economic. He is currently pursuing a Master's degree at Cambridge University in England. His future may include medical school as well. This talented young man is a Biology student who will clearly continue to make strong contributions to our society.



Bryan Townsend

Sophomore Receives Goldwater Scholarship, Beckman Fellowship



Liang Kang

Liang Kang, a junior in the department of Biological Sciences, received a Goldwater Scholarship and a Beckman Fellowship last spring when she was a sophomore. These awards go to juniors much more often than to sophomores, which is a testament to the great promise that the award committees see in her. These awards will support Liang in her research in the laboratory of Dr. Melinda Duncan on the developmental biology of the eye.

The Goldwater Scholarship program, honoring former U.S. Senator Barry M.

Goldwater, is designed to encourage outstanding students to pursue careers in the fields of mathematics, natural sciences, and engineering. The Beckman Fellowship is awarded to exceptionally bright and motivated students to pursue independent research directed by faculty in the Department of Biological Sciences or Chemistry & Biochemistry. UD was one of thirteen institutions of higher education in the nation to be awarded a Beckman Scholars Program by the Arnold and Mabel Beckman Foundation back in 2002.

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