

BioNews

DEPARTMENT OF BIOLOGY NEWSLETTER

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CHAIR'S CORNER



Dr. Mark Bolyard

Greetings following a very busy Spring Term! We have a number of things happening in the life of the department. The first is the continuation of the retirements of faculty from our department. As we have just said goodbye to Dr. Weaver at the end of the Fall semester, we now say goodbye to Mrs. Elsie Smith and Dr. Wayne Wofford, who leave after a combined 83 years of contributions to our department. Feel free to contact Mrs. Smith (esmith@uu.edu) and Dr. Wofford (wwofford@uu.edu); I'm sure they would love to hear from you!

On the other hand, we are excited to hire new faculty! First, we have hired Dr. Hannah Henson ('10) as our new Assistant Professor to teach physiology! Dr. Henson completed her Ph.D.

at the University of Tennessee, conducting her research at St. Jude Children's Research Hospital, and has just finished a post-doctoral fellowship at the University of Kentucky.

We have also hired a new microbiologist! Dr. Euna (Esther) Choi received her Ph.D. in Microbiology and Immunology at the University of Illinois, Chicago, and has completed a post-doctoral fellowship at the University of Nebraska, Lincoln. She and her family have recently moved to Jackson. We will have more information about our new faculty members in our upcoming Fall Newsletter.

We are also making progress with the Union University Arboretum! We have labeled all of the trees that are currently part of the Arboretum, but that does not mean that it is too late to adopt a tree! We also plan to plant additional trees that can be adopted. In fact, BIOME students planted 30 trees as part of our spring Arbor Day event, some of which are now part of our Arboretum collection.

With regard to the Graduate Certificate in Pre-Professional Biology, our first two students have successfully completed the program. One is entering Union's Pharmacy program, and the other has been accepted to UT's Master's in Cytotechnology program. We will be offering the Graduate Certificate again this Fall, so please visit our webpage (uu.edu/dept/biology/curriculum/graduate/), or contact Dr. Marc Lockett (mlockett@uu.edu) for more information.

Undergraduate research was also in high gear this spring. We are excited to be able to provide some new opportunities for these researchers! First, thanks to gifts from alumni Jonathan and Dr. Melissa Yau Gray, and Dr. Lisa Rogers, we have purchased a quantitative PCR machine! This will be used in a number of courses in addition to faculty-student research. Also, Dr. Faith Zamamiri-Davis is working with two undergraduate researchers in Germantown. We have been working hard to provide equipment and materials on the Germantown Campus. We were recently able to acquire several pieces of equipment for each campus from St. Jude Children's Research Hospital, and we are grateful for their generosity!

We hope you enjoy this latest edition of the alumni newsletter, and we appreciate your support; whether it is financial, adopting trees in the Arboretum, sending us students, or "liking" us on Facebook, you are an important part of what we do!

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1050 Union University Dr.
Jackson, Tennessee 38305

731.661.5750



UNION UNIVERSITY
DEPARTMENT of BIOLOGY

CAREER RETROSPECTIVE: MRS. ELSIE SMITH

By Jonathan Bowman

It's difficult to think of a time when Mrs. Elsie Smith wasn't a part of the Union University biology department. She has made a long-lasting impact on Union University's biology department, its students, and the Union University community overall. Not only has Mrs. Smith been an incredible influence, instructing classes such as Anatomy and Physiology, Genetics, Microbiology (Mrs. Smith's forte), and others, but she also brings an historical perspective

and land. Mrs. Smith has seen an incredible increase in students that has accompanied a new campus and buildings. Overall, the change from the old campus to its present location has probably been the largest change. Mrs. Smith notes: "We only had about 650 students when I started. So that gives you an idea of how everybody knew everybody. So, when you grow, you lose some of that intimacy." Of course, student population isn't the only change

to be the most significant change [in the biology department]."

I asked Mrs. Smith to describe any memorable moments, students, or faculty within her time at Union. "Since there have been 54 years, we have had a lot of outstanding teachers here in the department, many of which are still here. We have also had so many students from Union who have really excelled in their areas of concentration. Quite a number [of my students] have become medical doctors. I always think about them because I was a premed advisor for almost 40 years. I have now two medical doctors that are my physicians, an optometrist, a dentist, and a dermatologist, and it's a joy to go to them and realize that I had some role in their life." In addition, Mrs. Smith mentioned several previous students who had succeeded in the area of research, conducting scientific studies in Israel, and another playing the leading role in preventing *Salmonella* in chicken populations while working for the US Department of Agriculture.

Mrs. Smith has not only set high standards for students, but has acted as an example for fellow faculty members and impacted their lives. Dr. James Huggins says of Mrs. Smith, "She taught me how to be a really good friend and colleague--to help people--to care for students--to make a big difference in those lives God has sent you." Dr. Huggins additionally explained how their friendship grew from meetings in the early morning: "For years, since she and I were both early birds getting to campus, we would meet for coffee . . . and talk about the day and how to impact lives and grow the department. She was somewhat of a mentor to me during my years as chair, and taught me how to impact people. We had very good conversations during that [time]." In addition, Dr. Wayne Wofford, who was a former student of Mrs. Smith,



that comes with a new campus. In terms of facilities, the quality and quantity has vastly improved. Mrs. Smith elaborates:

"We had so little in the way of space [at the downtown Jackson campus], but when we moved [to the current campus] we had so much more room. It took me a while to realize what had happened. I would wake up and ask myself, 'am I in a dream?' Then adding White Wall was another giant step. We didn't just gain so much space, we gained more furnished space—everything was brand new.

That microbiology lab—I would go between lab sessions and just sit there and breathe it all in—it was such an experience."

as she attended Union's campus in downtown Jackson. "I go back to 1956. That's when I came here as a student, and I graduated in 1960," says Smith. After finishing with her Master's degree from the University of Illinois in 1962, Mrs. Smith returned to Union to begin her teaching career, where she has remained ever since.

Over the course of her tenure, Mrs. Smith has seen much history at Union. For example, when she was a student, only two professors taught in the entire Biology department; today, sixteen professors work in the department, and the number of majors have increased from one general biology major to five. Not only has the specific department grown in terms of classes and faculty, Union has grown in population

Mrs. Smith also indicated that the ability to conduct research has improved incredibly since she began at Union.

"It was impossible to do research in the past. It wouldn't compare to what we are able to do today. Our teaching loads were so heavy back then, so we didn't really have the ability to do much research. We have really opened the door to what we can do in research, so that is what I believe



CAREER RETROSPECTIVE: DR. WAYNE WOFFORD

by Chance Mattox



added, "[O]ver all those years, she has had a professionalism and commitment to the program . . . She was a great role model. [Mrs. Smith] demonstrated how to teach, held students to high standards, had a willingness to help students out, and was a role model as a Christian." Dr. Carla D. Sanderson, former provost at Union University whose career overlapped Mrs. Smith's for 32 years, says of Mrs. Smith: "Professor Elsie Smith is a strong woman - smart, serious, tenacious and driven. She has been 100% wholehearted in her commitment and loyalty to Union University for half a century - her impact will be evident for generations to come."

After 54 years of service to Union University, it's hard to visualize Mrs. Smith anywhere else. "I just can't imagine that I could have gone anywhere else and done anything else that would have enriched my life as much as this has done," begins Mrs. Smith. "I am so blessed the Lord has given me this opportunity." In good times and bad, Mrs. Smith always belonged at Union University, and God would send her reminders of her belonging. "Letters from students would come at unexpected times, and they all seem to come at the right time. It provided the encouragement that I needed." No one will ever forget the impact that Mrs. Smith has had on Union University, and I know the biology department can truly say that they will miss her when she's gone; a piece of the biology department will be missing when she retires. However, whether she is present or not, Union University's biology department will always experience the influence of Mrs. Smith, and will continue to learn from it in the future.

Thank you, Mrs. Smith.

Dr. Wayne Wofford has experienced significant changes during his career at Union. He attended Union from 1969 to 1973, when Union's campus was located in downtown Jackson. Dr. Wofford, like Dr. Weaver and Mrs. Popplewell, was a student of Mrs. Elsie Smith. After earning his doctorate from Texas A&M in 1981, Dr. Wofford worked at the University of Texas Marine Sciences Institute as a Research Associate from 1981 to 1987. He returned to Union as a faculty member in 1987 and was introduced to Union's current location. The Biology Department was located in the Pennick Academic Complex and had only 4 faculty members. Since his return, the department has moved to White Hall, has grown to have 16 faculty members, and has seen the construction of the new greenhouse.

During his tenure, Dr. Wofford has served at Union in several ways. He has served as the Department Chair for Biology and as the first Director of the Hammons Center for Scientific Studies. Dr. Wofford advised Pre-physical therapy, Pre-occupational therapy, and Pre-veterinary students. He has taught Pathophysiology, Advanced Pathophysiology, Ecotoxicology, Botany, Seminar, Research, Developmental Biology, and Physiology. He also coordinated the Biology undergraduate research program from 1988 to 2007. During his time at Union, Dr. Wofford has invested in the lives of almost 250 research students. One of these students, Mrs. Tamara Popplewell, is currently a faculty member in the Biology Department.



Outside of the classroom, Dr. Wofford has had many meaningful memories with students and faculty members. He has created several amazing friendships with his colleagues. He was always willing to help students that were in distress, which led him to keep a box of Kleenex in his desk. Additionally, running into former students brings him joy. One of his fondest memories at Union came from the day that he learned over twenty years later that something he said in a class led a student who was at the tipping point of whether or not to become a Christian to decide to turn to Christ. The Christian witness that Union allows him and his colleagues to have is something for which he will be forever grateful.



Even though he is retiring, Dr. Wofford will teach a Seminar course at Union in the Fall and Pathophysiology in the Winter. He also wants to pursue photography, which has been his lifetime hobby, as is spending time with his three children and granddaughter. He also looks forward to hunting and fishing with his brother. The one person he especially wants to spend time with though is his wife, who has always been supportive of his career even though it required him to work late nights and weekends. He hopes that they can travel and see major historical sites in Europe.

Dr. Wofford would like to thank Union for the opportunity to teach in an environment where he could live and freely express his faith. He is also grateful for the chance to pass on a greater appreciation of God's creation to the next generation.

ALUMNI SPOTLIGHT: DR. CALEB TRENT

by Brooke Meadows



Dr. Caleb Trent graduated from Union in 2001 with a Bachelor of Science degree in biology, and completed his Doctor of Medicine degree in 2008 from University of Tennessee's School of Medicine. Dr.

Trent's residency included training at Barnes-Jewish/Washington University in St. Louis, and the opportunity to be the chief resident for a year. Currently, he is an emergency medicine physician at Lawrence Memorial Hospital in Lawrence, Kansas and is the cofounder of a nonprofit medical missions/teaching organization called Aid For Haiti. We sent Dr. Trent a few questions and below are his responses.

Which professor had the biggest impact on your experience at Union?

It is impossible to choose just one professor. My career path advisor was Mrs. Elsie Smith, and she impacted my choices greatly. Plus, she taught microbiology, which was one of my favorite classes. It taught me information I use on a regular basis in my current job. Regarding my interest in genetics

and research, Dr. Carol Weaver was undoubtedly the prime influence. I remember the J-terms of cell and molecular well. It really sparked my interest in genetics and I ended up doing some genetic research at Vanderbilt as part of an international autism collaboration. Of course, Dr. Huggins human anatomy class over the summer was a fantastic precursor to gross anatomy in medical school. I'll never forget the kindness of Mrs. Crossett and the teaching (and ties) of Dr. McMahan.

What influenced you to choose this career path?

Other than my professors, my parents were incredible influences in my choice of medicine. They taught me a work ethic, a love for the Lord and how to get along with people. My dad encouraged me to look at medicine as a career because of the autonomy, flexibility and the ability to help others that it afforded. I liked the sciences and was taken with the idea of not being in an office my whole life. Regarding emergency medicine, I chose it because I like the acuity (getting to see critically ill patients), the variety (it's never the same) and the flexibility (there's no practice to buy into and it can be practiced anywhere in the country...or world).

Can you tell us a little bit about Aid for Haiti?

Aid For Haiti (AFH) is a non-profit formally co-founded with a few classmates from

medical school in 2008. AFH is founded on Matthew 9:35, to teach, heal, and proclaim Gods truth by sharing the love of Christ with the people of Haiti through compassionate health care, spiritual ministry, and training for service (www.aidforhaiti.org).

What was the most difficult part about getting where you are now?

Probably the perseverance. Medical training is a marathon, but it's run like lots of little sprints. You have to work on the task at hand but also keep your eye on the goal at the end. The apostle James told us that we should count it all joy when we meet trials of various kinds because we know the testing of our faith produces steadfastness. He tells us to let steadfastness have its full effect so we may be complete and mature. This is difficult sometimes when you are fatigued and tired of studying but I had to press on.

What's your advice for current undergraduate students?

Based on the last section, my advice would be "hang in there!" The Lord says "do not fear" and asks that we trust Him. He promises that the same One who began a good work in you will bring it to completion at the day of Jesus Christ. This is the most important thing. You have the assurance that you can depend upon Him throughout your schooling, your training and your career. It may be tough, but He will never let you down!



For an alligator, having to share a meal could be stressful! Aggression has been linked with elevations in stress levels and those may increase during competition for limited food resources. Under the direction of Dr. JR Kerfoot, the Spring 2016 BIO 415 collaborative research course composed of Hannah Ku, Ester Kang, Virginia Bantz, and Whitney Thomas, has investigated the stress associated with juvenile alligator interactions for limited food. They have submitted a manuscript of their findings to the *Journal of Experimental Zoology*.