



The Department of Biological Sciences

The University of Delaware

Volume 2, Issue 1

Greetings from the Chair

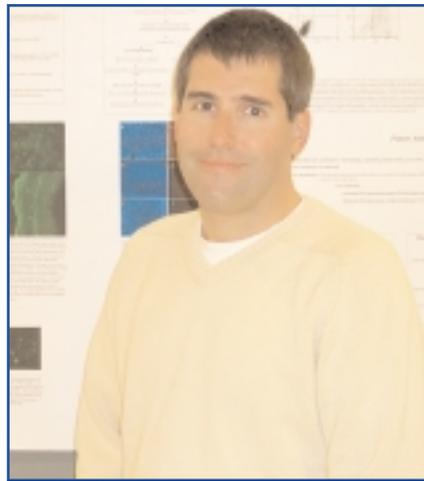


Dr. Daniel Carson, Chairperson

It is truly exciting to share the many accomplishments of the students and faculty in Biological Sciences over this past year. We have completely revised and updated our undergraduate and graduate curricula to keep pace with the fast-moving field of modern Biology so that we can continue to provide our students with the best education possible. In parallel, Wolf Hall renovations continue and this year a new addition containing eight research laboratories was completed. This addition is already filled with faculty, post-doctoral, graduate and undergraduate researchers. Increased student enrollment has been accompanied by an extremely strong performance in research with over 80 papers published and a record amount of extramural grant funding. This has provided many new opportunities for undergraduate, graduate and post-doctoral research training. Exposure to state-of-the-art techniques and cutting-edge concepts provides our students with new insights both in the lab and in the classroom.

We are extremely pleased to have recruited Dr. Deni Galileo, a neurobiologist, to our fac-

ulty this past year. Dr. Galileo will expand our training program in the neurosciences. New programs in Bioinformatics and a 5 year



Dr. Deni Galileo

B.S./M.S. Biotechnology Program are being developed as well. A new Human Health Initiative has begun in collaboration with other departments at the University as well as other Delaware institutions. Significant support for this effort already has been obtained from the university as well as public and private extramural sources; however, additional funding will be needed to realize the full potential of this effort. We deeply appreciate any help you may be able to provide.

Bruce Lessey, M.D., Ph.D. (Class of 1977), our Distinguished Alumnus in Biological Sciences, presented a moving speech at our Graduation Convocation in May. We will continue this tradition and are currently seeking nominees for next year's Distinguished Alumnus/a. We appreciate your continued interest in and support of the Department of Biological Sciences. For additional updates and information, we invite you to visit our website at <http://www.udel.edu/bio/>.

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New Degree Programs, Extensive Labs Highlight Curriculum Changes

Many readers will be interested to know that this year marks the implementation of sweeping changes in the Biology curriculum, the first major alterations since 1979. There are two categories for the changes. First, many of the four credit "core" courses have been divided so that there is now a three credit lecture and a two credit lab. The labs, scheduled to begin next year, will have six contact hours per week and will be taught by

faculty members. The intent is to provide opportunities for sophisticated exploration of topics in depth.

The second change is the establishment of two new concentrations for the B.S. degree. One is Cellular and Molecular Biology and Genetics (CMG) and the other is Ecology and Organismic Biology (EOB). Admission to these degree options requires excellent performance

in specific prerequisite courses in Biology, Chemistry and Math. In addition each of these B.S. degrees requires the conduct of research followed by the successful defense of a thesis. Students completing one of these rigorous programs will gain tremendous experience in the conduct of science and be in excellent position for application to graduate school or industry.

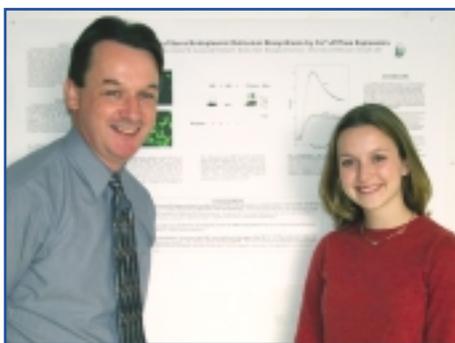
Undergraduate Research Helps Students Succeed

Attending class, getting good grades, and graduating used to be the only academic concerns of an undergraduate. Now to be successful, a student must have real laboratory experiences. In response to these changing educational demands, the Department of Biological Sciences extensively revised its curriculum last year. Laboratories are no longer an adjunct to lectures, but are independent investigative courses. Projects do not have predefined outcomes; students must define experimental variables, design the proper controls, and then interpret their own results.

These labs, however, are but a prelude to real scientific research. Undergraduates are now encouraged to enter faculty research labs starting as early as the end of their sophomore year. To assist them in this, a special undergraduate research web site has been created

<http://www.udel.edu/bio/educational/undergrad/research/>. The information on this page was instrumental in placing over 60 undergraduates in faculty research labs last year.

For students wishing a more intense laboratory experience, they can apply for one of three different summer fellowships offered by the University of Delaware or our Department. These fellowships give students stipends to attend a special, 10-week summer session where they work on their own research projects. A capstone experience for the summer program is an enrichment seminar supported by the Howard Hughes Medical Institutes. In addition to providing an opportunity to meet and interact with other research students,



Dr. Karin and Suzanne Biehn

graduate students, and faculty presenters, these weekly sessions include interactive presentations on laboratory safety, scientific publishing, research funding, ethical issues, postgraduate education, and career options. The program culminates with a mock national meeting where students present posters and oral presentations to the campus science community. Last summer over 200 faculty, graduate students and postdoctoral fellows from all science departments at UD attended this meeting.

As an incentive to do high-quality work, students who submit abstracts on their research for the annual meeting of the American Society for Biochemistry and Molecular Biology (ASBMB) receive an expenses-paid trip to the ASBMB meeting where they participate in the undergraduate poster competition. Two juniors (Michael Usher and Nicole Hill) and one senior (Jennifer Rutan) from our Department submitted abstracts to the meeting this past year in Orlando, FL. They received special instruction in poster preparation and presentation. Two of the

three received special recognition for their work at the poster competition. They also met HHMI president, Thomas Cech, and attended his opening plenary lecture (ASBMB News Letter 2001, Vol. X No. 3, pg. 1,7-8). All undergraduate participants experienced the excitement and inspiration normally generated at a national scientific meeting. Four Biology majors are planning on attending the ASBMB meeting in New Orleans, LA, in April 2002.

Because these summer research experiences are limited—the average GPA of students awarded stipends last year was 3.7—the Department has made a concerted effort to find support for the summer program by encouraging our brightest students to apply for national summer fellowships and by attracting institutional support. Last year one of our students, Laura Vella (Dr. Herson's Laboratory) was awarded a fellowship from the American Association for Microbiology. Two other students, Michael Usher (Dr. Eric Kmiec's Laboratory) and Suzanne Biehn (Dr. Norman Karin's Laboratory), received prestigious Pfizer fellowships in molecular biology. Only 50 of these Pfizer fellowships were awarded nationally. Three years ago, the Departments of Biological Sciences and Chemistry & Biochemistry received a \$1.6 million dollar grant from the Howard Hughes Medical Institute to improve undergraduate education. This grant provided 12 undergraduate summer research stipends for Biology majors this past year. Six other stipends came directly from the Department or University resources. Finally, an import source of support, fund-

ing ten summer fellowships, came from a donation in memoriam of Dr. Charles Peter White.

With the support from our alumni and friends we hope to fund many more deserving students. Our aim is to fund 40 students, which will give them the opportunity to become very successful biologists.

HHMI President Thomas Cech with UD undergraduates in Orlando, Florida



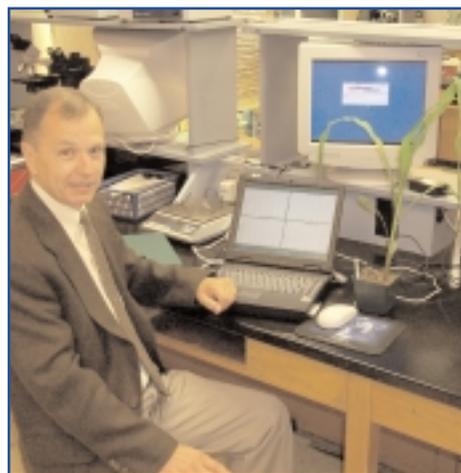
What's New with Steve Skopik

Most alumni have a favorite professor from their days at UD and for many Biology grads that is Steve Skopik. Dr. Skopik came to the department in the fall of 1967 and has been a central figure in the Introductory Biology courses ever since. His estimate is that he has taught 70-75 lecture sections of BISC207 and 60 or so of BISC208, covering several thousand students.

When asked why he was especially attracted to these courses, Dr. Skopik replied that he greatly enjoys the diversity of backgrounds that students bring as they get their first exposure to what sci-

ence is really like. In recent years he has devoted his own research to ways in which computer technology can be integrated into the laboratories for these courses. Students increasingly use computers for the actual running of experiments and collection of data, not just for data analysis after the fact.

How has he managed to keep going strong for so many years? Dr. Skopik explains that the beginning of the fall semester is his favorite time of the year. At that point he always feels anticipation and excitement as he prepares to interact with a fresh set of students, ready to learn. As long as that happens, his enthusiasm stays sharp and we should all be happy to learn that he plans to continue for several more years.



Dr. Skopik

We need your help!

Biology has been busy on all fronts. Your 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 you 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	Degree/Year	
Name when attending UD if different from above		
Address		
City	State	Zip
E-mail Address		Telephone

Wolf Hall Renovation Update

Wolf Hall, the building that houses the administrative offices of Biological Sciences as well as research and science educational laboratories, is presently in phase II of a three phase renovation. Phase I was completed in June of 2001, opening the doors to six new state-of-the-art laboratories for biology faculty. Phase II, presently underway, will upgrade the facilities in the portion of the building last renovated in 1963. When it opens next spring, Phase II will add new research laboratories, modern equipment rooms devoted to bioimaging and bioinformatics, histology laboratories, and sites for specialized equipment necessary for genomics, metabolomics and proteomics research. In Phase III, expected to end early in 2003, faculty offices, research laboratories, and the Science Education Center will come online. The completion of this renovation will consolidate the teaching and research components of the Department of Biological Sciences in Wolf Hall and nearby McKinly Lab. All faculty, staff, students, and postdoctoral fellows are looking forward to 2003 when they will be reunited in this state-of-the-art life science facility.

Back of Wolf Hall



Inside a new Wolf Hall laboratory

The
Department **of**
Biological
Sciences ■

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