Double Helix

Biology Department Newsletter

Notes from the Chair

The Biology Department website notes that we offer a variety of programs and courses to engage students in the process of “doing biology.” What evidence can we offer to demonstrate that we live up to that promise? Recently at the Science Undergraduate Research Symposium (SURS), Biology seniors presented posters of their research projects on a wide variety of topics, indicating many hours spent in labs, woods, streams, and/or wetlands. They have brought the scientific method full circle—from questions, to hypotheses, to public sharing of their research. While scientific research is the mechanism for inquiry in our discipline, “doing biology” is also about recognizing the aesthetic pleasures that come with the study of living organisms and acknowledging the connections between biological principles and the human condition. Evidence of these aspects of “doing biology” are demonstrated via the students in Animal Behavior giving presentations on their projects facilitated at the Nashville Zoo this semester, students in Environmental Science wrapping up their composting experiments, Botany students finalizing their service-learning projects in which they explored the concept of “garden,” and students in Cancer Biology visiting the Vanderbilt Children’s Cancer Center. As this newsletter attests, our students have been busy in internships, attending seminars and conferences, and taking summer courses—all evidence of our engagement in the active learning of biology. When we take time as teachers, learners, and students (I consider myself all of these) to explore, enjoy, and be amazed at the beauty of living organisms and the complexity of life, then we are experiencing the fullness of “doing biology.”

I invite you to check out our updated website: http://www.belmont.edu/biology/ for additional information on departmental happenings and to contact us with alumni information.

Dr. Eric Dawson, spoke to School of Sciences students on October 7 about his research in three dimensional models of proteins and ligands. Dr. Dawson is a research assistant professor and pharmacology director for the Molecular Modeling group at Vanderbilt’s Program in Drug discovery. Dr. Dawson spoke to a full house on October 7 and kicked off the SOS Colloquium Series for the 2010-2011 year.
Neuroscience 2010: the 40th annual meeting of the Society for Neuroscience

The Society for Neuroscience (SfN) met in San Diego California this year to provide a venue for investigators from around the world to share emerging science and to foster new collaborations. Over 35,000 neuroscientists registered to attend the conference.

An excerpt from the SfN website: “With more than 16,500 abstract submissions this year, Neuroscience 2010 offers an abundance of neuroscience discovery. Through poster sessions, lectures, symposia, workshops, and more, you will explore innovative research and the latest in scientific technologies and techniques.”

Dr. Lori McGrew attended the conference along with her research students: Taylor Andrew, Steven Avers, Taylor Beazley and Katy Parsley. The meeting kicked off with a session entitled “Dialogues Between Neuroscience and Society: Bringing Change to Mind on Mental Illness” which was led by Glenn Close. Following that, Dr McGrew presented a poster entitled “Motivating Students to Take Responsibility for Their Own Learning by Giving Them a Role in Course Design”. This presentation was part of the “History, Teaching, Public Awareness and Societal Impacts” theme. Later, the students presented the results of their senior research projects (“Studies of Dopamine, Testosterone Working Memory and Vision in Danio rerio”) at the Faculty for Undergraduate Neuroscience poster session. In addition to making these presentations, the group kept busy attending other conference events including “A novel technique to monitor activation of escape response circuitry in freely behaving zebrafish larvae”, “Effects of ethanol on anxiety-related behaviors in zebrafish (Danio rerio)”, and “Ketamine induces neurotoxicity in zebrafish in vivo”. In short, this conference was a great opportunity to share findings and the attendees learned a great deal about current research in neuroscience. (They even saw some animal rights activists and met a captain in the Nigerian navy.)

Southeast Population Ecology and Evolutionary Genetics Meeting (SEPEEG) 2010
October 8-10, Madison, FL

In a Poster Session at the 2010 Southeast Population Ecology and Evolutionary Genetics Annual Meeting, students Atinuke Osinusi, Caleb Binkley and Mark McFarland presented their Summer Research Projects. They also attended talks given by professors and graduate students on the cutting edge of evolutionary biology and genetics. Dr. John Niedzwiecki also gave an oral presentation at the meeting. Many schools, mostly large research Universities from the Southeast were represented, including UGA, Emory, Clemson, UT, UF, FL State, East Carolina and SE Louisiana State.
TAS (Tennessee Academy of Science) November 19, 2010

Biology is ready for TAS!

Twelve Biology students, two Biochemistry and Molecular Biology students, and Biology Professors Steve Murphree, Jennifer Thomas, Nick Ragsdale, and Darlene Panvini attended the 120th Annual Meeting of the Tennessee Academy of Science in Cookeville, TN on November 19. Emeritus Biology professor David Hill also attended the conference. The students presented posters of their senior research projects in the areas of botany, cell and molecular biology, microbiology, and zoology. Biology students presenting were: Sarah Ayers, Julianna Bejma, Lindsey Dalton, Brittney Everhart, Amy Fehrmann, Julie Malkowski, Ariel Ouellette, Katie Rice, Jessica Rix, Katherine Roach, Emily Smothers, and Matthew Turner.

BMB student presenters were: Gabrielle Facey and Luke Starner. Dr. Panvini gave an oral presentation on “Trends in Assignments and Exams in Biology Courses.” Dr. Murphree, treasurer of TAS, was involved in conference planning. Dr. Thomas chaired the Science and Math Teaching section.

For more photos, visit our Facebook site—Serotonin Helix.

Biology majors are pinned at Fall 2010 Alpha Chi ceremony

Four Biology majors and their sponsors attended the Fall 2010 Alpha Chi ceremony in Neely this November. Inductees this fall were Marolyn Bejma, Megan DeVries, Brittnay Everhart and Amy Fehrmann. Alpha Chi membership is the highest academic honor awarded by Belmont University. It is an international, interdisciplinary honors society open to junior and senior university students who rank in the top 10 percent of their class. Alpha Chi members are nominated by the faculty and must have "outstanding moral character" and display leadership and integrity. Alpha Chi is one of the nation’s most highly selective honor societies, with over 300 chapters across the nation.

Congratulations to all!

Alpha Chi Inductees:
Megan DeVries; Marolyn Bejma; Brittnay Everhart
**Summer Research, Internships and more...**

*This has been a busy summer for Biology students. Here are just a few of the ways that our students spent their summer.*

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**Ashley Newsome**  
*Ashley is a junior in the Biology Department. Below, Ashley describes her internship at Meharry this summer.*

“There are ten students in the program at Meharry, and most of the others are working in traditional laboratory settings, dealing with breast cancer, colon cancer, or HIV research. I was actually paired with mentors from the Prevention Research Unit at Meharry, so none of the research I’m doing is in a lab. I am studying community-based participatory research under Dr. Margaret Hargreaves, and my research project deals primarily with helping community health coalitions in Nashville. We are interviewing executive members of three community coalitions (Nashville Latino Health Coalition, Community Food Advocates [formerly Food Security Partners], and Nashville Health Disparities Coalition) and doing qualitative data analysis of their answers using Atlas software. It has been a really interesting experience so far.

One of the things I like most about the work I’m doing is that I’ve gotten opportunities to leave my office and expand my education in the community. I’m really impressed by the work NLHC is doing, and I’m starting to volunteer at Progreso Community Center (the center associated with the coalition) twice a week with their childcare. I’ve also met with Dr. Cherry Houston, who is the director of the Center for Community Health and Health Equity at Belmont. I was also able to attend a workshop at Vanderbilt on Diabetes.”

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**Nicholas Kirk**  
*Nicholas is a junior who spent the summer on the Gulf Coast. Below he recounts his experience:*  

“This summer I took a senior level field station course called “Coastal Ornithology” at the field station Gulf Coast Research Laboratory in Ocean Springs, Mississippi. It was a two-week crash course into the world of Ornithology, a biological subfield that specializes in the study of birds. Since I want to become an avian vet or go into graduate school for ornithology, I felt like taking this course would be a good way for me to get my feet wet, pardon the pun, in this field. This was probably one of the best decisions I ever made.

We started early every day. We spent between four and six hours outside in a huge variety of locations each day. We went from heron rookeries (nesting sites) deep in the forests to a bird banding site in the bayou to a Katrina ravaged island that was still recovering back to its original state. These field trips didn’t just expose my class to the vast number of ecosystems and bird species that live in them, but just how important each one is in the grand scheme of the entire gulf coast.

The course wasn’t easy, but it wasn’t meant to be. A full semester’s worth of material slammed into two weeks has definitely challenged me to study the hardest I ever have. This challenge brought me great rewards, though. By the end of the course I had memorized almost eighty different species of birds by their complete taxonomic name and was able to identify males and females of those species for the field portion of the test.

My time in Ocean Springs helped me grow in many ways as a student and as an individual. I would highly recommend going to a field station to anyone, not just those interested in pursuing a career in research. But if you do think you are interested in working outside while doing something you love, then you are doing yourself a disservice by not experiencing what a field station like the GCRL can offer you! *
Dana Halchack (09) is working as a pharmacy tech.

Amanda Castro (10) is working at Aegis Labs as a Forensic Evidence Processing Technician.

Lindsay Walker (ENV grad May 2010) is working as Recycling Coordinator, Residential and Events Operations for the Recycling Program at Vanderbilt. She is working in the Sustainability and Environmental Management Office.

Becky Adams (06) “Currently, I’m working in my thesis lab and taking a developmental biology course. I will be starting my second year of graduate classes in the fall. I’m enjoying doing research, and I’m beginning to settle on what I plan to do in my future--teach at a liberal arts school like Belmont. I’m excited to begin teaching undergrads as a TA in a few years, too!"

Bridget Shariat (06) has been keeping the department updated on her journey to becoming a doctor. Bridget has her D.O. (Doctor of Osteopathic Medicine) from VPISU. Here is her story so far:

March 2010
“I wanted to give you some exciting news from Match Day. I will be heading to the University of Colorado, Denver for Family Medicine! This was my top choice and I couldn’t be more excited and relieved that the wait is over. I was happy to have my family come up to Virginia for the big day to help me celebrate.

I want to thank you all for keeping me in your thoughts during this roller coaster ride the past 4 years. I am indebted to you for your constant encouragement, support, and love; therefore, I hope this news is as exciting for you as it is for me.

All that is left is to finish up the next several weeks of rotations and officially receive my diploma in May.

I am overwhelmed with joy to start this next phase of my life and career in Colorado. I don’t know what the future holds, but I expect to meet incredible people who will both challenge me and get to know me on a more personal level.

Denver, here I come!”

Sachin Amin (09) is attending St. George’s University in Grenada. He has some news also:

August 2010
“Yes, I enjoy studying. Aside from that I am enjoying the beautiful nature here in Grenada. I have been to so many hikes in the mountains and climbed so many of them also. I have been watching leatherback turtles coming to the island for egg laying season (which is now finished). I have been running ~25 miles weekly. Can’t get enough of the beautiful nature here. Running helps me with study breaks! If I am not running, I am talking to family, or hanging out with friends. But most of my days are dedicated to studying in study halls and meeting with a study buddy on a daily basis to review day to day lectures and notes. Helps me remember all my objectives for the courses and for the USMLE soon to be taken in less than one year.

Medical school keeps me very busy and I love it. I’m here for one more year (I will miss here though). Then off to hospital rotations. My day to day routine - I wake up and attend lectures, take 1/2 hr lunch break, then off to labs in afternoon. 1 hr running break. 1 hr dinner/chill with friends break. Then back to studies with study buddies with whom after discussing the daily material, we quiz each other and also do TONS of USMLE style questions to practice past material covered up until now. I love this system of learning. It keeps me up to date and focused on past and present study materials.”
SIRS (Science Undergraduate Symposium) Fall 2010

For the seniors in the Biology Department, hours of research in the summer and fall will culminate in poster presentations at places like TAS, SfN, and SEPEEG. SIRS gives these students the added opportunity to present their research to the science community and their peers at Belmont. On December 2, these students presented posters in McWhorter Lobby. A wide diversity of work was presented and discussed by Biology seniors who completed their research in BIO 4700. 23 posters were presented by students in Biology, BMB and Environmental Science. An additional 12 posters were presented by a total of 35 students from other departments in the School of Sciences. Following the poster session, oral presentations were made by 21 students. The keynote address was delivered by Dr. Victoria Morgan, who discussed her work at Vanderbilt University in Functional Magnetic Resonance Imaging. Below are SIRS presenters in Biology, BMB and Environmental Science.
Biology Alcohol Update

Dr. Robert T. Grammer, Professor
Dr. C. Steven Murphree, Professor
Dr. Lori L. McGrew, Associate Professor, ICORD Fellow and Neuroscience Coordinator
Dr. John Niedzwiecki, Assistant Professor and Gulf Coast Research Lab Coordinator
Dr. Darlene Panvini, Associate Professor, Environmental Science Coordinator and Chair
Dr. D. Nicholas Ragsdale, Associate Professor and Pre-Health Advisor
Dr. Jennifer T. Thomas, Associate Professor
Ms. Terri Templeman, Administrative Assistant
Mr. Ray Seely, Laboratory Manager and Chemical Hygiene Officer

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 addresses or by postal service.

Ms. Terri Templeman, Administrative Assistant, terri.templeman@belmont.edu
Dr. Darlene Panvini, Chair, darlene.panvini@belmont.edu

Department of Biology
Belmont University
1900 Belmont Blvd.
Nashville, TN 37212

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Biology Alumni Update

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

Name________________________________________Graduation Year___________

Address_________________________________________________________________________

City__________________________State__________Zip Code________Phone__________

Email address______________________________________________________________

Employment________________________________Title___________________________

Recent promotion, honor, award, family activity?__________________________________

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