



Double Helix

Biology Department Newsletter



Notes from the Chair

In the Environmental Science Senior Capstone course this semester, students and I read a text stating that Thoreau's writings focused on the "daily and hourly miracle of the usually unnoticed beauty that is close at hand."¹ Through this quote, I was reminded of my role as a teacher in introducing students to the "unnoticed beauty" of the biological world. When students express fascination with the structure of a sclereid (specialized plant cell), the function of neurotransmitters in a synapse, the growth potential of bacteria, the behavior of snails, or the intricacies of a wetland, I am awakening them to aspects of their world

that are often unseen and disregarded. At the same time, I am reminded of the "unnoticed beauty" of the biological world that I too overlook. Sparking curiosity, honing skills of observation, and focusing on the minutia while at the same time putting new information into a broader, holistic framework comprise elements of being a good scientist and learner – attributes that we value in faculty and students. In this issue of "Double Helix" you will see that our students and faculty observe, quantify, measure, analyze, and explore many facets of the living world. In doing so, they receive honors and recognition for their dili-

gence, patience, and fortitude as they discover beauty in places they might not have expected. Congratulations to Dr. Thomas and to all the students, especially seniors, who are highlighted in this edition of "Double Helix!"

¹ Sierra Club. 1962. In Wilderness is the Preservation of the World: Selections and Photographs by Eliot Porter. Arrowood Press, NY.



Dorene Pawinski

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Special points of interest:

- Biology Awards spotlight



Story on page 2



Benjamin Walloch Endowed Scholarship



Dr. Lisa Bibb, Scholarship recipient Gabrielle Facey, Dr. Jami Walloch and Dr. Jennifer Thomas.

A reception was held for the Benjamin Walloch family on April 18, 2011 in appreciation of their gift to Belmont of the Benjamin Walloch Endowed Scholarship for Biochemistry and Molecular Biology. Benjamin passed away in 2010. His parents, Dr. Lisa Bibb and Dr. Jami Walloch, created the scholarship in his memory.

Gabrielle Facey, a BMB major, is the first recipient of this award.

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CAS Awards

The CAS (College of Arts & Sciences) Awards were held in Beaman A&B on April 20, 2011. Dr. Darlene Panvini, Department of Biology, and Dr. Rachel Rigsby, BMB Coordinator, made presentations to nine deserving students, from freshmen to graduating seniors. The awards are given for different accomplishments, to different majors, and to different classes. Award recipients are listed at right.

Freshman Achievement Award in Biology

Allison McCoy

Ronald M. Barrett Pre-Health Award

Ashley Newsome

Donald R. Ramage Award for Service to the

Learning Community in Biology

Emma Reeves

Department of Biology Scholarship

Kathryn Parsley

Outstanding Student Senior in Biology

Sarah Ayers

Freshman Achievement Award in Biochemistry

and Molecular Biology

Fakhry Daowd

Outstanding Student in Biochemistry and

Molecular Biology

William Proffitt

Benjamin Walloch Endowed Scholarship for

Biochemistry and Molecular Biology

Gabrielle Facey

David R. Hill Environmental Science Award

Ariel Ouellette

**Allison McCoy and
Dr. Darlene Panvini**



**Katy Parsley
and Dr. Darlene
Panvini**



**Ashley
Newsome and
Dr. Darlene
Panvini**



**Sarah Ayers and
Dr. Darlene Panvini**



**Fakhry Daowd and
Dr. Rachel Rigsby**



**Dr. Rachel Rigsby
and William Proffitt**



Emma Reeves and Dr. Darlene Panvini

**Ariel Ouellette and Dr.
Darlene Panvini**



**Ashley Newsome and
Dr. Rachel Rigsby**



TAS at Belmont

The TAS (Tennessee Academy of Science) Collegiate Middle Division was held at Belmont on April 16, 2011. Many of our Biology seniors who gave oral presentations were recognized. Dr. Nick Ragsdale, Associate Professor of Biology, organized the event which included 45 students from nine universities in the Middle Tennessee Region. Pictures are posted on *our Facebook Page*—**Serotonin Helix**.

Entomology

First Place (tie)—*Sarah E. Ayers*. Repellent Properties of Common Herbs of the Family Lamiaceae Against the American Dog Tick, *Dermacentor Variabilis*. *Belmont University, Nashville, Tennessee*.

Ecology/Geology

First Place—*Julianna Bejma*. The Effects of *Lonicera Maackii* on the Diversity of Small Woody Plants at Warner Parks in Nashville, TN. *Belmont University, Nashville, Tennessee*.

Second Place—*Amy Fehrmann*. The Effects of Compound Chemical Cues on the Anti-Predatory Behavior in *Physid (Sp.) Snails*. *Belmont University, Nashville, Tennessee*.

Third Place—*Mark E McFarland*. Sublethal Effects of pH on the Activity of *Physa Snails*. *Belmont University, Nashville, Tennessee*.

Cellular/Microbiology

First Place—*Brittney D. Everhart*. Interferon Regulatory Factor-3 Levels are Decreased in Cell Lines Expressing Human Papillomavirus. *Belmont University, Nashville, Tennessee*.

Second Place—*Emily L. Smothers*. Analysis of Integrin Protein Levels in Cervical Cell Lines Expressing Human Papillomavirus. *Belmont University, Nashville, Tennessee*.

Third Place—*Ariel C. Ouellette*. The Antimicrobial Effects of Herbs And Spices on Gram-Positive and Gram-Negative Bacteria. *Belmont University, Nashville, Tennessee*.

General Biology

First Place—*Luke Starnier*. The Role of Dopamine on Chemotaxis Index in *Caenorhabditis elegans*. *Belmont University, Nashville, Tennessee*.

Second Place—*Katy Parsley*. Do Alterations in the Dopaminergic System of *Danio Rerio* Affect Their Ability to Learn And Their Aggressive Tendencies? *Belmont University, Nashville, Tennessee*.

Third Place—*Julie A. Malkowski*. The Effects of Rotenone on Chemotaxis in *Caenorhabditis elegans*. *Belmont University, Nashville, Tennessee*.

BURS (Belmont Undergraduate Research Symposium)

Congratulations to the Biology, Biochemistry and Molecular Biology, and Environmental Science seniors on their excellent presentations at the Belmont Undergraduate Research Symposium (BURS). This culminating event showcases research and senior capstone projects for students across campus; the sciences are well represented! A list of presenters and abstracts can be found at <http://www.belmont.edu/burs/>.

Spring Semester Biology Speakers

This spring, students and faculty had opportunities to hear from numerous speakers, including:

Dr. Sylvia Driggins, from Tennessee State University Speech/Language Pathology Department, sharing her experiences and career opportunities in speech pathology

Dr. Anne Ballmann, wildlife disease specialist with the USGS National Wildlife Health Center, talking about White-Nose Syndrome and bat populations in the eastern U.S.

Dr. Gerald Stubbs, Vanderbilt University Department of Biological Sciences, presenting on prions and amyloids in neurodegenerative disease (Vaughn Science Lecture)

Dr. Adriane Seiffert, Vanderbilt University Department of Psychology, "Seeing with the Mind's Eye" as part of Brain Awareness Week.

Additionally, several speakers and guests were on campus from health-related graduate and professional schools to talk about their programs.

Alumni: *if you would be interested in talking with current students about your career path and experiences, please contact us.*

Biology Faculty in the News

Dr. Niedzwiecki hosts seminars at Nashville Zoo

Dr. John Niedzwiecki, Assistant Professor of Biology, recently hosted a series of seminars for the zookeepers at The Nashville Zoo at Grassmere. The goal of the seminars was to introduce the zookeepers to behavioral research techniques and the basics of experimental design so that they might be able to employ the techniques with the animals they work with at the zoo. The Nashville Zoo is growing and is looking to take on an increasing role in zoo animal research. The zookeepers will be conducting small test projects this spring and summer based on these seminars and hope to soon gear up for larger projects. Dr. Niedzwiecki also uses the zoo animals, with the assistance of their keepers, for research projects in his Animal Behavior Class.



BioBlitz!!



On Saturday, April 2nd, Belmont Biology professors, John Niedzwiecki and Steve Murphree, hosted a BioBlitz at the Beaman Park Nature Center. Beaman Park is one of Metro Nashville's newest and most natural Parks.

Bioblitz's are a chance for the public to go off-trail, turn over rocks and logs, identify the organisms living in the park, and look for new species to the park, especially salamanders and frogs. The staff at the Beaman Park Nature Center benefit, by getting an inventory of the natural diversity within the park. Belmont students and others from the Nashville community participated. The activity was coordinated by Linnann Welch('93), director of both the Beaman Park and Bell's Bend Nature Centers.



Biology Faculty Member receives award



Dr. Thomas receives her award at the Awards Convo on April 20.

Dr. Jennifer Thomas, Associate Professor of Biology, was named the 2011 Chaney Distinguished Professor. The Chaney Distinguished Professor Award, determined on the basis of superior teaching, is presented each year to a faculty member who best represents the vision of the university to be a "premier teaching institution."

"It is amazing to be recognized by my students and colleagues in this way," said Dr. Thomas. "There is nothing better than having the people you care about,



Dr. Jennifer Thomas

work with and work for affirm and rejoice in what you have chosen to do with your life. I am grateful, humbled and downright giddy."

Current Students Update

Azad Karim, a Biology/Pre-Med student at Belmont, was featured on Fox News on March 30th to tell about his volunteer work with the "Best Buddies" program. Azad Karim has been buddies with Matt Moore for several months and they get together several times a week. Best Buddies is a non-profit organization that pairs people with intellectual or developmental disabilities with non-disabled people in the community. Best Buddies has been around for years worldwide, but only in Tennessee for under 2 years. There are currently 8 chapters with 5 more opening up later this year. The goal is for anyone with an intellectual disability to always have a buddy. Here is a link to the story:

http://www.fox17.com/newsroom/top_stories/videos/wzvt_vid_6874.shtml

Congratulations to **Julianna Bejama** who received a scholarship from Belmont's Department of Education. The scholarship "expresses our confidence in your potential as a student in the Education program".

Laura Muck, a Biology major at Belmont, recently had her letter to the editor published in the Tennessean. Her letter was about calculators being a crutch for students. Here is a link to the article/letter: http://www.tennessean.com/article/20110331/OPINION02/103310343/2070/Where-does-money-come-from-fight-wars-/Calculators-crutch-students-shouldn-t-use-them?odyssey=mod_sectionstories

Congratulations to **Kim Harris** who has been accepted into the Medical Technology Program at Vanderbilt University. According to Dr. Nick Ragsdale, Kim is the first student to progress all the way through the program at Belmont since he began teaching here. Starting in June, Kim will start her course work at Vandy. She will continue this work for one year and graduate at Belmont in August, 2012.

Congratulations to **JoAnna Adkisson** who was inducted into Alpha Chi this spring, April 4, 2011. 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.

Congratulations to **Brittney Everhart** who won 3rd place in student poster presentations in Cell and Molecular Biology at the 120th Annual Meeting of TAS. See our Fall 2010 Newsletter for more information on this conference (www.belmont.edu/biology).

Biology Seniors are going places!!!



Emily Smothers - accepted to Debusk College of Osteopathic Medicine

Julianna Bejma - accepted to Masters in Education program at Belmont



Kathryn Parsley - accepted to PT at UT Chattanooga



Steve Avers - accepted to University of North Texas Osteopathic Medical School



Taylor Andrew - accepted to Teach for America



Amy Fehrmann - accepted to Georgetown University Medical School



Brittney Everhart— accepted to PT at Belmont



Taylor Beazley— accepted to UT Dental School

Atinuke Osinusi— accepted to Meharry Medical School



Alumni Corner

Brittany Card (Arnett) (08)

"I received the Bio Newsletter and really enjoyed hearing the new and reminiscing the same 'ol, same old. I haven't been able to visit the last few years, but am seriously busy in Fort Lauderdale, FL going through my Physician Assistant rotations. I'm currently in Pediatrics, about to graduate in August, and am leaning towards Emergency Medicine as a specialty. I love getting down and dirty suturing open wounds, draining abscesses, seeing psych patients and reducing fractures! Always something new and crazy.

I also just got married to an



amazing man, Neal, who makes me laugh constantly and is terrific with kids. The wedding was beautiful, back near our hometown of IL... Looking back on my Belmont experience, it seems like it was at least 10 years ago... but I'll never forget the special people who played a big part of my life during that time, mainly, all of YOU!! :)"

Sara Bentley (10) will be attending the University of Colorado Physical Therapy School in June.

Theresa Tholkes (04) "I worked with Dr. Ragsdale on his research about the effects of ethanol on dopamine. It's exciting to see all the different research projects going on now! I thought I'd give the department an update on my progress as well! I'm currently pursuing my master's in nursing at Metropolitan State University in MN. I will graduate with my MSN this coming August (2011) and hope to work in pediatrics with the goal of eventually teaching and participating in nursing research."

Katie Saba (05) has finished medical school and has been assigned to a four year residency in radiology at Vanderbilt.

Amanda Simpson (Neill) (06)

"I hope you are well! Christian and I had an absolutely amazing time in Central America... we visited Guatemala, Belize, Honduras, Costa Rica, Nicaragua, Panama, and sailed from Panama to Colombia on a 6 day adventure! You would absolutely love Costa Rica... so much vegetation, it's so lush and so beautiful. One of our favorite places was the Corn Islands, Nicaragua... breathtaking (google it!) We traveled from June to September, and moved in October to NYC! We live in Upper East Side, Manhattan... How is Belmont? Is anyone furthering the study on vinca and goldenseal?"

Deanna Gardenhire (06) "I am doing my internship in Internal Medicine at the University of Louisville. Only 6 weeks left... then in July, I start my Dermatology residency at Case Western/MetroHealth Medical Center in Cleveland, OH! I am so excited to start, though I'm not too excited about the Cleveland winters. ;) I think I told you that I got married about 1.5 yrs ago--my husband, Stephen, is a mechanical engineer. We are still enjoying the newlywed life! :)"

Audrey Henson (09) will be attending the Philadelphia College of Osteopathic Medicine-Georgia Branch. She shares her thoughts about the school:

"PCOM has been producing osteopathic physicians in Philadelphia for over 100 years and they decided to open a branch of the school in Georgia because it is the state with one of the greatest shortages of physicians. The school is located just outside of Atlanta in Suwanee. I'm really excited. Out of all the schools I've interviewed at, GA-PCOM was the only one I felt at peace at. It felt like home. The people were really friendly, I really like the curriculum model and the location was great. I will also have a lot of flexibility about where I do my rotations. I can do all of them in Atlanta or I could also do all of my rotations in other areas of the south. I am really so excited about going there and moving forward.

I also wanted to thank you for all of your help and support. I know that without your help, support and guidance, I might not be going to medical school at all. I am so thankful for my time at Belmont and all of the wonderful experiences I had there. Thank you so much, for everything".

Ginna Beazley (09) will be attending UT Dental School.

Alumni Corner

Bridget Shariat (06) Bridget continues her update from Colorado:

"You may have thought I dropped off the planet, but I assure you that was just my month of Adult Inpatient Medicine.

During the month I began to dread my pager going off with extension 5400 which meant the ER was calling me for yet another patient admission. Being the intern, this meant I got the responsibility of doing the admissions and answering all calls from the floor such as "your patient is having chest pain or can we give this medication", and the all important "your patient is being combative, can we give them some ativan". Which I learned, the answer is always "Let me call my senior resident and I'll be there in a minute." By the end of the month, I felt much more confident and efficient. I went from being a lowly intern to hi-fiving the nurses on 5Central and appreciating the cafeteria lady that saves me cookies.

I am now on the best month in our first year called "Basics". We have all of our certification courses in OB, Adult, Neonatal, and Peds Life Support, which means I'm home by 5pm everyday.

If you can't already tell, let me assure you that I have fabulous interns taking good care of me out here. Carol makes sure that I have coffee on demand during the day, Eric reminds me to eat dinner when I stay late at the hospital, and Amanda tells me not to be too hard on myself or let the pager run my life. Furthermore, they won't let me stay home by myself on my birthday. I'm so lucky to have an awesome group of colleagues and friends!



I'll leave you with a story from a few weeks ago.

I was finishing a 13hr day and was seeing my last patient in clinic. It was a well visit for a 1month old baby I had delivered and the parents were glowing with pride. The young dad kept an impeccable record of the number of wet diapers and feeding schedules.

He was giving the baby so much love that it almost brought me to tears. At the end of the visit he said, "Dr. Bridget, thank you so much for taking care of our son and making us feel like good parents." Needless to say, I nearly lost it in front of them and it made my long day worth every second.

My attending later told me something that I will remind myself of often:

When you get tired, stretched to your max, and feel like running away, think about your patient-you've just made their day by listening and being present. Never forget that your patients will teach you far more and leave you more vulnerable than you had intended. This is what keeps you human, passionate, and coming back for more."

Faculty Update



After more than nine years as Associate Dean of the School of Sciences, Dr. Robert Grammer, will step down from his position to return to full time teaching in the Fall 2011. Through the years Dr. Grammer has held this position, his time, devotion and work have been greatly appreciated by faculty and staff in the School of Sciences. We thank him for all of his hard work, understanding and dedication.

Biology Department

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.

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Dr. Darlene Panvini, Chair, darlene.panvini@belmont.edu

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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? _____

