

BioNews

DEPARTMENT OF BIOLOGY NEWSLETTER

VOLUME 8.2 | Spring 2015



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CHAIR'S CORNER



Dr. Mark Bolyard

Greetings! We have just finished a busy spring semester at Union and we have some really big news to share with you in this edition of our newsletter. The greater faculty at Union has approved our proposal to begin two Graduate Programs in Biology! This Fall we will launch our Graduate Certificate in Pre-Professional Biology, and next Fall ('16) we begin our Masters in Conservation Biology. These are the first Graduate Programs in the College of Arts and Sciences, and we are anxious to get started. We would love your help in recruiting students to our Certificate program, so please pass along the information (provided in the *Department News* in this issue) to anyone you think might be interested.

We are also launching another new initiative next summer (2016), our Conservation Camp for high school students interested in an exciting outdoor experience. We will offer two camps for 12 students each (one for boys, one for girls). This will be a residential camp, so we are hoping to attract students from across the country. Please pass this information along as well!

Work on our greenhouse is nearly complete! It is our hope to have a grand opening during Homecoming in November. Please check it out if you are on campus! We plan to begin moving plants into this new space over the Summer.

I wanted to congratulate Dr. Bill Thierfelder for his role on a paper that was published from work that he did while he was at St. Jude Children's Research Hospital. The article entitled "NALP3 inflammasome upregulation and CASP1 cleavage of the glucocorticoid receptor cause glucocorticoid resistance in leukemia cells" was published in Nature Genetics.

Finally we are always seeking your help in recruiting undergraduate students who are interested in the fine Christian higher education experience that you enjoyed. Please send them our way!

Stop the presses! We are excited to let you know that Mr. Jeremy Blaschke, who is completing his Ph.D. in Entomology at the University of Tennessee this summer, will be joining our faculty this fall! We will have an article introducing him to you in our fall newsletter.

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We will be changing our delivery system for these newsletters, beginning next year. We will be mailing a hard copy of the newsletter in the Fall, but will only be emailing digital copies in the Spring.

Please send your email address to Mrs. Kelly Farrar (kfarrar@uu.edu).

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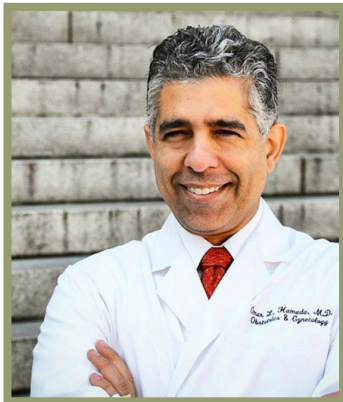


UNION UNIVERSITY
DEPARTMENT of BIOLOGY

ALUMNI PROFILE: DR. OMAR HAMADA

by Jenna Ward

This semester our Alumni Profile is on Dr. Omar Hamada '86. Dr. Hamada received a BS in Biology, Chemistry, and Music. After graduating from Union he continued his studies and received many degrees such as: BS, MD, MBA, Cert in Biblical Studies and Missions, MATS. The list continues: ABMS Board Certified in OB/GYN and in Family Medicine, Board Eligible in Sports Medicine, fellow of American Congress of Obstetricians and Gynecologists, Fellow of American Academy of Family Physicians, Fellow International College of Surgeons, US Army Special Forces certifications in Flight/Aerospace, Diving/Hyperbarics, and additional training in Wilderness/Tropical/Bio-Chem Warfare. Dr. Hamada has done so many incredible things and he doesn't know how he had the time to do it all but he kept his goals and kept moving. He owes his success to God and his family who supported him along the way. "I always wanted to be a great dad and husband," he says. He and his wife Tara have been married for 20 years and have four beautiful and wonderful kids: Gabriella (15), Annelise (11), Nicholas (10), Josiah (6).



After my rotation, I accepted a new accelerated residency that combined the 4th year of med school with an internship. After the first year, I finished my Family Medicine residency and then joined UT faculty as the Assistant Director of Predoctoral Affairs. Eventually I was promoted to

Director, although I missed the OR. I had gotten married by this time and my wife, Dr. Tara Newton Hamada begged me to not go back and do NSR so I accepted a 2nd year position as an OB/GYN resident. As part of the deal, I maintained my Assistant Professorship and was a Primary Care Consultant to the Department of OB/GYN, which turned out to be a fantastic residency.

Since I was now also in the US Army Special Forces, (Airborne) – the "Green Berets" – I was allowed to grandfather in to a certification in Sports Medicine and received further certifications and experience in Flight and Aerospace, Deep Sea and Hyperbarics, and Tropical and Wilderness Medicine.

From the medical side, I'm now the TeamHealth Director of Emergency Medicine at Maury Regional Medical Center in Columbia, TN. We have 30 beds, with 50,000 annual visits to the ER.

Did you always want to do what you are currently doing now?

Life takes so many unexpected twists and turns. I would have never dreamed that I'd be doing what I'm doing now. I've always wanted to do a lot of things. Medicine was but one.

I wanted to preach and be on church staff – I graduated from seminary and got ordained as a Southern Baptist minister and have had Drs. Adrian Rogers and Leighton Ford (Billy Graham's brother-in-law) as close friends and dear mentors for 10–20 years, respectively. They absolutely changed my life.

I've wanted to sing and play trumpet professionally – I was part of Phi Mu Alpha Sinfonia while at Union, trained at the Met in NY and at the Wiener Staatsoper in Vienna as well as at Vanderbilt's Blair School, toured Europe, and even got an offer from the Julliard School and the Christian music group Truth.

I've wanted to be a "tip-of-the-spear" soldier in a Tier 1 unit like Seal Team 6. The Special Forces was as close as I got. Though I spent close to 15 years in the military, I wish I was still in. But I think Tara had all she could take.

Ever since I was 5, I've wanted to change the world for the sake of Christ so that all may hear and believe. This is my singular driving motivation in all I do or will ever do.

Then there's the MBA. Getting an MBA from a ranked school changed my life. It opened up a whole new world of possibilities and awareness.

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

I'd say Mrs. Elsie Smith, Dr. Michael McMahan, and Dr. Jimmy Davis.

Mrs. Smith believed in me and always pushed me to do better. Her level of excellence in the classroom set a high bar for all of us to achieve. However, she didn't know this until now, but the biggest impact she had on me was a conversation I overheard her having about me with a fellow classmate of mine when I was sitting outside her office regarding her doubts about my ability to cut it in med school because of my age. That probably drove me to succeed for years to prove her wrong. So, I'm glad for it.

Drs. Davis and McMahan also believed in me, told me so, encouraged me, and pushed me to improve time and again. Their positive affirmations kept me up when times were rough. Their examples in and out of the classroom and the lab let me know they truly cared about me and what happened to me. This stuck with me for years after I left Union.

What was the hardest part you had to go through to get to where you are now?

The hardest parts for me were those times I felt as though God had abandoned me and I wasn't enough. The times of failure. The times of deep grief. The times of rejection. When I went through medical school failure, when I learned of a devastating personal diagnosis, when I had a broken engagement the day before my wedding.

What I've learned is that He never leaves. I do. And that there will always be problems. There are times I've allowed the pain to take me down the wrong path. What I've learned is to lean hard in to Him, learn who I really am behind the façade, be authentic and transparent,

RESEARCH PROFILE: DR. ANDY MADISON

by Chance Mattox

love others well, see past the veil, make no excuse for sin.

The secret is unwavering perseverance with grace and courage.

Any advice for students doing their undergrad now?

The Lord gives us all various gifts and abilities. He gives us all different capacities. I'm one who was fortunate for my 6 Ms – Marriage, MBA, Medicine, Military, Ministry, and Music.

Many have criticized me for my "lack of focus". They want me to simply choose one thing and do nothing else. They just don't get it. I live passionately and fully with gregarious engagement in all that I do.

The most miserable I've been in life have been the times that I have tried to make other people happy, when I have tried to live my life for another's approval. The only approval you should seek is the Lord's. Be who He made you – and be ALL He made you to be. Stop trying to be someone you're not to please someone else – who ever they are.

Also, recognize pain and suffering as a gift. It is only through this that we change – and change for the better. Don't bend towards bitterness and hurt, allow the Lord to perfect who you are for the sake of the Gospel. Pain is a gift. That's the only way to grow.

Where do you see yourself in the future?

I've got goals for the rest of my life for as long as the Lord allows me to live. I'll never stop learning. I'll never stop growing. I'll never stop trying to advance God's Kingdom in this world.

In the immediate future, Jay Sekulow has recently invited me to be to be a Fellow and Visiting Lecturer at the Harris Manchester College of Oxford University later this year.

Ten years from now? I don't know. Perhaps the US Senate? (Yes, I do have political aspirations.) Perhaps a church plant? Founder and CEO of several successful startups? Certainly a Godly husband and father.

My ultimate goal is to change the world.

Dr. Andy Madison has been a major contributor to the biology research program here at Union since 2007. After his initial experiences with research in his graduate programs, Dr. Madison began to understand the importance of doing research as an undergraduate. While the end goal of research is to publish papers, he has more of a passion for teaching how to do research than focusing on just publishing papers. This passion is exhibited in his enthusiasm in the three-semester research program that he teaches here at Union.

While Dr. Madison has been working to help prepare students for graduate level research, he has recently been working on publishing a paper by Patrick Clark. The paper focuses on wetland restoration. The research was performed because the Tennessee Department of Transportation built a bridge that destroyed a wetland habit. Under the current laws, a new wetland habitat had to be constructed. Union University was asked to be the third party overseer. The research was performed to see if the restoration was successful by observing the plant and bird life. Dr. Madison hopes to publish Patrick's paper in the Tri-Beta journal or the Tennessee Academy of Sciences.

During this past school year, Dr. Madison mentored Katy Wade through her research project that focused on different kinds of scent lures for coyotes. The West Tennessee site was at the Milan Army Ammunition Plant. Since coyotes have been detrimental to cow and sheep farmers, this research hoped to have a scent lure that was effective at luring coyotes to a site to assess their numbers. None of the lures were effective in attracting coyotes. Dr. Madison also worked with Carter Mansolino on a similar project involving

bobcats. Dr. Huggins allowed part of his land to be used for this research project. This project also found that neither lure used attracted bobcats more often than having no scent. While the results were not what the students had hoped for, both women were very thankful for all of the help, insight, and expertise that Dr. Madison offered them throughout their projects.

Dr. Madison's work with the program has been a huge success. Biology students who have attended graduate school have come back in recent years and said how they were much better prepared for graduate research than their classmates. They attribute their preparation to the rigorous research program that Dr. Madison has implemented.



CONSERVATION CAMP

by Brooke Meadows

The Biology Department is planning on hosting a conservation camp for high school students from across the region and the country beginning the summer of 2016. Dr. James Kerfoot, who is organizing the camp, says the idea is two-fold: first, to get students interested in conservation and conservation biology, and second, to showcase the new Conservation Biology program at Union. The camp will get Union's name in the students' minds and attract attention to our new program.

The cost of \$535 includes housing, food, and many exciting field trips. The plan is to offer two one week camps of 12 students, one for boys and one for girls. The twelve campers will stay in the dorm rooms on campus with current Union Conservation Biology students working as Residential Advisors to make sure campers are safe and taken care of. Some off-campus field trips that are planned include: Memphis Botanical Garden, Memphis Zoo, hiking, fishing expeditions, and a canoe outing. Curriculum for the camp includes methods of trapping and releasing animals, telemetry, electrofishing to assess population, and working at Union's Raptor Rehabilitation Center, all the while learning to observe God's creation.

"Conservation is a very new major with a growing faculty, so why not utilize that expertise at the same time to put our name out there to recruit for Union Biology and use it as an outreach to the community," says Dr. Kerfoot. The goal is to showcase the courses that Union offers, while also having fun with high school students. More details on this camp will be provided in the Fall Newsletter.

FACULTY PROFILE: DR. JAMES HUGGINS

by Rachel Horton

Dr. James Huggins, University Professor of Biology, has taught at Union University for 28 years. He loves to teach Biology, particularly Vertebrate Biology. Dr. Huggins likes to say, "If it's Biology, I love it!" He received his bachelor's degree in Animal Science from Arkansas State University. He went on to earn his Master's degree at Arkansas State University and his Ph.D. at the University of Memphis. Dr. Huggins has taught additional undergraduate classes, including Comparative Anatomy, Global Biology, Human Gross Anatomy, Invertebrate Biology, and Wildlife Biology. Dr. Huggins was the key player in bringing the Gross Anatomy courses to Union. He also teaches graduate courses for the School of Nursing and the School of Pharmacy. Dr. Huggins loves to interact with and pray with his students and he particularly loves when a student is able to apply what they have learned from one of his classes. He desires to help each student find their niche in life.



Dr. Huggins is married to Mrs. Cathy Huggins, Laboratory Specialist for the Biology Department. When asked what it is like to work with his wife, he says that it is both a blessing and a pleasure. Dr. Huggins enjoys working with all of the faculty members in the department, and he particularly likes to tease and joke with Dr. Wayne Wofford. When Dr. Huggins is not teaching he enjoys spending time outdoors and spending time with his family. He is also the pastor at Unity Baptist Church in rural Chester County, TN.

Currently, Dr. Huggins operates a wildlife rehabilitation and education center at Union, along with Dr. JR Kerfoot, that focuses on the rehabilitation of injured raptors and education focused on the birds of prey. The raptors are rehabilitated to be introduced back into the wild. Animals that cannot be fully rehabilitated are used for educational purposes.

As for research, Dr. Huggins is currently involved in several projects such as getting Screech Owls to nest in nest boxes, because snakes can get into the boxes. Dr. Huggins is working with students to put snake guards around these nest boxes. He is also involved in a research project that looks at how light pollution is impacting the bat population around West TN. This required Dr. Huggins to be vaccinated against Rabies.

Dr. Huggins has a great passion for his students and the field of Biology and it is evident through his work. The Biology department is blessed to have such a compassionate and dedicated individual.

GRADUATE PROGRAMS

We are excited to let you know that the faculty of Union University voted to approve our proposal of two new graduate programs! These are the first two graduate programs in the College of Arts and Sciences! The first program is the Graduate Certificate in Pre-Professional Biology. Our plan is to admit 8 students to begin this Fall. The program is designed for students who are interested in either obtaining more coursework in preparation for professional school, or to provide an additional credential to demonstrate ability. Students will take three courses in the Fall, one in the Winter, and three in the Spring. More information about the program is available

at our new website (uu.edu/dept/biology/curriculum/graduate). If you or anyone you know is interested, please contact Dr. Marc Lockett for more information (mlockett@uu.edu).

Our second program, which we plan to begin Fall of 2016, is a Masters of Science in Conservation Biology. We plan to admit two students per year into this two year program. We are looking forward to working with Masters students and having an opportunity to engage in more in-depth field and laboratory research.

These programs will include the development of two new required courses. First, "Preparation for Pre-Professional Biologists," developed by

Dr. Lockett for the Certificate Program, focuses on preparation for "what's next" in their lives, interviewing skills, finding the best program for them, hearing from health professionals, and so on. A second course that is being developed by Dr. Huggins is "Conservation and the Christian Faith," for the Conservation Masters program. This course will "examine the complex interaction between conservation ethics, environmental sustainability, and Christian faith within the context of environmental need and practice."

We are looking forward to getting these programs started, and we would appreciate your help in spreading the word!