

BioNews

DEPARTMENT OF BIOLOGY NEWSLETTER

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CHAIR'S CORNER



Dr. Mark Bolyard

Greetings, and welcome to this window on the life of the Department in 2022! We are working on moving toward a new normal, with Covid starting to settle down, and with changes in our Faculty and Instructional Staff. Dr. Huggins has retired and Dr. Henson has moved on to another faculty position to be closer to family, and we miss them both. However, that does mean that we have had new people join us, who you will learn about in this issue. Dr.

Bob Bowen joined us in January, and he is teaching Physiology, Endocrinology, and Principles of Biology for majors (Bio 112). We look forward to having him engage students in his research projects! We were also joined in the Fall by Susan Leviticus, who received her M.A.T. from Austin Peay. Professor Leviticus is teaching Survey of Micro, Patho, and gross anatomy for nurses on our Hendersonville campus, and she continues to do a great job. We are also searching for a full time, tenure track Anatomist to help with the growing demand for human anatomy courses across campus. Speaking of faculty, Dr. Michael Schiebout received the only Study Leave Award for this academic year, which has allowed him to conduct research in Puerto Rico during the entire Spring Semester. Look for details in this issue.

I also wanted to let you know that this will be my last newsletter as Department Chair. After 15.5 years, I am transitioning to other things and opening an opportunity for new leadership in the Department of Biology. I have been invited to serve as the Associate Dean for the College of Arts and Sciences, and I look forward to my new role in coming alongside Arts and Sciences Chairs to strengthen and encourage them as they lead their departments. I want to welcome Dr. Marc Lockett and Dr. JR Kerfoot as new Biology Department Co-Chairs, and I know you will join me in praying for their leadership and families.

My other primary venture over the past 3+ years has been to develop the Master of Science and Faith in Genetic Counseling program at Union. While the curriculum and the program have been approved, I am still working on obtaining start-up funding to get the program off the ground. Prayers for this new pro-life program are much appreciated, and if you are interested in providing financial support, that would be great as well! More information is provided in this issue.

I hope you have enjoyed these newsletters over the years, and I ask God's blessings on you and your families.

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UNION UNIVERSITY
Department of Biology

PUERTO RICO RESEARCH

By Dr. Michael Schiebout

Dr. Schiebout was granted a research leave for the 2022 spring semester and moved with his family to Puerto Rico for 6 months beginning the first week of January. He's been working at Jobos Bay Natural Estuary Research Reserve in Salinas. His projects there have been multifaceted in both the marine environment and adjacent mangrove communities.

The marine research is focused on the dominant seagrass from the Caribbean region called turtle grass (*Thalassia testudinum*). The studies specifically involve understanding seasonal growth and long-term distribution patterns. Establishment of a competing sea grass and seasonal accumulation of a floating brown algae (*Sargassum*) appear to be two

factors negatively impacting turtle grass in Jobos Bay. Most days of this research require taking a boat to various established sites and data collection underwater using SCUBA gear.

The mangrove work is part of a larger restoration project to improve mangrove communities damaged during Hurricane Maria in 2017. Dr. Schiebout helped build a plant nursery where red mangrove propagules are being grown and which will later be replanted in damaged areas. As part of this project a comprehensive assessment of current biomass (vegetative matter – carbon content) is being conducted. These baseline values will be used to assess changes occurring in carbon levels as areas become revegetated with trees. Many hours have been spent collecting soil core samples (100 +) throughout the site to determine current below ground biomass. A typical day of this research includes navigating through ankle deep water and mud to specific preselected GPS points, then taking four 10 cm samples from each core, which are carried back to the lab to be dried out in preparation for compositional analysis.

“This has been a great opportunity to conduct relevant field research and build relationships and collaborations with other researchers. I am grateful to Union University for granting me this unique opportunity.”



UPDATE: TEACHING GARDENS

By Dr. Mark Bolyard

We have exciting news about the Teaching Gardens, which were featured in the previous newsletter and will be in the “alcove” created by the Greenhouse and White Hall. The Senior Class (Class of '22) has selected the Teaching Garden as their Senior Class gift! We have made a few adjustments to the original plans to include some benches and a water fountain. Once he returns from Puerto Rico, Dr. Schiebout will begin populating the Garden with a wide variety of plants from different habitats. We are excited about the new addition to our teaching collection and can't wait for the project to get underway!

NEW FACULTY

By Lauren Gaggley

The Biology Department welcomes two new members: Dr. Bob Bowen and Mrs. Susan Leviticus.

Dr. Bob Bowen joined the Biology Department in January, 2022. Dr. Bowen obtained his Bachelor's degree in Geography and a Master of Geographic Information Science from the University of Minnesota. From his experience as a cross country skiing coach, Dr. Bowen discovered his calling in the field of physiology. He obtained a Master's degree in Exercise Science from Northern Michigan University, a PhD in Biology with a Physiology emphasis from the University of North Carolina– Charlotte, and a post-doctoral fellowship in Molecular Endocrinology from Virginia Tech. Dr. Bowen's research focuses on biological regulation of physical activity. He uses mice to observe how physical activity is controlled by testosterone and estrogens. Dr. Bowen is teaching Principles of Biology (112), Physiology and Endocrinology. His goals are “excellence in teaching, curiosity in research, and diligence in service.” Dr. Bowen hopes his students “will cultivate skills that allow them to be the next-generation of critical thinking problem-solvers.” He says, “To serve God and humanity with compassion, love, and effectiveness, we desperately need world-class problem solvers with a dedicated love for Christ and His creation.” Dr. Bowen enjoys hiking, camping, exploring, and biking with his wife, Julia, and their two sons.



In the fall of 2021, the Biology Department welcomed a new laboratory specialist, Mrs. Susan Leviticus, who obtained her Bachelor of Science in Molecular and Cellular Biology from Vanderbilt University and her Master of Arts in Teaching from Austin Peay State University. Mrs. Leviticus teaches Microbiology, Human A&P II, Pathophysiology, and Gross Anatomy at the Hendersonville campus. When she is not teaching, she enjoys reading, running, rollerblading, watching movies, and playing with her children, Seven and Colonel. When asked what she desired for her students, she said, “I aspire to consistently encourage the growth and development of students' faith and personal relationships with the Lord by reinforcing an appreciation of the human body, highlighting the awe-inspiring design of the body as a marvelous machine, a true masterpiece, precise and efficient, created by an intelligent and skillful designer, God Himself!”



DEPARTING FACULTY

By Grant Jacobs

The Union University Biology Department recently had two departures from its faculty: Dr. James Huggins and Dr. Hannah Henson. These two are greatly missed!



During his time at Union, Dr. Huggins served as Biology Department Chair, Director of the Hammons Center for Scientific Studies, and Developer and Director of the Union University Wildlife Rehabilitation Center. The Rehab Center focuses on raptor rehabilitation and gives these birds either a second chance or a permanent home that assists in furthering wildlife education in the Jackson community. Dr. Huggins taught a variety of wildlife conservation classes and developed the Gross Anatomy laboratory and teaching program. Further involvement on campus included work with BIOME and Union's Servant Leadership Program. Dr. Huggins entered retirement after 35 years of teaching at Union.

Dr. Henson spent her time at Union leading Introduction to Biology, Developmental Biology, and Physiology Courses. Known on campus for working with Zebrafish, Dr. Henson's research sought to study brain development. When asked to comment on her recent departure Dr. Henson said, "My time at Union was a significant part of my life. The faculty, staff, and students at Union have helped shape who I am today. I have many fond memories as an undergraduate student and as a faculty member. I am grateful that my teaching career started at Union where I was able to work with great groups of students and faculty. The lessons I learned during my time at Union have also benefited me in my new position. It was a difficult decision, but I have been very blessed to spend time with family and friends." Dr. Henson now teaches Biology at John A. Logan College in Carterville, Illinois after 5 years of teaching at Union.



MASTER OF SCIENCE AND FAITH IN GENETIC COUNSELING

By Dr. Mark Bolyard

The Master of Science and Faith in Genetic Counseling program has had a number of positive advances recently. First, we have an informal agreement with a large hospital in Memphis to oversee the clinical training of students in our program. Second, we have had positive interactions with the leadership of the Accreditation Council for Genetic Counseling. Third, I have attended a number of meetings recently, including the national conferences of the American Association of Pro-Life OB/Gyns and the Christian Medical and Dental Association, and have received a lot of encouragement! At this point, the limiting factor in getting the program started is start-up funding, primarily to hire the Program Director, who must be a Certified Genetic Counselor. If you are inclined to support this program through your prayers, or financially, that would be a great help. More information is available at uu.edu/msfgc (or this QR code).



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