Greetings from the new Chair. First off I would like to thank Dr. Darlene Panvini for her leadership as our most recent Department Chair of Biology. I can honestly say that all of us who have been associated with Biology at Belmont in recent years have benefited tremendously from her tireless efforts and support – for which I have even more respect, now that I have been in the role for just a few months! Going forward, the Biology Department has instituted a rotation so various faculty will take turns serving in this role over the upcoming years. So, the chair-ship will be going around and coming around…This year also marks my tenth year at Belmont, which is just long enough to watch alumni that I have taught pursue graduate study and begin careers, and circle back to Belmont for a visit. This semester, we had two recent alumni come back and talk about their experiences in Ph.D. programs: Megan DeVries ('12) gave a department seminar on Graduate School in Biology: What's it like and how do I get there? and Stephan Carlson ('05) delivered the SURS Keynote, Molluscs to Mice: What Model Organisms Can Tell Us About The Brain and Behavior. We have had others come back and talk with our pre-health clubs about their experiences in school and the clinic. The Biology Department appreciates and invites any and all of our alumni to stop in and offer your wisdom to the current students…we love it when you “come back around!” If you can’t make it to Nashville, you can always visit us virtually by updating “Serotonin Helix,” the Biology Department’s Facebook presence…there you can see updates on what our students are doing, and pictures of the shiny new building that is starting to feel like home. Speaking of coming back around, all of us who have happy memories of Hitch will be glad to know it has been coming back into service slowly over the last few months. So for those of you who graduated a few years back, you can still visit the scenes of your past triumphs. Just make sure you stop by the JAAC and say Hi!

Dr. John Niedzwiecki
Associate Professor

Starting spring 2017 semester, Dr. Matthew Heard will join the Biology department. Dr. Heard attended graduate school at Brown University where he earned a Ph.D. in Ecology and Evolutionary Biology. He was awarded a Voss Postdoctoral Fellowship from the Brown University Environmental Change Initiative. At Winthrop University in Rock Hill, SC, Dr. Heard taught courses in Ecology and Botany. Dr. Heard’s research focuses on understanding the drivers of extinction for plants and animals across the world. To date, he has examined how species invasions impact native plant communities over time, the role infectious disease plays in driving wildlife extinctions, and the ecological and evolutionary consequences of global climate change. He also has interests in science policy and communication. Dr. Heard will be teaching Principles of Biology II and Methods in Environmental Science this spring.
SfN 2016
Lori McGrew, Professor of Biology, took six students to the Annual Meeting of the Society for Neuroscience which drew over 30,000 neuroscientists from around the world to San Diego, California. The students, Austin DeMaagd, Curt Brown, Mohamed Darwish, John Longenecker, Stephane Morin and Sam Zacovic, presented their research at the Faculty for Undergraduate Neuroscience poster session. Their poster entitled “Assessment of Anxiety and Working Memory in Danio Rerio Following Treatment with Sodium Chloride, Apomorphine, Isoflurane, Ethanol, and Piracetam” detailed the findings that they generated as part of the Summer Scholars Program. In addition to discussing their own work, the students had the opportunity to meet other neuroscientists and to learn about the latest discoveries and techniques. Some of the other zebrafish researchers shared data about changes in neurotransmitters that result from socialization and social structure, using fractal patterns to detect movement disorders and the pharmacology of sleep-wake cycles. The special lectures included Mu-ming Poo’s “Random Walk in Neurobiology”, Thomas Albright’s “Reforming Forensic Science: Insights from Research on Vision and Memory” and the always popular Christopher Reeve stem cell research data blitz. This quote from the SfN website summarizes the conference’s impact, “As the largest source of emerging news about brain science and health, the meeting featured nine press conferences with 38 neuroscientists presenting findings on a wide variety of topics including new technologies, Alzheimer’s and Parkinson’s diseases, autism, and sensory development.”

SEPEEG
Southeast Population Ecology and Evolutionary Genetics

Associate Professor of Biology, Dr. John Niedzwiecki, and seven Belmont seniors presented their research projects at the Poster Session of the 43rd Southeast Population Ecology and Evolutionary Genetics (SEPEEG) Meeting held October 21-23 in Madison, Florida. The meeting, hosted by the University of Florida, included research presented by faculty, post-docs, graduate students and undergraduates from universities across the southeast including Belmont, University of Florida, University of Georgia, University of South Carolina, Mississippi State, University of Alabama, Auburn University and Florida State University. Belmont students Sandra Bojic, Jasmine Conyers, Krystin Estes, Shirley Kyere, Kody Muhic, Joanna Sorrell and Ryan Tapley each presented posters in the Saturday night poster session. Dr. Niedzwiecki is the co-author on the student’s research projects.

SURS 2016
Science Undergraduate Research Symposium
In its thirteenth year, SURS was hosted by the College of Sciences and Mathematics. 26 Biology seniors, one BMB senior, two ENV seniors, and five Neuroscience seniors set up their posters in the 3rd floor atrium area of the Janet Ayers Academic Center. Additional posters and oral presentations in the areas of Chemistry, Mathematics, Computer Science and Psychological Science were also presented. The keynote address “Molluscs to Mice: What model organisms can tell us about the brain and behavior” was delivered by Dr. Stephen Carlson. Dr. Carlson graduated from Belmont in 2005 and currently works at Whitsell Innovations as a medical writer and consultant. SURS is the culmination of hours of work done during the summer and fall with advisors and peers and offers these research students the opportunity to show the Belmont community what the sciences are doing. Additional photos can be seen on our Facebook page—Serotonin Helix.
Tennessee Academy of Science Annual Meeting

Seventeen students and 5 faculty members from Belmont's Biology Department attended the 126th Meeting of the Tennessee Academy of Science at Austin Peay State University on Saturday, November 19th. Students, representing majors in Biology, Biochemistry & Molecular Biology, and Neuroscience, presented their senior undergraduate research projects in various poster sessions, ranging from Ecology and Environmental Science to Cell and Molecular Biology. Four Belmont students received recognition for their excellent work. In addition, faculty members, Dr. Chris Barton and Dr. Nick Ragsdale, served as section chair in Microbiology and Health and Medical Science section, respectively. Dr. Darlene Panvini and Dr. Chris Barton gave an oral presentation entitled, "DNA Barcoding as a Research and Teaching Tool in the Undergraduate Curriculum" and Dr. Jennifer Thomas presented her work entitled, "Connecting with Our Students: Traditional Approaches and Radical Ideas", both in the Science and Mathematics Teaching section. Additional photos can be seen on our Facebook page—Serotonin Helix.

Four of our Senior research students received recognition for their poster presentations at the Tennessee Academy of Sciences Annual Meeting.

Anna Margaret McDonnell, first place, Health and Medical Science section. Her research is entitled “Effects of Epigallocatechin-gallate and Enoxacin on HeLa cells”. Faculty Advisor: Chris Barton, Ph.D.

Gary Noel, first place, Ecology and Environmental Science section. His research is entitled “The Effects of Fertilizer on Decomposition of Native and Invasive Exotic Plant Species” Faculty Advisor: Darlene Panvini, Ph.D.

Stacey Crockett, second place, Cell and Molecular Biology section. Her research is entitled “Insight Into the Chemotaxis of Caenorhabditis Elegans Toward Pathogenic Bacillus Thuringiensis Strain 4A4 Using Chemosensory Deficient Nematodes” Faculty Advisor: Robert Grammer, Ph.D.

Sarah Anderson, third place, Health and Medical Science section. Her research is entitled “Convallatoxin induces apoptosis in HCT116 colorectal cancer cells” Faculty Advisor: Chris Barton, Ph.D.
Frank G. Brooks Award

Biology alum Lindsay Millward (2016) received the first place Frank G. Brooks Award for Excellence in Student Research in Ecology at the Beta Beta Beta Biological Honor Society National Convention in St. Paul, MN in June 2016. Lindsay’s research was on “Leaf Decomposition Rate Differs Between Invasive Exotic *Lonicera maackii* and Native *Acer saccharum* in a Temperate Deciduous Forest” that she completed as part of her senior research project with biology professor Dr. Darlene Panvini. In April, Lindsay won first place in the regional Tri Beta District II oral presentation session and received an award that paid for her expenses to the national convention. Lindsay begins a Master’s program in ecology this fall at Central Washington University where she received a teaching assistantship.

Biology research meets NHK

In September, Dr. Robert Grammer and biology student Brian Song were filmed by The Japan Broadcasting Corporation (NHK) for their research on nematodes’ response to cancer cells. Dr. Grammer and Brian have been experimenting with the nematode *C. elegans* as a part of Brian’s undergraduate research project. The film crew from NHK arrived from New York City to interview Dr. Grammer and Brian and to shoot footage as they recreated their experiment in the lab.

NHK, Japan’s largest television broadcaster, plans to show its footage of the two as part of its program on cancer treatment soon.

Brian’s *C. elegans* research is a continuation of research conducted previously by 2016 spring graduate Parker Tumlin, who is now attending medical school. Tumlin’s research involved conducting a dose-dependent experiment to test the response of wild-type *C. elegans* to medium used to sustain HeLa cells, a cervical cancer cell line. Brian, working under Dr. Grammer’s supervision, continues Tumlin’s experiments by testing whether there is an attraction between *C. elegans* and lung cancer cells.

Brian has been accepted to Trevecca Nazarene University’s Physician Assistant Program.

Fall Semester Biology Speakers

This fall, students and faculty had opportunities to hear from several speakers including two Belmont alums:

**Dr. Katherine Friedman,** Associate Professor, Vanderbilt

“When you get a bad break: Mechanisms of DNA double-strand break repair”

**Dr. Christia Spears Brown,** Department of Psychology, University of Kentucky was the Vaughn Science Lecture speaker this fall. Her talk was entitled “The Wide Lens of Discrimination: How a range of negative interactions similarly shape developmental health.”

**Dr. Mohammed (Moh) Salem,** Assistant Professor at MTSU

“Rainbow trout genome: from raw data to dinner plate”

**Megan DeVries,** Belmont Alum (12) and Doctoral Candidate, Biology Department, University of Louisville

“Graduate School in Biology: What’s it like and how do I get there?”

**Dr. Stephen Carlson,** Belmont Alum (05), Medical Writer and Consultant for Whitsell Innovations, Surs speaker this fall.

“Molluscs to Mice: What Model Organisms Can Tell Us About the Brain and Behavior”

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

Emily Smothers Ezell (11)
Graduated from Lincoln Memorial University-DeBusk College of Osteopathic Medicine (LMU-DCOM) in May. She is now Doctor of Osteopathic Medicine (DO)

Tristan Murray (12)
Attending Nurse practitioner school at Frontier Nursing University, Hyden, KY.

Jacob Curry (16)
Currently working as a research assistant at Vanderbilt University Medical Center in a pediatric infectious disease lab (working specifically with bone infections).

Rezzan Hekmat (15)
Received her Masters in Health Science from Johns Hopkins. She has accepted an offer for the position of Clinical Research Coordinator at Vanderbilt’s Division of Cardiology.

Justin Smith (15)
Attending medical school at University of Tennessee.

Jimmy Berthaud (06)
Recently moved to Charlottesville to start a 2-year Vascular Neurology fellowship at University of Virginia after completion of his Neurology Residency at Tulane University in New Orleans.

Rachel Chandler (13)
After completing a Master's Degree in Biomedical Visualization at University of Illinois at Chicago, Rachel is being hired as a Biomedical Illustrator at Vanderbilt University.

Jill Neblett (08)
Has accepted a full-time education position at the Museum of Science in Boston. She'll be an Education Associate with the Exhibit Hall Interpretation department. Jill's main responsibility is to help with the management and teaching of the hands-on laboratory, where people of all ages try activities and experiments in a real lab, using real lab equipment.

Christopher Bowens (15)
Pharmacy intern at K-Mart Pharmacy.

Laura Muck (12)
Graduated with Master of Arts in Teaching at Belmont University.

Alyssa Tidwell (16)
Accepted into Belmont's Occupational Therapy Program.

Crystal LeBlanc (14)
Graduated from UT with a Master of Science Degree in Speech-Language Pathology.

Ted Snazelle, Ph.D. (65)
After completing a 45 ½ year career of college and university teaching, Dr. Snazelle was given the Honorary Status of Professor and Chair Emeritus, Biological Sciences, Mississippi College in Clinton, MS in December 2015. After graduating from Belmont in 1965, he earned his MS and Ph.D. in Plant Pathology (Virology) from Purdue in 1970. Dr. Snazelle began teaching at Rock Valley College, Rockford IL, then became a faculty member at UT, Nashville for eight years, When UTB merged with Tennessee State University in 1979, he served one additional year, then moved to Clinton, MS to teach in the Biology Department.
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?_____________________________________________

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. John Niedzwiecki, Chair, john.niedzwiecki@belmont.edu

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www.belmont.edu/biology

Biology Alumni Update