

# MICROSCOOP

Summer/Fall 2018

The Newsletter of the UMB Microbiology- & Immunology Community

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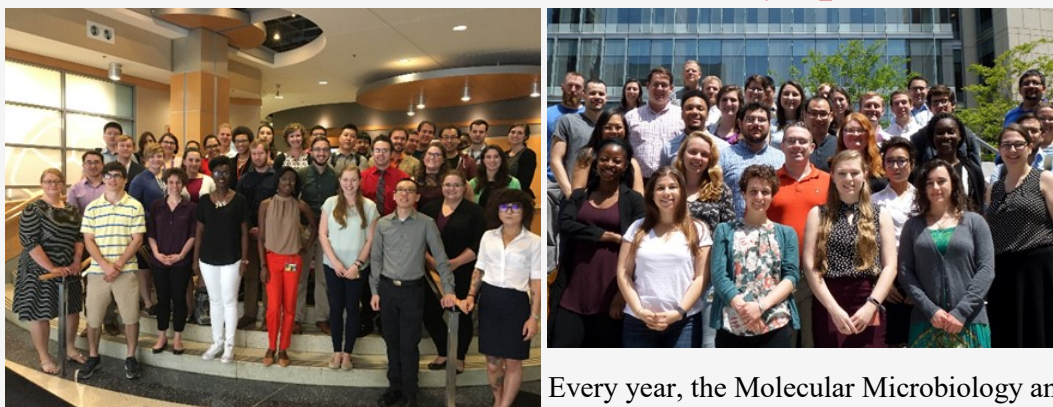
### MICROSCOOP STAFF

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Brandi Hobbs, Contributing Editor  
Hanover Matz, Contributing Editor  
Emily Smith, Contributing Editor

With special thanks to  
Heather Ezelle and Tanya Hopkins

## Annual MMI Graduate Student Symposium



Every year, the Molecular Microbiology and Immunology Program hosts the Annual

MMI Graduate Student Symposium (June Presentations) where every student in the program gives a formal presentation to the department. One graduating MMI student with outstanding research accomplishments and strong service contributions to the Microbiology and Immunology community is selected each year as the winner and recipient of the James Kaper award (formerly the Ollie Eylar Award). Recipients receive a monetary award and their names inscribed onto plaques that hang in the Longo Lounge for all to remember them by. Thank you to Dr. Kaper for refilling the endowment and continuing this tradition for the students. The 2017 winner was Sabina Kaczanowska who generously used her monetary award to

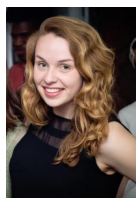


2017 James Kaper Award Recipient: Dr. Sabina Kaczanowska pictured with Dr. James Kaper (left) and Dr. Bret Hassel (right)

buy and donate the Keurig coffee maker that is now in the Longo Lounge. Thank you, Sabina! The 2018 recipient of the James Kaper Award was Stephanie Lehman. Congratulations to both Stephanie and Sabina, and the MMI community thanks you for your contri-



2018 James Kaper Award Recipient: Dr. Stephanie Lehman pictured with Dr. James Kaper (left) Bret Hassel (right)

**Anya O'Neal**

I am originally from Sykesville, MD, and attended the University of Maryland, College Park for undergrad. Following graduation I was a post-bac fellow at the FDA for one year. My research interests are bacterial pathogenesis, genetics, and innate immunity. I've been playing viola and violin for 15 years and I have a minor in music performance.

**Robert Haupt**

I am from Paso Robles, CA, moved to Oklahoma to serve in the Air Force for four years and afterward earned my BS from the University of Oklahoma (Microbiology) and MS from the Univ of Central Oklahoma (Forensics). I have been married to Janis for 14 years and we have two kids, Tyler (11) and Madison (6). Our hobbies are running our kids from one sports event to another, snow skiing, bicycling and travel to sandy beaches. I am now active-duty in the Army (16 years total service), which has given me four years to and earn a PhD with the Frieman Lab (Virology). Life is busy.

**Jerod Brammer**

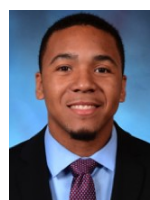
I am originally from northwestern Connecticut. I did my undergrad at Elms College in Chicopee, MA, and my masters at Central Connecticut State University. My prior academic research was in restriction modification systems and bioremediation of gasoline contaminated soil. My current interests are understanding how bacterial pathogens adapt to infect different tissues. In my free time I enjoy wood-working. An interesting fact about me is that I have lived in more countries than states. Additionally, I have been married for five years and have an 11-month-old daughter.

**Gillian Mbambo**

I was born and raised in Malawi, but have been in Baltimore/Maryland for the last 11 years. I completed my undergraduate work at the University of Maryland, College Park. Prior to starting graduate school I worked at the Division of Malaria Research at the Institute for Global Health here at the University of Maryland. My research interests are in bioinformatics and immunological approaches to vaccine development and understanding host-pathogen interactions. With my free time I enjoy hiking, traveling, and food/eating. As it follows, I am obsessed with anything chickpeas.

**Jessica Allen**

I am originally from Germantown, Maryland and just graduated from University of Maryland, College Park. I have a wide range of research interests that include immunology, bacterial pathogenesis, but especially therapeutic development. During my free time, I like to go on runs and explore the city. A fun fact for me is that I lived in Spain and traveled around Europe for 5 months.

**Ellis Tibbs**

I am originally from St. Louis, MO and completed my undergraduate work at University of Missouri-Columbia. I worked for 2 years at the NIH conducting research on regenerative capability of salivary glands post-radiation. My research interests are in tumor immunology/developmental biology. My favorite hobbies are playing rugby and bowling (opposite ends of the spectrum I know). Outside of my odd hobbies, a fun fact is that I have been on billboards across Missouri.

*In Memory of Mark Shirliff  
1969-2018*



The *Microscope* staff would like to acknowledge the unexpected passing of a dear teacher, mentor, colleague, and friend to many of us on campus. As many are aware, Mark Shirliff, Ph.D., Professor in the Department of Microbial Pathogenesis at the University of Maryland School of Dentistry and the Department of Microbiology and Immunology at the University of Maryland School of Medicine passed unexpectedly on July 12, 2018, during a rafting accident on the Yellowstone River near Gardiner, Montana.

We miss him dearly and will be dedicating a special memorial to him in the upcoming Spring 2019 issue of *Microscope*.

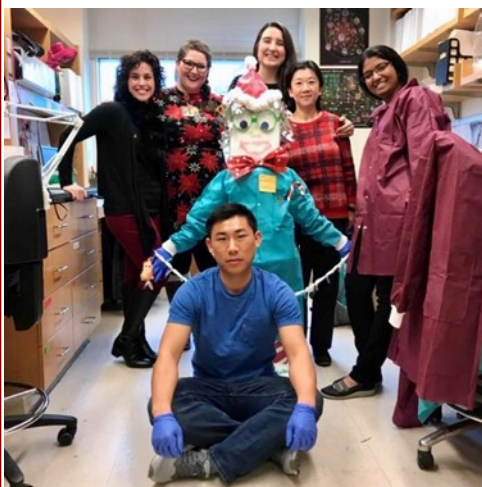


## 2017 Molecular Microbiology and Immunology Holiday Research Networking Event

By Brandi Hobbs

The 2017 MMI Holiday RNE took place in the HSF II Atrium, which was transformed into a red and white candyland delight where students, staff and faculty gathered to celebrate the holidays and the successes of the year. Holiday music played in the background, setting a jolly ambiance. The buffet table glimmered with the juices of savories and sweets, veggies and treats. Cocktail and dessert contests highlighted the numerous non-scientific talents of members of our department. Martin Flajnik sang the classics on the karaoke machine. It was memorable. The department holiday present this year was cozy navy blue hoodie with the department logo, worn home by all as they trotted through the stormy blizzard outside.

Students being jolly and enjoying good food, beer, and karaoke singing:



Barry Lab standing with the winning Elf Contest entry. Labs were to build an elf out of lab supplies.



Brandi Hobbs and Emily Smith singing "Let It Go" from Disney's Frozen.



Hanover Matz, Ashley Mitchell, Emily Flowers



Molly Hritzo, Brandi Hobbs, Dominique Bollino, Susannah Shissler

## ASM Atlanta 2018: “The Maryland-Michigan Party”

By Jeremy Ardanuy

Back in the 80’s, Harry Mobley and Jim Kaper shared a room at the annual American Society for Microbiology (ASM) national conference. They decided to host a networking event in their room and invited friends to come by for drinks at the end of the conference. What once started as a small get together in a hotel room with a bathtub full of ice and drinks, has blossomed into a massive event that ASM attendees look forward to each year!



Drs. Mobley and Kaper have continued to host this event every year since and it is known as “The Maryland-Michigan Party”, since Dr. Mobley moved to a position at the University of Michigan. Every year, this traditional party has grown, going from a block of rooms, to a reception hall, and recently to an entirely rented out bar.



This year’s ASM Maryland-Michigan Party was held at The Hudson Grille, overlooking Atlanta’s famous Centennial Park. It was a humid Atlanta summer night, and everyone quickly moved to the outdoor area of the bar to enjoy the weather, buffet, and beverages (including a personal favorite, Atlanta’s Sweetwater Brewing company).

I got the chance to hang out with several of UMB’s professors, and to chat with students and professors from universities around the country throughout the night.



Left: Christine Charlip (Director of the ASM Press), and Vanessa Sperandio (Dr. Kaper’s former postdoc, now a full professor at UTSW), and Dr. Kaper

Right: Stefano Bertuzzi (CEO of ASM), Christine Charlip, and Dr. Kaper,



## 2017 MMI Student Retreat

By Brandi Hobbs

On May 23, 2017, the MMI students gathered at the tranquil home of M&I faculty Dr. Alan Schmaljohn for a day of camaraderie and fellowship. Students met in small groups to discuss how they can improve upon current program events and student life. Fun was had, food was devoured, and memories were made. The students would like to thank Dr. Schmaljohn and his wife, Amy, for their hospitality and generosity in opening their home to us, as well as GPILS and MMI for funding our retreat!



**Thiagarajan (Raja) Venkataraman, Ph.D.**, 2017, Graduate Program in Life Sciences, Molecular Microbiology and Immunology, University of Maryland, Baltimore. Advisor, Matthew B. Friedman, Ph.D.—Currently a Post-doctoral Fellow at Johns Hopkins University.

**Beth French, Ph.D.**, 2017, Graduate Program in Life Sciences, Molecular Microbiology and Immunology, University of Maryland, Baltimore. Advisor, Agnes M. Azimzadeh, Ph.D.—Currently an Assistant Professor of Biology at Notre Dame University of Maryland.

**Avital (Talie) Shimanovich, Ph.D.**, 2017, Graduate Program in Life Sciences, Molecular Microbiology and Immunology, University of Maryland, Baltimore. Advisor, Marcela F. Pasetti, Ph.D.—Currently a Reviewer at the Food and Drug Administration.

**Ann Joseph, Ph.D.**, 2017, Graduate Program in Life Sciences, Molecular Microbiology and Immunology, University of Maryland, Baltimore. Advisor, Eduardo Davila, Ph.D.—Currently a Post-doctoral Fellow at Weill Cornell School of Medicine with Gregory Sonnenberg, Ph.D.

**Antoine (Tony) Dara, Ph.D.**, 2017, Graduate Program in Life Sciences, Molecular Microbiology and Immunology, University of Maryland, Baltimore. Advisor, Christopher Plowe, M.D., M.P.H., F.A.S.T.M.H.—Currently at Post-doctoral Fellow at the Center of Vaccine Development, Mali.

**Devon Allison, Ph.D.**, 2017, Graduate Program in Life Sciences, Molecular Microbiology and Immunology, University of Maryland, Baltimore. Advisor, Mark E. Shirtliff, Ph.D.—Currently completing the dental school requirements for her D.D.S./Ph.D. at the University of Maryland School of Dentistry.

**Latey Bradford, Ph.D.**, 2017, Graduate Program in Life Sciences, Molecular Microbiology and Immunology, University of Maryland, Baltimore. Advisor, Jacques Ravel, Ph.D.—Currently

completing the medical school requirements for her M.D./Ph.D. at the University of Maryland School of Medicine.

**Lisa Leung, Ph.D.**, 2017, Graduate Program in Life Sciences, Molecular Microbiology and Immunology, University of Maryland, Baltimore. Advisors, David R. Goodlett, Ph.D. and Robert Ernst, Ph.D.—Currently an Association of Public Health Laboratories/Centers for Disease Control and Prevention Post-doctoral Fellow at the Maryland Department of Health.

**Elizabeth (Liz) Weingartner, Ph.D.**, 2017, Graduate Program in Life Sciences, Molecular Microbiology and Immunology, University of Maryland, Baltimore. Advisor, Amit Golding, M.D., Ph.D.—Currently an Associate Scientist in Translational Science and Diagnostics at Personal Genome Diagnostics.



Elizabeth Weingartner with mentor Amit Golding

**Kelsey Gregg, Ph.D.**, 2017, Graduate Program in Life Sciences, Molecular Microbiology and Immunology, University of Maryland, Baltimore. Advisor, Robert Ernst, Ph.D.—Currently a Post-doctoral Fellow at the Food and Drug Administration with Todd Merkel, Ph.D.

**Eric Kong, Ph.D.**, 2017, Graduate Program in Life Sciences, Molecular Microbiology and Immunology, University of Maryland, Baltimore. Advisor, Mary Ann Jabra-Rizk, Ph.D. - Currently an Associate Scientist at Personal Genome Diagnostics.

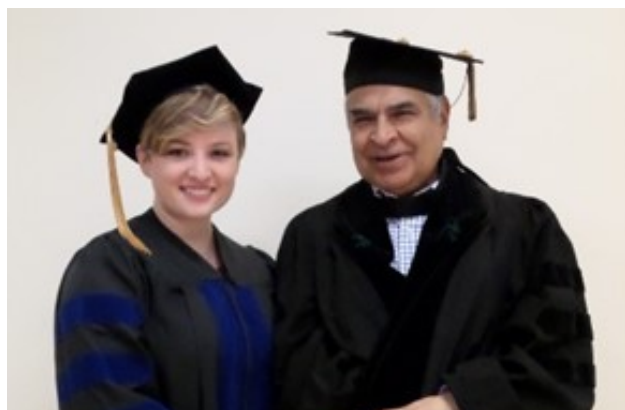
**Kevin Chen, Ph.D.**, 2017, Graduate Program in Life Sciences, Molecular Microbiology and Immunology, University of Maryland, Baltimore. Advisor, Hanping Feng, Ph.D.—Currently a Scientist at a small biotech company.

**Phillip Balzano, Ph.D.**, 2017, Graduate Program in Life Sciences, Molecular Microbiology and Immunology, University of Maryland, Baltimore. Advisor, Eileen M. Barry, Ph.D.—Currently a Post-doctoral Fellow with Caroline Genco, Ph.D., at Tufts University.



Phillip Balzano and mentor Eileen Barry

**Stephanie Lehman, Ph.D.**, 2018, Graduate Program in Life Sciences, Molecular Microbiology and Immunology, University of Maryland, Baltimore. Advisor, Abdu F. Azad, Pharm.D., Ph.D., M.P.H.—Currently a Post-doctoral Fellow with Matthias Machner, Ph.D., the Eunice Kennedy Shriver National Institute of Child Health and Human Development (National Institutes of Health).



Stephanie Lehman and mentor Abdu Azad

**Lalena (Lanie) Wallace, Ph.D.**, 2018, Graduate Program in Life Sciences, Molecular Microbiology and Immunology, University of Maryland, Baltimore. Advisor, David A. Rasko, Ph.D.—Currently working at the Defense Threat Reduction Agency (United States Department of Defense).

**Molly Hritz, Ph.D.**, 2018, Graduate Program in Life Sciences, Molecular Microbiology and Immunology, University of Maryland, Baltimore. Advisor, Amit Golding, M.D., Ph.D.—Currently completing the medical school requirements for her M.D./Ph.D at the University of Maryland School of Medicine.

**Andrew Clerman, Ph.D.**, 2018, Graduate Program in Life Sciences, Molecular Microbiology and Immunology, University of Maryland, Baltimore. Advisor, Sergei P. Atamas, M.D., Ph.D.—Currently a Medical Officer in the Division of Pulmonary, Allergy, and Rheumatology Products at the Food and Drug Administration.

**Mark Guillote, Ph.D.**, 2018, Graduate Program in Life Sciences, Molecular Microbiology and Immunology, University of Maryland, Baltimore. Advisor, Abdu F. Azad, Pharm.D., Ph.D.—Currently a Post-doctoral Fellow at the University of Maryland Baltimore.



MMI Graduates at the 2018 Hooding Ceremony (left to right: Sarah Boudova, Stephanie Lehman, Phillip Balzano, Elizabeth Weingartner, Jeffrey Freiberg)



## Microbiology and Immunology Laurels

### *Student Awards and Funding Announcements*

Courtney Matson from Nevil Singh's lab won the Outstanding Presentation Award for scoring highest in her poster session at the 2018 Graduate Research Conference at UMB in May, 2018. She won \$50. Courtney also won an AAI (American Association of Immunologist) Trainee Abstract Award for being selected to give a talk at the 2018 AAI Conference in Austin, Texas which provides trainees with up to \$750 in travel expenses.



MMI Students Courtney Matson (left) and Erin McClure (right) at the Graduate Research Conference Awards Ceremony at UMB.

Erin McClure from Joao Pedra's lab won both the Outstanding Presentation Award for her oral talk and the Office of Technology Transfer Award at the 2018 Graduate Research Conference. Erin also submitted an F31 Grant Proposal which has been funded by the NIAID/NIH from February 2018 through February 2020.

Jeremy Ardanuy from Nick Carbonetti's lab submitted an abstract and presented a poster at the Maryland Branch ASM (American Society for Microbiology) for which he won the 2nd place J. Howard Brown award and \$100. Jeremy also won a \$500 Travel Grant to attend the national ASM Conference in Atlanta, Georgia in June. Jeremy also submitted an individual F31 Grant Proposal titled Lung Inflammation and Type I Interferons in Bordetella pertussis Infection which has been successfully funded by the NIH September 2018 through September 2020.

Jeffrey Freiberg of Mark Shirliff's lab was the recipient of the 2017 Elaine Miye Otani Memorial Award. This award is given to the graduate student in GPILS of outstanding character who demonstrates superior academic performance and who shows outstanding promise as an independent investigator.



Jeffrey Freiberg (middle) and mentor Mark Shirliff (right) at the Otani Memorial Award Ceremony.

Steven Dudics from Kamal Moudgil's lab received a Young Investigator Award from the Academic Consortium for Integrative Medicine and Health conference in recognition of innovative and impactful integrative medicine and health work conducted by promising young investigators. He also won a prize of \$500. Steven was also awarded funding by the NIH for his F31 Grant titled, "MicroRNAs as biomarkers and targets of herbal CAM in autoimmune arthritis," which funds him from June 2017 through June 2019.

Susannah Shissler from Tonya Webb's lab was awarded the AAI (American Association of Immunologists) Young Investigator Award for being selected to give a talk at the CD1-MR1 Conference in November 2017 in Napa Valley, California. The award included a \$150 prize.

Kenneth Rosenberg of Nevil Singh's lab also won an AAI (American Association of Immunologist) Trainee Abstract Award for being selected to give a talk at the 2018 AAI Conference in Austin, Texas which provides trainees with up to \$750 in travel expenses.



Susannah Schissler pictured with Luc Teyton (left) and Jenny Gumperz (right) at the CD1-MR1 Conference Awards.

## Microbiology and Immunology Laurels

### *Faculty Laurels*

Dr. Patrik Bavoil was elected a trustee of the Federation of European Microbiological Societies from January 1, 2018 to December 31, 2020.

Dr. Matthew Frieman was awarded three new contracts, two with Emergent Biosolutions for "Yeast-based Screening Platform to Identify Anti-Viral Compounds and Novel Targets for Respiratory Syncytial Virus (RSV) and Human Norovirus (NV)" and "Fluoroquinolone Testing against Emerging Coronaviruses". The third is with Regeneron Inc for "Evaluation of Anti-MERS Spike Monoclonal in MERS-CoV Model".

Dr. Mary Ann Jabra-Rizk received an NIAID/NIH R01 award for "*C. albicans* and *S. aureus* Catheter Infections: Clinical Implications and Therapy". (2017) Baltimore, MD, USA.

Drs. Stefanie Vogel and Katarina Richards were granted a patent for "Compositions and Vaccines Comprising Vesicles and Methods of Using the Same" by the US Patent and Trademark Office (2018) Baltimore, MD, USA (US Patent Number 10,017,545)

Dr. Mary Ann Jabra-Rizk was promoted to full Professor effective July 1, 2018 in the University of Maryland School of Dentistry (primary appointment) and the departments of Microbiology and Immunology and Pathology, School of Medicine (secondary appointments).

### *Post-Doctoral Fellow Laurels*

Post-doctoral Fellow Dr. Taissa Vila in Dr. Mary Ann Jabra-Rizk's lab was awarded two travel awards, one for the American Society for Microbiology Conference on Candida and Candidiasis (2018), Rhode Island, USA, and one for the International Society of Human and Animal Mycology (2018), Amsterdam, the Netherlands.

Post-doctoral Fellow Dr. Kirsten Kulcsar in Dr. Matthew Frieman's lab was awarded an F32 for her grant titled "The role of diabetes in Middle East Respiratory Syndrome Coronavirus pathogenesis".

## *Bob Ernst 2017 Researcher of the Year Award*

Our very own Bob Ernst was awarded the 2017 University of Maryland School Of Medicine's Researcher of the Year award! The Researcher of the Year award highlights the work of a faculty member who exhibits excellence in truly innovative research. He gave a fascinating lecture titled "Structure Matters – Making Bacterial Molecules Work for Us." Bob and colleagues are engineering rationally designed mimetics based on bacterial surface molecules that will inhibit the body's immune response to sepsis. He has secured ongoing funding from the National Institutes of Health (NIH), MedImmune, University of Maryland Ventures Seed Grant Funding, and the state of Maryland Technology Development Corporation. Bob also co-founded a startup diagnostic company with faculty member Dave Goodlett called Pataigin that works to identify bacteria- and fungi-caused infections in less than an hour at an affordable cost. Congratulations, Bob!



*Founders Week 2017*



### RESEARCHER OF THE YEAR PRESENTATION AND RECEPTION

**Tuesday, Oct. 17 | 4:30 p.m.**

Davidge Hall | 520 W. Lombard Street

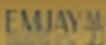
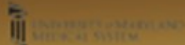
**ROBERT K. "BOB" ERNST, PHD**

School of Dentistry

Professor and Vice Chair, Department of Microbial Pathogenesis

*"Structure Matters — Making Bacterial Molecules Work for Us"*

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# HAPPY NEWS



Mark Rudolph and his wife welcomed daughter Margo Elizabeth Rudolph on July 13, 2018.

Michael Lee married Stephany Forsythe at Deep Creek in Western Maryland in June 2018.

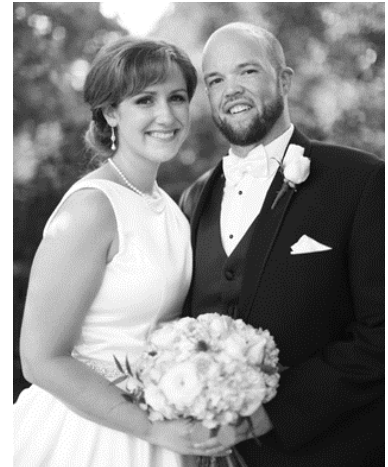


Andrew Clerman and his wife welcomed daughter Joanna Brynn Clerman on April 18, 2018. She weighed 6 lbs 4 oz. Mom and baby are doing well and dad is relieved and very excited!



Molly Hritz married Andrew Ahye in Bucks County, PA, in June 2018.

Elizabeth Weingartner married Cassidy Shepherd in Cincinnati, OH, in May 2018.



Erin McClure married husband Jack in July 2018.

David Langan married Natalie Hernandez in Myerstown, MD, in March 2018.



Mark Guillotte married wife Jess in New Orleans, LA, in April 2018.

## MMI STUDENTS DOING FUN THINGS

Members of the department (left to right: Susannah Shissler, Brandi Hobbs, Hanover Matz, and Dominique Bollino) suspended their addiction to technology and donned



their gowns or chain mail to enjoy a day of LARPing (live-action role playing) at the 2017 Annual Maryland Renaissance Faire in Annapolis. Knights, fair maidens, and creatures of the mystical type gathered to enjoy games of chance, tankards of mead, turkey legs, crafts of skilled artisans, jousting and other fine entertainment. Huzzah!

Student Advisory Council's Trivia Night's 1<sup>st</sup> Place Team was comprised of MMI Students, pictured with their prized Orioles/Ravens memorabilia from left to right: Hanover Matz, Emily Smith, Stephanie Lehman, and Brandi Hobbs





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Microscoop



Stay tuned for our next *Microscoop* issue which will feature:

- An extended memorial to our dear colleague and friend, Mark Shirliff, Ph.D.
- Profiles of new faculty including Xuefang Cao, M.D., Ph.D., and Xiaoxuan Fan, Ph.D.
- Profiles of our new students for the 2018-2019 school year
- More news from faculty, fellows, and students!



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