Notes from the (Rocking) Chair

In a department as large as ours, the students represent a wide variety of dreams, abilities, and motivations. There are the pre-meds, who build their curricula, their study time, and even their free time around preparation for that all-important MCAT. There are athletes, who live in parallel universes, dividing their time and their allegiances between the sport they love and have always known and the academic preparation for a career they don’t yet know, but will be the major commitment for the remainder of their lives. There are the pre-PTs, who work so hard to get in all those volunteer hours necessary for acceptance into graduate school. There are the field biology students, who spend their time trampling around in the woods, for insects, for invasives, or for some combination of both. And there are the numerous other combinations of student ambitions, including those students who change their dreams mid-stream. The faculty and staff of the Department of Biology spend great amounts of time helping those students find their passions, and when found, to achieve the goals that represent the culmination of their efforts. Best of luck as you find and reach your own dreams!

Robert T. Hammond
The Fall 2007 SURS, on Nov. 29, 2007, found it necessary to move into larger quarters in order to handle the increased number of student research posters submitted. Students in the Department of Biology presented 21 posters of their work completed during 2007. From DNA replication in smallpox virus to bowel disease in mice, and from learning in zebrafish to resistant bacteria in restaurants, a wide diversity of work was presented and discussed by seniors who completed their research in BIO 4700. An additional 25 posters were presented by a total of 50 students from other departments in the School of Sciences. Following the poster session, oral presentations were made by 16 students. The keynote address was delivered by Dr. Richard Haglund, who discussed his work at Vanderbilt University in “Putting Nanoparticles to Work.” Attendance was high, ca. 135 students and faculty, as Dr. Haglund described the potential uses of nanoparticles in engineering as well as neuroscience.

Several majors at Belmont are closely allied to the Department of Biology, either through curricular offerings or other faculty involvement. The Fall 2007 official headcount of students and their majors at Belmont shows 97 Biology majors, 12 Biochemistry and Molecular Biology majors, 1 Medical Technology major, 3 Environmental Studies majors, and 2 Neuroscience majors. By far most of these students, along with many pre-health students, take Principles of Biology I and II, and the increase in students is reflected in the fact that these courses are being offered in three sections every Fall semester. This Fall 76 students began the semester in BIO 1110, and 47 students enrolled in BIO 1000 – Freshman Seminar in Biology as new Biology majors. This growth period, combined with the overall growth of the university and its effect on the BIO 1010 non-majors offerings, is leading the Biology faculty to evermore creative ways to manage space requirements for both lectures and labs. Most of our labs are in use in the afternoons, and more and more morning labs are being scheduled. BIO 1110 has been meeting as triple section in lecture, and BIO 1120 has met as a double section plus a single section. It is an interesting challenge, but the excitement of more students and more diversity of student population keeps the Department an interesting place for student and faculty alike.
Belmont Students and Faculty Attend and Present at Tennessee Academy of Science (TAS)

The Annual Meeting of the Tennessee Academy of Science was held at Volunteer State Community College on Nov. 16, 2007. The Department of Biology of Belmont University was well represented, even more so than in the past. Dr. Steve Murphree is, and has been for many years, the Treasurer of TAS. In addition to most of the faculty attending, senior biology majors presented 21 posters in the morning session. Among those, the following students won awards for their disciplines: Dale Carter (pictured at right), 2nd place in Health and Medical Sciences; Sarah Brandt, 3rd place in Cell and Molecular Biology; Tara McDonough, 3rd place in Health and Medical Sciences; Annie O’Steen (pictured at left), 2nd place in Botany; and Amy Nause (pictured at left), 1st place in Botany. The next meeting of the TAS will be held in Nashville on Nov. 21, 2008.

Annie O’Steen  Amy Nause

Dr. Ragsdale, Stephen May, Chelsea Wilson and Jennifer Rix at TAS

Dale Carter

Michelle Howell presents at TAS
The Animal Behavior and Neuroscience Initiative (ABNI)

ABNI was begun in the Summer of 2006 as a means of facilitating joint research between the Departments of Biology, Psychology, and Computer Science in the area of animal behavior. Psychology students and faculty were interested in studying behavior in animal systems, the computer scientists were interested in developing software to assist in analysis of such behavior, and the biologists suggested the use of model systems in which particular species have their genomes sequenced, their development well understood, ease and rapidity of growth, and a variety of mutants readily available for study. The faculty and students in Biology were already studying behavior in *C. elegans*, a nematode. As a result of the development of ABNI Dr. Yandell from Psychology and Dr. McGrew from Biology started their students on joint projects using *Danio rerio*, zebrafish, as models of behavior. The Department of Biology had purchased a multi-tank assembly for growth of the fish and beginning in Spring 2007 the tank was assembled and put into use. Summer 2007 saw several students (five BIO and two PSY) begin to carry out research on zebrafish. In Summer 2008 four more BIO students worked with Dr. McGrew on zebrafish. All these students have presented at various meetings of the Tennessee Academy of Science and some have presented at regional and national neuroscience meetings. Now students are working with both *C. elegans* and *D. rerio* in studies of animal behavior. With the addition of Dr. Niedzwiecki to the BIO faculty, animal behavior studies have expanded to include *Ambystoma* (salamander) larvae, as well. Thus, ABNI has continued to grow and facilitate student involvement in neuroscience and behavioral studies.
O.N.E.
Our Natural Environment

O.N.E. is Belmont’s environmental club. The purpose of the O.N.E. Club is to raise environmental awareness among the students of Belmont University. O.N.E. would like to involve the students of Belmont in learning about the environment and taking part in activities that are not only beneficial to the Belmont community, but the greater Nashville area and the environment itself. Some of our activities include local area cleanups, campus recycling, debates, letter writing campaigns, Earth Day celebration, lectures, movie series.

Who should join? Anyone who wants to learn what they can do to make our planet a healthier place to live. O.N.E. can help you get actively involved in environmental issues and show you how to make a difference. Join now to have fun and help preserve our environment.

For more information, contact Dr. Darlene Panvini at 460-6224 or panvinid@mail.belmont.edu.

ΘET—Theta Epsilon Tau

The purpose of the ΘET Pre-Health Student Association is to provide timely and accurate information and instruction for students in preparation for careers in health sciences. This association provides a resource network for members by providing: speakers on various medical subjects; information concerning internship, research, and volunteer opportunities; admissions information and preparation, study groups and workshops for graduate tests; and workshops in interviewing skills. Yearly activities of the association are directed by its membership and officers. For more information on ΘET, contact Dr. Nick Ragsdale at 460-6210.

βββ—Beta Beta Beta

The Beta Beta Beta (βββ) Biological Society is a society for students who are dedicated to improving the understanding and appreciation of biology. The Mu Theta Chapter of Tri-Beta at Belmont University was established April 9, 1988. Since then the membership has promoted the study of biology through various activities such as invited presentations, field trips, trips to scientific meetings and social events for students. Tri-Beta provides leadership opportunities for students, informs them about current developments in biology, and helps them prepare for employment. Tri-Beta meets monthly on each second Friday during 10:00 hour on the 4th floor of the Hitch Science Building. Recent activities have included an annual plant sale and coordinating Belmont’s Clean Earth (recycling) Campaign. For more information, contact Dr. Steve Murphree at 460-6221 or murphrees@mail.belmont.edu.
SLURPS
(\textit{Student Led Undergraduate Reading Program in the Sciences})

You’re looking for a reading group to balance all of that knowledge that you’ve gained in those heavy tomes of Biology and Chemistry, but you don’t want to read Austen or Lawrence. So where do you go? How about SLURPS? No, it’s not a new coffee hang out or a new power drink. SLURPS is the acronym for \textit{Student Led Undergraduate Reading Program in the Sciences} and it is a reading group for science majors. SLURPS’s originator, Dr. Kim Boggs, saw a need for a group where students could expand their reading experience with books outside of their assigned texts. Book selections in the past have included \textit{Complications} by Atul Gwande, \textit{Stiff} by Mary Roach, \textit{Best American Science Writing 2003} by Oliver Sacks, \textit{Adam’s Navel} by Michael Sims and \textit{Living with our Genes: Why they Matter More than You Think}, by Dean Hamer and Peter Copeland. “Students enjoy the group immensely”, says Dr. Thomas who helps coordinate the group along with Dr. Boggs and Dr. Ragsdale. The group is open to sophomores, juniors and seniors. Each student-led session meets four times a semester with at least eight to ten students attending but the numbers are growing according to Dr. Boggs. SLURPS includes students from Biology and Chemistry, but Dr. Boggs plans to expand the reading group to include other departments in the School of Sciences. So if you’re looking for a good read, contact Dr. Kim Boggs (460-6044; boggsk@mail.belmont.edu) or Dr. Jennifer Thomas (460-6322; thomasjt@mail.belmont.edu).

\textbf{\textit{βX—Beta Chi}}

Beta Chi, the Belmont Biochemistry and Molecular Biology Society, is for students interested in research in the areas of biochemistry and molecular biology. The goals of the organization are to bring in outside researcher to campus to talk about their work; expose students to the research opportunities available in the Nashville area, both on and off campus; provide a forum to prepare students for graduate training and careers in research; travel to local scientific meetings and provide social and volunteer opportunities to its members. Meetings are held on the first Friday of each month. Dues are $10.00 annually. Membership is open to any student possessing a 3.0 GPA, a record of good standing with the University, and an active interest in research. Biochemistry and Molecular Biology, Biology and Chemistry majors and minors are encouraged to join. If you are interested and want more information, you can contact the current Beta Chi faculty Advisor, Dr. Jennifer Thomas (460-6322; thomasjt@mail.belmont.edu; HSB 305).
Dr. Murphree’s Fall 2007 Odyssey
(A Sabbatical Reflection)

My main goals for my sabbatical leave were 1) to write an undergraduate research grant proposal to study the biology of biting midges (no-see-ums) with students, 2) to develop a Junior Cornerstone course centered around the “spray- no spray” for West Nile virus carrying mosquitoes, and 3) to update course and research materials and attempt to reorganize my office (how ambitious was this!).

Well, truth be told, I did not completely achieve any of the above goals: 1) I attended a grant-writing workshop and met with Belmont’s new director of sponsored programs about grant possibilities. I also became a cooperating scientist on a grant entitled “Occurrence and Distribution of Trypanosoma cruzi in Tennessee” which was funded by the Southeastern Center for Emerging Biologic Threats in May of 2008. 2) I made some progress towards developing the “spray- no spray” course but it is not yet ready to be offered. 3) I managed to clean one corner of my office, a herculean task by any standard.

The last week in September I had the privilege of going with my 6th grade son’s classes to a week of environmental education adventures at the Great Smoky Mountains Institute at Tremont. The all day hike on the 4th day inspired me to later hike other trails including a solo day hike to visit the newly acquired Walls of Jericho property on the Tennessee-Alabama border and the trails of Beaman Park, one of Metro Nashville’s newest parks. Photographing insects at the Walls of Jericho was one of the highlights of my leave.

In October I attended a symposium that my Auburn University major advisor organized. Participating in this symposium on British entomologist Philip Gosse (a contemporary of Darwin) was a second highlight of my sabbatical. Gosse lived in frontier Alabama in 1838 and, while a schoolmaster near Selma, produced a number of wonderful watercolor paintings of insects called the “Entomologia Alabamensis”, which I had held in my hands at the British Museum in 1996. My former professor, Dr. Gary Mullen, and I have also had a long-term correspondence with a direct descendant of Gosse in England. Gosse’s biographer, Anne Thwaite (who also wrote the biography of A.A. Milne of Winnie-the-Pooh fame), was able to attend the symposium and accompany Dr. Mullen and me on a visit to sites in Dallas County, Alabama that Gosse had frequented in 1838.

To sum things up, my sabbatical leave was a memorable experience. I had time away from teaching to do things that I would rarely have had the time to do otherwise. I certainly do not plan on waiting another 16 years before applying for a second one!
Contact Us

- Have any comments about the newsletter or the Department?
- An alum with an update on activities?
- Like further information about the Department, its offerings or activities?

Please contact us by one of the following e-mail address or by postal service.

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Also, please check the Departmental webpage at: www.belmont.edu/biology

Belmont Alumni

We want to hear from you! Please take a moment to fill out the information below and send to us.

Alumni Update
Name__________________________________________Graduation Year________________
Address_________________________________________________________________________
City________________________State__________Zip Code_________Phone__________
Email address______________________________________________________________
Employment__________________________________________Title_________________________
Recent promotion, honor, award, family activity?_____________________________________

BIOLOGY DEPARTMENT

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Dr. C. Steven Murphree, Professor
Dr. Lori L. McGrew, Assistant Professor and ICORD Fellow
Dr. John Niedzwiecki, Assistant Professor and Gulf Coast Research Lab Coordinator
Dr. Darlene Panvini, Associate Professor and ENV Coordinator
Dr. D. Nicholas Ragsdale, Associate Professor and Pre-Health Advisor
Dr. Jennifer T. Thomas, Associate Professor and BMB Coordinator
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