

## From the Director

John Koontz, Ph.D.



Welcome to the inaugural issue of "In Vivo," the Division of Biology newsletter. This issue is devoted to providing thumbnail sketches of the various academic

and support units of the division. For some of you this will provide a window into a different set of departments than when you attended UT. We hope all of you will have a better understanding of the academic departments of the division and the various units that support these departments in their three-part mission of teaching, research, and service. In subsequent issues, we will highlight individual departments, faculty, students, and support staff personnel.

In each issue, I will try to provide a flavor of the issues or activities that affect us. There are two examples to provide right now. One has to do with resources that the university is targeting to research. The second is the influence that national and international

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research initiatives in the biological sciences have on our teaching and research activities.

The first example is one initiated by Dr. Gilley, the new president of the university, setting the goal of making our university one of the top public research universities in the country. Dr. Gilley has targeted five specific areas for improvement: undergraduate student quality, faculty quality, quality of graduate and professional programs, academic research, and finances.

The area with immediate impact on us is academic research. Nine new Research Centers of Excellence have been established, five in Knoxville and four in Memphis. Approximately \$57 million is earmarked for these centers. The expecta-

### Two of the Research Centers of Excellence have directors appointed from our division.

tion is that this investment will be repaid fourfold over the next five to seven years. The centers in Knoxville focus on information technology, environmental biotechnology, food safety, structural biology, and advanced materials. Those in Memphis focus on genomics and bioinformatics, neurobiology and imaging of brain disease, connective tissue diseases, and vascular biology. Faculty members in the departments of our Division of Biology are participants in five of these Research Centers of Excellence. Two of the Knoxville centers have directors appointed from our division. **Dr. Gary Sayler** is director of the Center for Environmental Biotechnology and a professor in the Department of Microbiology. **Dr. Engin Serspersu** is director of the Center for Structural Biology and an associate professor in the Department

of Biochemistry and Cellular and Molecular Biology.

The second example involves an issue embodied in the recent publication of two articles on the completed sequencing of the human genome in the February 15, 2001, issues of *Science* and *Nature*. These articles reflect a broad-based effort directed not only at the human genome but also at the genomes of a large number of such different model organisms as the mouse, the fruit fly, and yeast, as well as many other microorganisms. Many of the division's faculty members are working with these various organisms and taking advantage of the gene sequence information being generated.

The impact on their research programs is immediate and significant. For example, in an effort to identify genes involved in liver or cardiovascular function in humans, we can use information gathered from having already identified such genes and gene sequences in mice or fruit flies. That is, using the mouse or fruit-fly sequences, we can identify similar or identical genes in the human genome sequence.

To gather that and similar kinds of information, computerized database searching is becoming integrated into the conduct of everyday research, which created a need for more bioinformatics in the training of both graduate and undergraduate students.

I look forward to your comments and suggestions regarding these and other topics that interest you. To read more about President Gilley's initiatives, visit his Web site at <http://ur.utenn.edu/president/>. To learn more about the Division of Biology, visit [www.bio.utk.edu](http://www.bio.utk.edu).

## Life's foundations uncovered

The Department of Biochemistry and Cellular Biology and Molecular Biology (BCMB) emerged during the division's restructuring phase in 1995. Although the main focus of the department is to teach cell biology, biochemistry, and genetics, it is designed to serve as a foundation for many of the life science disciplines. This interrelated structure allows students to be exposed to or specialize in other aspects of science, such as physics, chemistry, or ecology.

Working with Interim Department



Head **Bruce McKee**, the faculty of BCMB focuses on research in the areas of cell biology and signal transduction (including neurobiology), molecular biology (including classical and molecular

genetics), and biochemistry (including macromolecular structure and function). However, strong emphasis is placed on collaboration with other units on campus such as Botany, Chemistry, Microbiology, Nutrition, Animal Science on the Agriculture campus, Ob/Gyn and Pediatrics at UT Medical Center, and the mammalian genetics group and the protein engineering group at Oak Ridge National Laboratories (ORNL). The students are therefore the main beneficiaries, because they can cross-specialize in any field of science that interests them.

A number of BCMB undergraduates come into the department focusing on pre-medicine, pre-veterinary, or pre-dental programs. The BCMB curriculum is flexible enough to allow for specialization. Students are then prepared for careers in a variety of professional or laboratory settings. The BCMB track is strong, making up more than half of all biology majors.

BCMB offers both M.S. and Ph.D. degrees. Recent graduates have obtained positions as professors at such major universities as the University of Virginia and research positions at such pharmaceutical companies as Eli Lilly.

BCMB takes a hands-on laboratory-based approach to learning. The faculty has been instrumental in incorporating new technology and teaching methods in the classroom. Much of what is brought to the students comes directly from faculty members' individual research programs. Another benefit offered by the BCMB faculty is their cooperation with such institutions as Vanderbilt University, St. Jude Children's Hospital, ORNL, and UT Memphis. All of these activities enable students and faculty members to work together to achieve shared goals of increased quality of learning and furtherance of scientific research.

[www.bio.utk.edu/bcmbdept.nsf](http://www.bio.utk.edu/bcmbdept.nsf)

## The not-so-secret life of plants

In recent years the Department of Botany has reoriented its focus to better align itself with the division. What was once primarily a teaching entity has now evolved into a streamlined department that focuses on vigorous research, technologically advanced teaching, and public outreach.



Led by Department Head **Ed Schilling**, the Botany faculty has quadrupled its external support through increased research awards. In the past

five years, Botany has added nine new research awards to the department from such organizations as the National Science Foundation (NSF) and the U.S. Department of Energy (DOE). This infusion of much-needed equipment grants and research awards has enabled

the department to place greater emphasis on its Ph.D. program and bring new technology to the classroom.

The Botany faculty plays key roles in the biology core curriculum. They also augment the undergraduate program of the division by offering plant biology courses. Fundamental botany courses are offered to undergraduate students, both majors and non-majors. These classes include work in genetics, morphology, ecology, physiology, and field studies.

Students enrolled in the M.S. and Ph.D. programs are taught by faculty members recognized for their work in the areas of plant systematics, plant ecology, plant genetics and development, actinorhizal nitrogen fixation, bryology, and mycology. Because of this breadth of exposure, students are prepared for jobs in academia, government, or industry.

The Department of Botany is highly visible in the community. School children often take guided tours through the greenhouse and teaching gardens. The department is even called upon to aid the Poison Control Center in identifying toxic plants. In recent years the department has been involved with the local Scholar-in-the-Schools Program and has interacted with the Ijams Nature Center.

The most visible outreach program is the annual spring wildflower pilgrimage in the neighboring Great Smoky Mountains National Park. For a half-century the department, the Gatlinburg Garden Club, and the national park have worked together to offer faculty-sponsored walking tours and lectures. All the elements of research, teaching, and outreach combine to make Botany a vital component of the Division of Biology.

<http://Fp.bio.utk.edu/botany/>

## Exploring the Natural World

Since its inception in 1995, the primary focus of the Department of Ecology and Evolutionary Biology (EEB) has been to understand nature from the molecular to the biospheric levels. Students can focus on behavioral ecology, conservation biology, ecology, paleoecology, ecotoxicology, evolutionary biology, behavioral and population genetics, and computational, mathematical, and theoretical ecology.

To maintain a curriculum this diverse requires an equally diverse faculty. Along with a strong interdisciplinary faculty derived from five academic departments (Zoology, Botany, Mathematics, Geology, Psychology, Comparative Medicine, and Microbiology), EEB includes in its list of adjunct faculty individuals from such local scientific organizations as the Environmental Sciences Division of Oak Ridge National Laboratory (ORNL), the

Tennessee Valley Authority (TVA), and the U.S. National Park Service, as well as from private firms.

Undergraduate students participating in the EEB concentration include biology majors, non-majors, and students in pre-professional programs, such as pre-nursing, pre-medical, and pre-veterinary medicine. All students

**To maintain a curriculum this diverse requires an equally diverse faculty.**

enjoy increased emphasis on technology in the classroom and exposure to contemporary laboratory experience and fieldwork.

Graduate students are treated to a hands-on education through partnerships with local organizations like ORNL and TVA and international research programs, which has contributed to a cadre of well-trained students and to a nationally

recognized graduate program. As many as 30 graduate-student papers are published each year in scientific journals. In addition, students routinely obtain their own external research funding from such organizations as the National Science Foundation and the Smithsonian Institute.



Led by Department Head **Thomas G. Hallam**, EEB supports community efforts through outreach programs that include workshops at Ijams

Nature Center and Kids-U, a summer program for area middle school children.

Through a diverse faculty and a contemporary curriculum, EEB prepares students for the study of biology in both theoretical and applied ecology and evolution.

[www.bio.utk.edu/eebwebsi.nsf](http://www.bio.utk.edu/eebwebsi.nsf)

## Life in the (very) small

With the leadership of Department Head **Robert Moore**, Microbiology has



stretched beyond the limits of health-related issues to a department that offers students exposure to ecological, environmental, and molecular microbiology. The exceptional diversity of faculty interests and expertise in Microbiology benefits the students and community at large.

Undergraduate students can take the traditional biomedical track leading to careers in medicine, veterinary medicine, dentistry, pharmacy, and medical technology, or they can select tracks in molecular microbiology or microbial ecology. Following a junior-level core sequence in introductory and advanced (molecular) microbiology, specialty tracks are chosen from senior-level courses in bacterial genetics, bacterial physiology, medical microbiology,

immunology, virology, and microbial ecology. The courses are often taught in a team-teaching instructional approach that exposes students to several faculty members who are experts in the various subjects within a course.

Microbiology's M.S. and Ph.D. degrees are well rounded, emphasizing learning through research. Students conduct experiments in a laboratory setting with nationally and internationally recognized faculty members. Many graduates have gone on to positions in major institutions and corporations, including the National Institutes of Health; the Center for Disease Control and Prevention; the Mayo Clinic; Harvard University Medical School; Harvard University; Abbott Laboratories; and Exxon.

Most of the faculty is funded from such federal agencies as the U.S. Department of Agriculture, the Department of Energy, the Environmental Protection Agency, the National Science

Foundation, and the National Institutes of Health or from a variety of corporate sponsors. Many faculty members also serve on editorial boards or as editors of international scientific journals.

Microbiology is visible within the community. Local news media and private citizens often contact the faculty about such issues as AIDS, bacterial meningitis, *E. coli* food poisoning, anthrax, and sexually transmitted and autoimmune diseases. Moreover, faculty members freely volunteer their time to present informational talks to alumni, community, and church groups.

Much of what is strong in Microbiology comes from interactions between its faculty and other scientists in the division and its alliance with the College of Veterinary Medicine. The benefits to the division, the colleges, the university, and the students are significant and reflect the commitment of the department to teaching, research, and service.

[www.bio.utk.edu/microbio.nsf](http://www.bio.utk.edu/microbio.nsf)

## It's all in the genes

Since 1998 UT and the Oak Ridge National Laboratory have collaborated to design a unique graduate program. The UT-ORNL Graduate School of Genome Science and Technology (GST) is the only graduate school in the nation to fully integrate a university with a national laboratory.

The GST has four main components: (1) mammalian genetics and genomics, (2) structural biology, (3) bioinformatics and computational biology, and (4) analytical technology, which focuses on proteins. Each of these components fits into a core curriculum taught in concert by UT and ORNL faculty members. The division faculty is well represented within this program, and other departments' faculty members are encouraged to participate.

Graduate students are offered competitive stipends and are the main benefactors of this collaboration. The students also serve as the glue that holds the school together by attracting existing faculty from both institutions to

**The UT-ORNL Graduate School of Genome Science and Technology (GST) is the only graduate school in the nation to fully integrate a university with a national laboratory.**

establish collaborative research projects. Student activities also help attract new faculty members to UT and ORNL. GST currently has 17 graduate students with ten more expected in fall 2001. The program's goal is to direct as many as 50 students.

Directed by **Jeffery Becker**, fully integrated committees collaborate on admissions, curriculum, course development, and seminars. Currently, four individuals compose the main office, while 40 research professors from UT and 30 from ORNL participate in the program.

The GST program is a benefit to all who conduct or profit from genomic research. This program will attract biotechnology jobs to East Tennessee, create research opportunities for existing faculty, attract new faculty member, and sponsor a student exchange program with the UT Medical Center in Memphis. Being the first of its kind, the GST program can serve as a template for other universities nationwide.

<http://bio.lsd.ornl.gov/gst/index.html>

## History of the Division of Biology

The Division of Biology came into existence in 1993 coincident with the hiring of the first division director, **Dr. W. Franklin Harris**. The purpose of the division is to provide overall coordination of biological activities in the College of Arts and Sciences. The division is administered by a director, who has the responsibility of coordinating current activities of the division, as well as the future development and structure of biology programs. The director works with the department heads and graduate programs through an executive council, ad hoc committees, and standing committees to achieve division and department goals.

At its inception the division consisted of the four departments of Biochemistry, Botany, Microbiology, and Zoology. Each of these departments offered an undergraduate major and M.S. and Ph.D. degrees in their respective disciplines. In addition, there were undergraduate

biology degrees offered with concentrations in cell and molecular biology or organismal biology. There were seven intercollegiate interdisciplinary graduate programs emanating from these four departments, including Ecology, Ethology, Cell and Molecular Biology, Physiology, Environmental Toxicology, Plant Physiology and Genetics, and Biotechnology.

In 1995 the Division of Biology was reorganized into four departments, Biochemistry and Cellular and Molecular Biology, Botany, Ecology and Evolutionary Biology, and Microbiology. The Biochemistry and Cellular and Molecular Biology Department comprises faculty members from the former Biochemistry and Zoology departments, and the Ecology and Evolutionary Biology Department comprises faculty members from the former Zoology and Botany departments. Each of these departments continues to offer M.S. and Ph.D. degrees. The undergraduate curriculum

was revised so that a single B.S. degree in biology is offered with tracks in the individual departments. Students must select one of the tracks. Most of the interdisciplinary graduate programs were subsumed into the new departments with only the Plant Physiology and Genetics Program remaining.

**The emphasis is to provide a hands-on experience for the students.**

In addition to these structural changes, we revised the curriculum, in particular the core courses prerequisite for each of the four tracks. There are now laboratories associated with the cell biology course and the general genetics course. The emphasis is to provide a hands-on experience for the students to get a better understanding of the material

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## Stacking the blocks

The study of the building blocks of life is basic to modern biological research at UT. Whether the research focus is on animal, plant, or microbial genetics, the study of DNA is crucial. Facilitating this need is the UTK Molecular Biology Resource Facility (MBRF), which is housed on the sixth floor of the Science and Engineering Building.

Established in 1995, the MBRF offers DNA sequencing and fluorescent fragment analysis to more than 35 independent labs within the division. Outside the division, the MBRF also provides services to the agricultural campus and various UT departments including Anthropology, Nutrition, and Psychology. Off-campus clients include the UT Medical Center, East Carolina University, and East Tennessee State University.

MBRF Director **Neil Quigley** works with undergraduate student **Joseph May** to process approximately 250 to 300 DNA samples per week. The facility operates on a fee-for-service basis, which covers consumable supplies, minor equipment replacement costs, and salaries. The major equipment currently in use includes a slab gel-based DNA sequencer, a single capillary genetic analyzer, a microarrayer and an array reader. The facility also functions as a teaching resource, with Quigley holding workshops that coordinate with core courses within the division.

Although the facility has been open for only a few years, the technology of DNA sequencing instrumentation has changed a great deal during that time. With the continued increase in genetic

research, MBRF is facing the challenge of upgrading its equipment. Since the facility is used in part as an incentive to attract new professors, Quigley is hoping to replace the outdated slab gel-based sequencing instrument with a modern medium throughput capillary-based sequencer. He sees a future where DNA processing at UT becomes faster and less expensive to the users.

MBRF fills its niche within the division by providing multi-user access to equipment too expensive for individual labs to purchase. In a broader sense, MBRF provides indispensable support for UT researchers whose experiments touch human life at every level, from improving food and fiber production to curing diseases.

## Electron microscopy

The Electron Microscope (EM) Facility is housed on the first floor of the Science and Engineering building. Director **David Joy** and Associate Director **John Dunlap** operate both light and electron microscopes to aid researchers on and off campus.

The EM Facility works on a variety of on-campus projects; for example, spore characterizations for the Department of Botany and viral transport research for the Department of Microbiology are recent undertakings. Biochemistry has used the facility to study protein localization in cells. There are also on-campus projects

that involve other colleges. The UT College of Engineering uses the transmission electron microscope for characterizing metals for their Materials Science Division. This ongoing partnership has led to combined efforts between Biology and Engineering to seek funding for new equipment to benefit both groups.

The UT Medical Center, one of the main off-campus users of the facility, uses the microscope to aid clinicians in diagnostic pathology, and research laboratories in the study of the link between amyloidosis and Alzheimer's disease and cancer.

Joy and Dunlap both offer graduate-level courses in electron optics. Students taking these classes are typically working with a professor on a research project in which the microscopes facilitate data collection crucial to their project.

The staff in the EM facility remains on the cutting edge of EM technology by continuously looking for new resources to finance equipment upgrades. In this way, it can continue to offer the best possible services to the UT community.

[www.bio.utk.edu/microbio/emf/index.html](http://www.bio.utk.edu/microbio/emf/index.html)

## BioComputing

The primary focus of the BioComputing Facility, in existence for less than a year, is to provide network, server, and desktop support for all division entities and the administrative offices of the College of Arts and Sciences.

Directed by **Ron Johnson**, the facility provides computer hardware and operating-system and application support for everything from personal computers to the advanced workstations that interface

with such complex instruments as the electron microscopes in the EM Facility.

The BioComputing staff constantly cross-trains in order to provide the best possible support to the division and to remain abreast of new and developing technologies. A current initiative is to restructure the division computing infrastructure, using modern networking topologies, clustering techniques, and advanced server platforms. The new

infrastructure will balance the computing load across the server farm and provide faster access to relevant services and data.

The BioComputing staff is also restructuring the division's Web site at [www.bio.utk.edu](http://www.bio.utk.edu). The goal of the project is to bring continuity and ease of use to the division's Web presence while allowing departments and facilities to have the flexibility to design and maintain their individual sites.

## Animal research

The Animal Facility for the Division of Biology houses animals involved in research. Manager **Sally Fridge** supervises seven full-time animal-care technicians and four part-time students. This staff has a combined 70 years of experience in caring for small lab animals. Two of the technicians and Fridge are certified through the American Association for Lab Animal Science (AALAS). Other technicians are taking classes provided by the Office of Lab Animal Care (OLAC) in order to prepare for certification testing. Continuing education for all animal-care staff is provided by OLAC and the UT College of Veterinary Medicine.

Since 1983 the facility has been accredited by the Association for the

Assessment and Accreditation for Laboratory Animal Care, International (AAALAC Int'l.). Accreditation provides assurance to regulatory agencies that certain guidelines and regulations are followed. This assurance aids researchers as they apply for research grants. Accreditation is renewed every three years, when AAALAC Int'l. is invited to send site visitors to thoroughly review the entire lab animal program, to ensure that their guidelines are followed, and to make recommendations for improvement and modernization.

The facility currently shelters mice, rats, rabbits, pigeons, frogs, and guinea pigs, but the staff is able to accommodate any type of small animal. Care is furnished

seven days a week, including holidays. The facility contains more than 30 animal rooms, a small surgery area, and a kitchen for preparing special diets. Veterinary care is provided by OLAC.

The major goal of the facility is to offer high-quality humane care for all animals in residence. Environmental enrichment solely for the benefit of the animals is a major concern for the staff: Pigeons play with bells and preening toys. Tunnels afford frogs and guinea pigs hiding places. Balls and rattles are available for the rabbits to play with, and mice are furnished with nesting materials.

The staff of the Animal Facility uses its expertise to fulfill a mission to serve researchers within the division.



## The business end

The mission of the Biology Business Office (BBO) is to act as a procurement and financial clearinghouse for the division, enabling individual departments and their faculty members, students, and staff to concentrate on teaching and research.

Managed by **Denny Mullins**, the BBO places orders, receives and distributes the shipments, and processes the billing for the division. It averages placing more than 1,000 orders a month to such large scientific supply houses as Fisher Scientific, to more-specialized companies like Life Technologies and Applied Biosystems, and to many smaller boutique suppliers,

such as Avanti Polar Lipids and Santa Cruz Biotechnology. Items ordered can vary widely; for example, BBO has ordered live crickets, electron microscopes, and exotic chemicals (like interferon gamma or cholera toxin), not to mention such common chemicals as glucose or table salt. Shipments are received on the central loading dock and distributed to the various department offices and research or teaching laboratories.

The business office is also responsible for monitoring the financial status of the more than 225 departmental and research accounts. These include the state-

supported departmental budgets, as well as research accounts awarded to faculty members by such entities as the National Institutes of Health, the U.S. Department of Energy, the U.S. Department of Agriculture, the National Science Foundation, and various pharmaceutical companies.

[www.bio.utk.edu/biologyb.nsf](http://www.bio.utk.edu/biologyb.nsf)

## IN VIVO

An alumni newsletter published by the Division of Biology  
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- You have personal or career-oriented news (and/or photos) to share
- You'd like to learn more about a particular subject or faculty member

## The go-to guys

Since its inception in 1974, the four sections within the Biology Services Facility (BSF) have offered an array of technical services to UT's scientific community. The **electronics shop** is staffed with factory-trained technicians who maintain all teaching, research, and laboratory equipment from vortex mixers to ultra-centrifuges.

The **machine shop** uses its expertise to maintain complex equipment, like autoclaves. It also designs and develops hardware for UT researchers. Instruments

can be made using most ferrous and non-ferrous metals, as well as rigid plastics.

The **cabinet shop** creates specialty desks and cabinets to be used in labs or offices, and the staff in the **main office** pulls it all together by processing incoming service requests and finding specialized parts in a timely manner. Manager **David Pratt** is proud of the way BSF functions because of the variety of services offered and the dedication to quality workmanship. He views BSF as a collation of highly trained problem-solvers.

History, continued from page 4

encountered during the lectures.

The Division of Biology represents a significant portion of the biological sciences at the Knoxville campus of the University of Tennessee. The College of Agricultural Sciences and Natural Resources is a partner in research and education in the biological sciences. There are active collaborations with the colleges of Human Ecology and Veterinary Medicine. Indeed, the division has a special relationship with the College of Veterinary Medicine because the Department of Microbiology is shared by the two colleges.

The division has numerous interactions with the Oak Ridge National Laboratory, particularly the Life Sciences and Environmental Sciences divisions. The UT-ORNL Graduate School of Genome Science and Technology is administered through the Division of Biology. We have active research partnerships with the Tennessee Valley Authority, the National Park Service, and the UT Medical Research Center in Knoxville. We expect to maintain successful interactions with these units in research, education, and service.

The mission of the Division of Biology is in concordance with that of the College of Arts and Sciences. It is fourfold:

1. to provide high-quality education to students seeking a general education and/or preparation for professional studies or advanced graduate study in biology or in any other discipline in which they can benefit from the skills they have mastered in biology;
2. to undertake research and creative activity in biology and to promote an environment where research and education are a continuum;
3. to provide advanced graduate training in selected areas appropriate to the strengths of the faculty; and
4. to provide public service to the state of Tennessee, the region, and the nation in ways that enhance the education level of all citizens and inform them of the role the university plays in their life.

## Honors in Biology

For the past five years the division maintained an honors program called the Threshold Program, supported by an undergraduate education grant from the Howard Hughes Medical Institute.

Coincident with that program, several courses were developed to provide a mechanism for introducing student participants to the skills and technologies required for a career in research. These courses brought all the program's participants together every week, and they provided a forum for students at different stages of the program to interact and to learn from and mentor one another. Unfortunately, resources for the maintenance of the Threshold Program disappeared with the expiration of the grant last year.

Each of the four departments of the Biology Division has an honors track within its major. These tracks are not, however, identified by courses that are defined as honors courses. At present, a committee of interested faculty members from each of the departments is developing a proposal that attempts to incorporate the spirit of the Threshold Program into an honors program encompassing each of the tracks.

A key goal of this effort is to retain those courses that bring honors students together and foster the interactions that were encouraged by the Threshold Program. This promotes student mentoring and a greater sense of collegiality.



## Alumni news

**Laura Hake**, Ph.D., is currently an assistant professor at Boston College in the Biology Department. She graduated from UT in 1984 in zoology, and went to graduate school at Tufts University, just outside of Boston proper. After completing her Ph.D. in 1992, she began a postdoctoral fellowship with Dr. Joel Richter at the Worcester Foundation for Biomedical Research.

She is currently working on the regulation of mRNA translation during *Xenopus* oocyte development. Her laboratory has a publication in press in the journal *Developmental Biology*: "CPEB degradation during *Xenopus* oocyte maturation requires a PEST domain and the 26 S proteasome."

In addition, she recently married Daniel R. Whitmore, a mechanical and structural engineer who works for Raytheon.

## A fond farewell

The division would like to say good-bye and good luck to **Rhonda Mattingly**, office supervisor, who is leaving the division after eight years of service. She is looking forward to her new job at Pellissippi State Community College, where she will be closer to her Blount County home. We all wish her well.



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In times of stagnant budgets, we always need more partners in progress. When you make your contributions to the university, please consider at least one of the Biology enrichment accounts. (All gifts are tax deductible and will be allocated with the utmost discretion.)

## Pique the curiosity of a teenager

We are currently designing brochures to educate high-school students about the interesting careers available to Biology graduates. If yours is a career that you feel might pique the curiosity of a teenager, please fill out the insert form and return it to us in the enclosed postage-paid envelope, or contact Laura Maples at [imaples@utk.edu](mailto:imaples@utk.edu).

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