Greetings from the Chair

The faculty, staff and students of the Department of Biological Sciences extend our greetings and take this opportunity to update you on key events and accomplishments over the past year. We also thank many of you for your generous donations in a time of significant economic challenge. Your help has allowed us to continue several key programs and provide special opportunities to our students that we would be unable to do otherwise. In addition to this, we enjoyed witnessing many of our undergraduate and graduate students receiving significant recognition and awards at both the local and national levels for their accomplishments.

Our Undergraduate Research remains superb being anchored by the dedication and creativity of Drs. Dave Usher and Hal White, as well as the many talented students and mentors who make this program truly remarkable. We have enjoyed seeing so many of these students use this program as a springboard to pursue post-graduate careers at top-notch institutions in biological research or medically-related professions. Their experiences in the Undergraduate Research Program at UD make them standouts even in these heady environments. We also continue to enjoy the success of our Graduate Program, which engages many students and faculty in multiple departments at UD and area institutions. Discoveries by these students are often the main driving force behind our dynamic, extramurally-funded grants programs. These students routinely present their work at national and international scientific meetings. Lynn Opdenaker, Shyama Majumdar and Zeynep Firtina all received special awards this year for their work and to support their travel to present their findings at international meetings.

This year’s Milton Stetson Undergraduate Research Fellowship to an outstanding undergraduate researcher was presented to Sander Frank for work he performed in Dr. Robert Sikes’ lab on gene expression in developing reproductive tract tissue. Dr. Stetson, a former professor, department chair and highly regarded researcher, dedicated his career to undergraduate education and research, and this award remembers his important contributions.

We are pleased to have Dr. Anja Nohe join our faculty this year. Dr. Nohe came to us from the University of Maine and brings an outstanding program in delivery of nanoparticles, high-resolution bioimaging and stem cell differentiation. She also has a strong background in teaching and is expected to strengthen both our research and teaching efforts. Three terrific, long-time colleagues have announced their retirements this year. Dr. Ron Karlson has done outstanding research on coral reef biology and been a mainstay of our Ecology Program. Dr. Greg Stephens not only served for many years as interim department chair and associate chair, but also has been a dedicated advisor and teacher of Physiology to both undergraduate and graduate students. Dr. Steve Skopik will be remembered by many of you for his superb teaching of Introductory Biology and his dedication to excellence in Undergraduate Education. He has won multiple awards for his teaching, brought innovation and effectiveness to the classroom and projected his warmth to his many students. We will greatly miss the contributions of all of these colleagues and wish them well in this new phase of life.

This year we had the second Arnold M. Clark Lectureship in Molecular Genetics. This endowed lectureship honoring Dr. Clark, a former Professor, Chairman, researcher and mentor, was established by generous donations from Dr. and Mrs. Howard E. Hudson. This year’s lecture, given by Marcy E. McDonald, Ph.D. of Harvard Medical School, was titled “A Genetics Driven Approach to Huntington’s Disease Therapeutics.” We will continue this excellent endowed lectureship, which represents an exciting novel opportunity for our students and fellows to meet the world’s premier genetic researchers.
New Biomedical Opportunities for Undergraduates

Our department has started an ambitious plan to expand biomedical opportunities for our undergraduates. One new program is a dual degree program with Thomas Jefferson University (TJU). After two years of negotiation with TJU, we entered into agreement this fall to create a program in pharmacy. Students who are accepted into this competitive program will earn a B.S. degree in Biological Sciences with a concentration in Pharmaceutical Sciences and a PharmD degree from TJU. Students applying to UD will enroll in the Pharmacy interest group and over the next three years complete prerequisites for the TJU pharmacy program. Pharmacy interest group students initially will major in either Biochemistry/Chemistry or Biological Sciences. At the end of the sophomore year, they will then apply for admission to TJU. Admission requires an acceptable undergraduate academic record and minimum score on the national standardized test, the PCAT. Once admitted to TJU, students change their undergraduate major to the B.S. in Pharmaceutical Sciences and in their fourth year attend TJU. Classes taken in the first year at TJU complete the UD requirements for the undergraduate degree. The PharmD program at TJU is four years and students, in their last two years, have opportunities to intern in the State of Delaware.

A second recently negotiated program is with Temple University School of Dentistry. The Delaware Institute for Dental Education & Research (DIDER) entered into a financial agreement with the Maurice H. Kornberg School of Dentistry at Temple University to reserve six admissions slots in each entering class for Delaware residents. Eligible applicants for the DIDER program must meet the academic requirements of Temple University and be legal residents of Delaware. Students selected for the DIDER program will also receive a minimum of a $5,000 tuition stipend.

A third already existing program, the Medical Scholar's Program, was extensively modified. This program is an early admission program with Jefferson Medical College, Thomas Jefferson University in Philadelphia. The program leads to a B.A. in Liberal Studies from the University of Delaware and an M.D. from Thomas Jefferson University. The program now has three educational tracks from which students can choose. In addition to the existing track in “Bioethics,” tracks in “Administration and Public Policy” and “Translational Research” have been added.

A new field of study, which is gaining traction at UD is Translational Science. It is the application of biomedical research to identify an appropriate plan for patient treatment. Presently undergraduates who are interested in program are paired with clinicians at Christiana Care’s Graham Cancer Center to participate in pre-clinical and clinical research. These opportunities are expected to expand with agreements which are now being worked out between TJU, Christiana Care and Alfred I. duPont Hospital for Children to involve our undergraduates, graduate students and faculty in a multi-institutional program designed to improve health delivery for all Delaware residents.

With these programs, undergraduates are given educational opportunities beyond the boundaries of the UD campus. Motivated students can greatly take advantage of the programs to enhance their educational goals in ways that were not available to them before.

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

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!

Please browse the site for news and to see some familiar faces!

Daniel Carson
Trusted Distinguished Professor and Chair
Department of Biological Sciences

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 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/
**Graduate Program Update**

Graduate education in the biological sciences provides students the opportunity to gain in-depth knowledge and to learn how to create new knowledge through hypothesis-based scientific research. The explosion of knowledge over the past 50 years has made it impossible for an individual to master the broad field of modern biological sciences. Therefore, ten years ago, our department developed specialized curricula for students interested in the fields of Molecular Biology and Genetics, Cell and Organ Systems (Physiology), Ecology and Evolution, as well as the interface between Biological Sciences and Chemistry. We also developed a five year articulated B.S./M.S. program in Biotechnology, which provides students with extensive laboratory research training. Starting in Fall 2008, these curricula have been recognized by the University as official graduate concentrations in Biological Sciences, which are noted on the student transcript upon graduation.

Currently, we have 78 graduate students enrolled in our graduate program, 3 pursuing the M.S. in Biotechnology, 44 in the Molecular Biology and Genetics concentration, 26 in the Cell and Organ Systems concentration and five in the Chemistry-Biology interface concentration. During the next year, we will add a concentration in Microbiology to bolster our developing interdepartmental microbiology research efforts. The growth of our graduate program has also led to an explosion in the number and quality of scientific publications produced by our graduate students.

Each year we recognize the best graduate student publication produced by a current student in the program. The winner this year is Erna van Niekerk for the paper “Sumoylation in axons triggers retrograde transport of the RNA-binding protein La.” published in the July 31, 2007 issue of the Proceedings of the National Academy of Sciences (104, 12913-12918). Dr. van Niekerk defended her Ph.D. dissertation during the summer of 2008 and has begun postdoctoral training at the University of California, Davis. Her Ph.D. research was directed by Dr. Jeff Twiss, Head of the Neuroscience Research Laboratory at Alfred I. duPont Hospital for Children under the auspices of the Human Health Initiative.

**Recent alumni updates:**

**Brady Redmond** (Ph.D. 2004) Dr. Redmond was recently appointed as a GS-13 Research Biologist for the Edgewood Chemical Biological Center, Department of Defense. He serves as a consultant to numerous government agencies on microbiological threats.

**Wenwu Cui** (Ph.D. 2004) Dr. Cui works for the National Center for Biotechnology Information where he has responsibility of curating the gene sequence data generated by the human and mouse genome projects.

**Vesselina Cooke** (Ph.D. 2007) Dr. Cooke is a postdoctoral fellow at Harvard University studying the molecular mechanisms of angiogenesis (new blood vessel formation). She was just awarded a highly competitive National Research Service Award from the National Institutes of Health to fund her studies.

---

**Alumni News**

**Thomas J. Schmidt** (B.A. 1969) has been appointed Assistant Dean in the Office of Student Affairs and Curriculum at the University of Iowa Carver College of Medicine in Iowa City, IA.

**Edward Testino** (B.A. 1980) is an attorney and the Township Council President of Old Bridge, NJ.

**Tom Oves, Jr.** (B.A. 1985) has retired from teaching and announced his candidacy for the 1st Ward council seat in Ocean City, NJ.

**Heon Lim** (Ph.D. 1989) is a Professor in the Biology Department at Chungnam National University in Taejon, South Korea.

**Rob Cohen** (B.A. 1995) works in pediatric surgery at St. Christopher’s Hospital for Children in Philadelphia, PA.

**Jennifer Albanese** (B.A. 1996), a teacher at Salesianum School in Wilmington, DE, was named Outstanding Biology Teacher for the state of Delaware by the National Association of Biology Teachers.

**Tara Bernardino** (B.A. 1999) has been named Vice President, Group Account Supervisor in the Medical Education Division of Ogilvy Healthworld in New York, NY.

**Clare Gambacorta Lochstoer** (B.A. 2000) recently graduated from the University of Pennsylvania School of Veterinary Medicine.

**Katherine Gamblee-Wallendjacks**

**Brownlowe** (B.A. 2001) received an M.D. from the University of Vermont and is currently a third-year Psychiatry resident at Maine Medical Center in Portland, ME.

**Caitlin Cavanaugh** (B.A. 2001) is a sales representative for Eppendorf North America in Philadelphia, PA.

**Melissa Fogg** (M.S. 2004) is currently a biology teacher at West Deptford High School in West Deptford, NJ.

**Thanks to everyone who sent us their news!**
Dr. Greg Stephens came to the Biology department at UD in the fall of 1978 after spending his whole life in the Midwest. He earned B.A. and Ph.D. degrees at the University of Kansas in 1969 and 1976, respectively working in the areas of Comparative Physiology and Biochemistry. His focus was on the cardiovascular system of reptiles, particularly the role of baroreceptors in the control of blood pressure. After receiving his Ph.D., Dr. Stephens spent three years as a postdoctoral fellow at the University of Missouri Medical Center in Columbia. Here he branched out to mammals, studying high blood pressure and control of aldosterone and kidney function. When he joined the UD faculty, he combined his first love of reptiles with his postdoctoral work and spent many years studying the renin-angiotensin system and its role in blood pressure and kidney function in turtles and alligators.

Dr. Stephens has taught a large number of different physiology courses at UD: BISC 106, 306, 406, 605, and 675. These range from the introductory level course for non-majors to the several graduate level courses. He estimates that he taught BISC 106 about 25 times, BISC 306 12 times and BISC 675 almost 30 times. He enjoys teaching and is well regarded by his students. He was also the research supervisor for three Master’s degree and two Ph.D. students in his lab.

While conducting active teaching and research programs, Dr. Stephens also became involved in departmental administration. In 1990 he became the Associate Director of the School of Life and Health Sciences (the predecessor to the current Biology department). In 1994 he became Director of the School and held that position until 1998 as we changed to the Department of Biological Sciences. When Dr. Carson became Chair of the department in 1998, Dr. Stephens remained as the Associate Chair until 2000 when Dr. Usher replaced him. During this time he most enjoyed the interaction with students as Associate Director and participating in the department convocation at graduation. He also very much enjoyed getting to know faculty and administrators across the campus.

When asked to comment on the changes he has seen in his 30 years at UD, Dr. Stephens noted that our unit has mirrored the university as a whole. In 1977, the emphasis was much more on teaching and the balance has definitely shifted to research, especially in the medically related areas. For example, when faculty were hired in the 1970s, the primary concern was the area in which he or she would teach. Now the primary basis for selecting new faculty is the research expertise.

Dr. Stephens is retiring, effective December 31, 2009 and will leave a big void in the department. His immediate plans revolve around the restoration of his 1851 house, which will keep him happily making sawdust for many years to come.

When asked to comment on the changes he has seen in his 30 years at UD, Dr. Stephens noted that our unit has mirrored the university as a whole. In 1977, the emphasis was much more on teaching and the balance has definitely shifted to research, especially in the medically related areas. For example, when faculty were hired in the 1970s, the primary concern was the area in which he or she would teach. Now the primary basis for selecting new faculty is the research expertise.

Dr. Stephens is retiring, effective December 31, 2009 and will leave a big void in the department. His immediate plans revolve around the restoration of his 1851 house, which will keep him happily making sawdust for many years to come.