



The Department of Biological Sciences

The University of Delaware

December 2003

Greetings from the Chair

This year witnessed the completion of the Wolf Hall renovation project. As a result, the beautiful facade of this stately building is now complemented by state-of-the-art interior facilities for teaching and research. As you will read in other parts of this newsletter, teaching innovations developed by our faculty and staff are now introducing real research problems into our undergraduate curriculum. This complements the already strong undergraduate research program supported by the Howard Hughes Medical Institute and Beckman Scholars Foundation. It is truly an exciting time for your son or daughter to be majoring in Biological Sciences at the University of Delaware.



2003 Beckman Scholar Mesha Eaton (left) with research advisor Dr. Patricia DeLeon

Faculty research programs are flourishing. Recognition of faculty research accomplishments is reflected in a series of publications in premier journals, invitations to discuss their work in prestigious meetings and symposia and the continued growth in external grant support. In particular, we have enjoyed rapid growth in biomedical research programs. In parallel with this effort, strong ties have been forged with local medical institutions including the A.I. duPont Children's Hospital/Nemours Foundation and Christiana Hospital/Graham Cancer Center. This has created not only new avenues for faculty research programs, but also additional

training opportunities for undergraduate and graduate students. New graduate training grant opportunities for these students have been generated through the support of the National Science Foundation and National Institutes of Health. The remarkable growth in size and quality of our graduate program has both fostered research programs and enhanced our ability to provide superb undergraduate laboratory experiences provided by graduate teaching assistants.

In my second term as chair, I look forward to continued improvements in our undergraduate training efforts. To this end, we will develop innovative programs in Science Education and further hone our laboratory training experiences. We will expand our basic research programs by continuing to provide first-rate lab facilities and core support services that keep pace with rapid advances in biological research as well as by recruiting new faculty with cutting edge research programs. We will recognize the accomplishments of our outstanding senior faculty researchers by establishing endowed/named professorships for these rare and highly valued individuals. I hope that over the next five years we will see the Department of Biological Sciences ranked among the top programs in the country and believe that we are well on our way. If you share our pride and enthusiasm for achieving these goals, I hope that you will consider a donation at whatever level you can to help support one or more of these efforts. In the meantime and on behalf of everyone in the Department of Biological Sciences, I hope that you continue to enjoy receiving this newsletter and invite you to also visit our web site to receive updates on our progress.

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

Greetings from the Chair
.....1

Department Awards
Approximately 200 Degrees
in 20032

Faculty Participate in New
Homecoming Lecture Program
for Alumni
.....2

What's New with
Bob Hodson?
.....2-3

Alumni News
.....3

Talented Eighth-graders
Examine Lizard's Breath
.....4



Undergraduate Erwin Puente

Department Awards Approximately 200 Degrees in 2003

The department continues to attract a large number of majors and produce many graduates. In January of 2003, 20 students received Bachelor's degrees and in May, 167 received degrees. Included in that group were eight students who earned the Honors Degree with Distinction, six students who earned a Degree with Distinction and 15 who received an Honors Degree. Our graduate program, also very active, had six students receive either the M.S. or Ph.D. in Biological Sciences in 2003. Dr. David Greenley (B.A. 1976, M.A. 1978, Ph.D. 1982), this year's Distinguished Alumnus in Biology, spoke at the May convocation at the Carpenter Sports Building. We welcome your nominations for next year's Distinguished Alumnus or Alumna.



Bachelor degree recipients Erin Henninger (left), Melanie Evans (right-center), and Alexandra Cretu (right) with research advisor Dr. Deni Galileo



Ph.D. recipient Joel Bergh with his wife Errin

Faculty Participate in New Homecoming Lecture Program for Alumni

The College of Arts and Science inaugurated a new program in conjunction with Homecoming on October 18. Seven faculty members from a wide range of departments within the College made scholarly presentations to alumni as part of an effort to provide academic alternatives to the traditional Homecoming celebrations. Two of the seven were Biology faculty. Dr. Eric

Kmiec presented a lecture entitled "Gene and Stem Cell Therapy: The Next Frontiers?" in which he discussed some of the opportunities and challenges that will have a major impact on our society in coming years. He addressed possible clinical applications, as well as the serious ethical questions that accompany any new procedures intended for human use. Dr. David Smith, who spoke

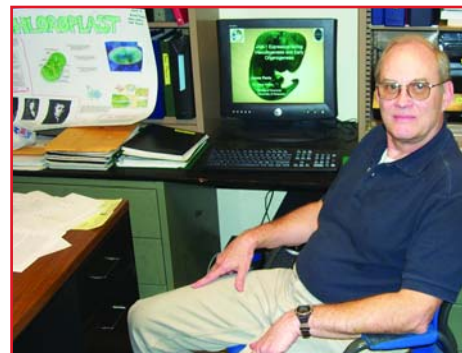
on "Biological Weapons: Warfare and Terrorism", examined the history of biological warfare and some of the potential threats that demand our careful attention. The use of these weapons in recent years was discussed in detail, as well as possible threats that may arise in the future.

What's New with Bob Hodson

1969 was a time of turmoil and change in the United States. The war in Vietnam was taking a heavy toll on college-aged young adults and a draft lottery was initiated to give the military the manpower it thought it needed to bring the war to a successful end. That year saw success but it was not in war. It came in the sciences when Neil Armstrong became the first human to step onto the surface of the moon. It was also during this year that a bright, young assistant professor appeared for the first time on the University of Delaware campus. He was Dr. Robert Hodson, educated at the University of Minnesota (B.S.), Cornell University (Ph.D.) and Brandeis University (postdoctoral fellow). He was specifically appointed to improve the graduate course offerings in plant physiology for the Departments of Plant Sciences and Biology and to carry out research into the regulation of nitrogen

utilizing pathways in algae. During the thirty odd years that Dr. Hodson has been at the University, he has seen major changes in the department. In the early 70's the College of Marine Studies was created from a division of the then Department of Biology. Several years later the independent units of Physical Therapy and Medical Technology were combined with Biology to form the School of Life and Health Sciences. That experiment ended in the mid 90's when Physical Therapy was reformed as a graduate department in the College of Arts and Science and the Department of Medical Technology joined the new College of Health and Nursing Sciences. With these changes came changes in the department's curriculum in which Dr. Hodson played a major role. After the formation of the School of Life and Health Sciences in 1974, Dr. Hodson

became the instructor for the major introductory biology course of the time, BISC 201. In the late 70's this course evolved into our present two semester introductory courses, BISC 207 and BISC 208. Dr. Hodson has been teaching BISC 208 for over twenty years and estimates that he has taught over 5,000 students since arriving at UD, and most of these



Dr. Robert Hodson

have been in the introductory biology classes. One would think teaching the same course for such a long period would be numbing, but Dr. Hodson says "No." This is because the introductory course has evolved significantly over time from straight lectures and standard teaching laboratories to one that relies on active learning experiences. He is most proud of the changes that have taken place in the laboratories over the last five years. With support from the Howard Hughes Medical Institute, Dr. Hodson has been able to modernize the laboratory to include more inquiry based problems where outcomes cannot be predicted. Gone are the days when students could "dry-lab." The laboratory now takes advantage of computers to assist in the collection and analysis of data. This change has allowed the labs to

focus on teaching scientific method, manipulating experimental variables, defining controls and on the communication of students' results. This has allowed students to better appreciate how information in text books has been generated. Dr. Hodson's excitement about the new laboratory design has resulted in invitations to present workshops at national education meetings. As a result of his devotion to teaching, Dr. Hodson was honored with the University's Excellence in Teaching Award. When asked what has changed the most during the time he has been with the university, Dr. Hodson said it is the size of the faculty. "It has grown from around 600 in 1969 to over 1,100 today and with the growth has come a bigger emphasis on faculty research." What has changed

the least, he stated, is the student attitude toward learning. "What they were in the 70's is pretty much what they are now." Dr. Hodson still has fun teaching and has no plans to stop in the near future.



Students collect samples for Dr. Hodson's BISC 207 course

Alumni News

Alan Brittingham (B.A. 1975) has been working for SPI Pharma since 1976. He is presently the Site Manager at their Lewes, DE lab, which produces antacids and laxatives using seawater as one of its key raw materials.

Kandie Semmelman (Dautel) (B.A. 1975) has been teaching various courses at Delaware Technical & Community College since 1978, including Microbiology, Medical Terminology, and Introduction to Anatomy & Physiology. She is now the Administrative Coordinator for the Allied Health/Science Department.

Bob Zega (B.A. 1985) received an M.A. at Kean University in 2001, and is currently the Vice Principal at Woodbridge High School in Woodbridge, NJ.

Jennifer Aldrich (Hager) (B.A. 1990) worked for the Navy for seven years in the Biological Defense Research Program, and received an M.S. in Biotechnology from Johns Hopkins University in 1998. She is now managing a laboratory that develops reagents for biowarfare agents and infectious diseases at Tetracore.

Tobi Sheiker (B.A. 1996) went to chiropractic school in Atlanta after graduating

from UD, and currently runs his own business in Wilmington, DE.

Sanjay Modi (B.A. 1997) is a biologist at the National Cancer Institute studying the pathways of certain cancers. He is also pursuing an MBA part-time at the University of Maryland.

Eric Bell (B.S. 2000) is currently enrolled at Northwestern University in their Integrated Graduate Program in the Life Sciences.

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

Name

Last First M.I. Maiden

Address

City State Zip

E-mail Address

Please make the check payable to: University of Delaware. Contributions can also be made by credit card online at <http://www.udel.edu/PR/CampaignUD/Pages/page5a.html> Click on 'Credit Card'; and then fill out the form. At the bottom of the form, mark the button next to 'Other:' and type **Department of Biological Sciences** in the box.

Talented Eighth-graders Examine Lizard's Breath

Although the Department of Biological Sciences is noted for the quality of its graduate and undergraduate education, it also participates in community outreach educational programs. In October 2003, the department gave two workshops as part of the Johns Hopkins University program for gifted middle school students held this year on the University of Delaware campus. The fall program attracted 150 students from as far away as North Carolina and New York and around 200 parents. The students were asked to answer two questions "does environmental temperature affect the respiration rate of a lizard?" and "what path does water take when it travels

in the stem of a plant?" The workshops, designed by Dr. Robert Hodson, gave students experience with scientific method, mastering laboratory tools such as electronic probes and microscopes fitted with digital video cameras, and computer-based data collection and analysis. The workshop also benefited graduate students, who assisted in the laboratories, by giving them some experience in teaching to students in younger grades. The eighth graders were inquisitive and not afraid of trying different things. The hour and a half workshop seemed very short to them, but they did leave with smiles and the carnations used to trace the flow of water in the stems.



Eighth grade students conduct the lizard respiration experiment

The Department **of** **Biological**
Sciences ■

University of Delaware
Wolf Hall
Newark, DE 19716

Nonprofit Organization
Postage
PAID
Newark, DE 19716
Permit No. 26