



MICROSCOOP

University of Maryland Microbiology & Immunology Newsletter

Cheers to GPILS Teacher of the Year

By Latey Bradford



On September 23rd the Graduate Program in Life Sciences (GPILS) announced their 2013 award recipients. Among them, our very own Dr. Bret Hassel, Associate Professor in the Department of Microbiology & Immunology, was selected as the 2013 GPILS Teacher of the Year! In celebration of this tremendous honor, I sat down with Dr. Hassel to talk about his career journey and his passion for education and research. This interview reveals some of his secrets to success as an educator and pays tribute to the many professors that he has admired over the course of his career.

For those of us who have had the honor of taking a class with Dr. Hassel as a lecturer, this award seems most appropriate. Dr. Hassel, however, disclosed that this distinction came as quite the surprise to him. I would propose that in addition to his excellence in teaching, it is his humility and composure that draws the admiration of his students and colleagues, alike. Dr. Hassel is a native Marylander but chose to study at the University of Miami to pursue his initial interest in Marine Biology. After completing his bachelor's degree and making a pit stop at North Carolina State University, working in a traditional Mendelian genetics lab, he returned to Maryland to join a PhD program at Johns Hopkins University. It was here that he started working on the interferon system within a cancer immunology context—an area of study that he is actively involved in to this present day. Dr. Hassel completed two post-doctoral fellowships before accepting his first independent position as an assistant professor here at the University of Maryland, Baltimore in 1995.

We had a very rich conversation, **see page 4** for a summary of the highlights:

Crosstalk Brings Campuses Together

By Hal Neely

The 4th annual Joint UMB/UMCP Research Symposium “Crosstalk: Across Cells, Across Campuses” was hosted by the M & I and Microbial Pathogenesis Departments and held on June 18, 2013 at BioPark II. The Crosstalk Symposium provides an excellent opportunity for collaboration among students and integration of research between our two campuses. Oral presentations were given by students funded by departmental T32 training grants. This year, **Alison Scott, Kyle Wilson, Hal Neely, Sergio Mojica, Aaron Christensen-Quick, and Carolyn Morris** from UMB presented, as did Rebecca Renberg, Syed Zaheer, and Mona Wu Orr from UMCP. Posters were also presented by students from both campuses, and a two-part keynote address was given by Howard Young, Ph.D., from NIH.

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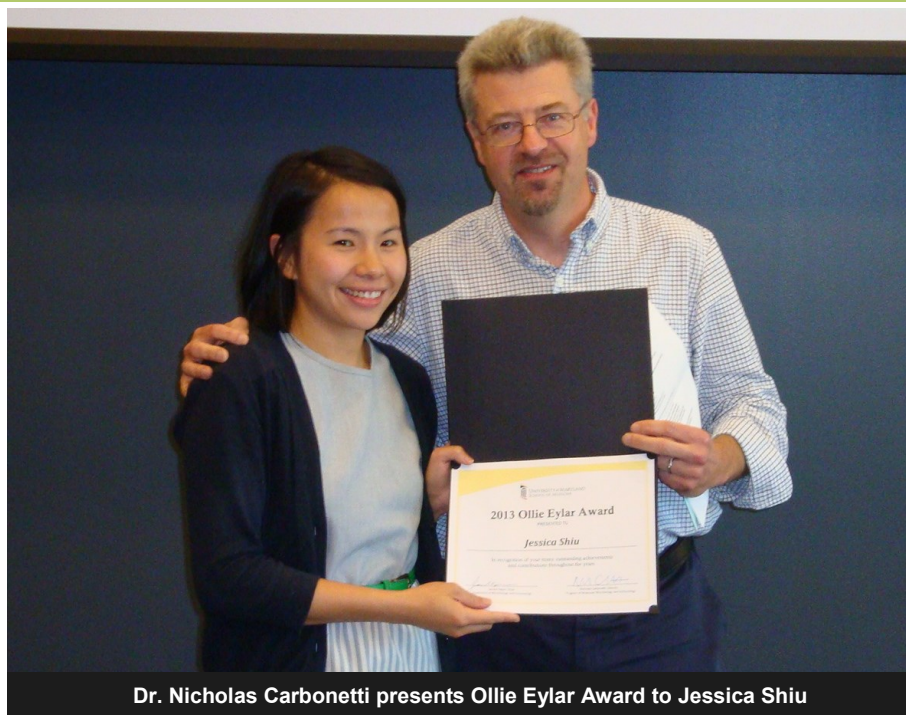
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The Department Relaxes at the Summer Picnic

By Sabina Kacznowska

The annual picnic presented by the MMI Graduate Program and Departments of Microbiology & Immunology and Microbial Pathogenesis was held on August 16th at Centennial Park in Ellicott City. It was a gorgeous Friday afternoon for beach volleyball, water balloons, and enjoying a cold beverage on the deck. Thank you to everyone who contributed to the spread of delicious food and all of the volunteers who helped make the picnic a huge success!





Dr. Nicholas Carbonetti presents Ollie Eylar Award to Jessica Shiu

Students Showcase Their Work during this Year's June Presentations

By Latey Bradford

If you asked graduate students in the Microbiology/Immunology family to share their favorite feature of our program which distinguishes us from other GPILS programs on campus, I am sure you would get a very diverse collection of responses. The fabulous June Green, the Longo Lounge "hot spot", the amusing annual picnic, or the spirited holiday party may be among the top picks. But one unique tradition that may go overlooked is our annual showcase of the scholarly research activities conducted by our graduate students—a program affectionately known as "June Presentations"!

This year's two-day student symposium took place on June 5-6, 2013 and was held in the BioPark II Discover Auditorium. **Jessica Shiu** and **Justin Taylor** organized the event with the support of faculty advisor **Dr. Bob Ernst** and Program Liaison **June Green**. The first-year student rite of passage was performed as 11 MMI "newbies" presented a summary of one selected rotation project, while junior and senior level students shared exciting updates on their dissertation studies. The room was energized by stimulating talks and fascinating questions. A total of 37 illustrious students took to the podium and demonstrated proficiency in communicating the results and significance of their scientific endeavors.

As is the custom, **Dr. Nick Carbonetti** presented the Ollie Eylar Award to the most outstanding graduate student at the conclusion of the scheduled presentations. This award was established to honor Dr. Ollie Eylar, who was a Department of Microbiology & Immunology faculty member known for excellence in teaching. The student selected for this distinguished honor was none other than this year's program organizer **Jessica Shiu**, an MD/PhD student in **Dr. Tom Blanchard's** lab who has defended her thesis and returned to medical school.

Until the next round of June presentations, we are all motivated to continue the pursuit of scientific discovery and we will continue to celebrate all the reasons we love our Microbiology/Immunology program!

Occam's Bat: Department Softball

By Becca Pelc

Beginning Wednesday June 19, 2013

University of Maryland students and faculty gathered at Unger's Fields at Northeast Highland Park for URECFIT's softball intramural games. The M&I Department, led by captain **Brian Astry**, fielded a team. Playing double headers once a week, the department team, Occam's Bat, played teams made up of future dentists and physical therapists. The team ended with a regular season record of 3-3. Unfortunately, June's rainy weather cut the season short. As in year's past, Dr. Kaper's generously provided popsicles following their final game of the season.



Department Members Log Miles

By Becca Pelc



Congrats to all of the department members who participated in this year's Baltimore Running Festival on October 12th. The Department fielded three teams of runners for the marathon relay, as well as, having students who ran with the Medical

Scientist Training Program. Participants included **Mark Rudolph**, **Sabina Kacznowska**, and **Kelsey Gregg** on team Running Gels, **Becca Pelc** and **Elizabeth Weingartner** on team Phagocytes, **Stephanie Lehman**, **Martin Flajnik**, and **Ann Mary Joseph** on team Martin's Angels, and **Grace Maldarelli** and **Jeffrey Freiberg** who participated with MSTP. The marathon route allows runners to pass Baltimore sights such as Camden Yards, the Inner Harbor, and Lake Montebello. All three of the departmental teams finished with times under 4:30, or an average of sub-10 minute miles! **Great job to the runners!**

Dr. Joao Pedra Joins the M & I Community

By Kyle Tretina



Where are you from?

Dr. Pedra: I am originally from Southeast Brazil. I grew up in a small Portuguese colonial town 4000 feet above the sea level named Diamantina (Diamond town). It was colonized by the Portuguese in the 18th century when they first discovered gold and diamonds in the mountains inland of Brazil.

Please give an outline of your educational background.

Dr. Pedra: I went to college when I was 17 at the Federal University of Vicosa. Vicosa is considered a respectable University in Brazil for agriculture and veterinary sciences. I majored in Biological Sciences and started doing research in plant molecular biology when I was a sophomore in college. I graduated in 1998 and subsequently received a Masters of Science degree in 2000. Then, I moved to Indiana and received my PhD degree from Purdue in 2004. Later that year, I

was recruited to Yale to do research in microbiology and immunology of tick-borne diseases. At Yale, I fell in love with research related to infectious diseases, microbiology and immunology. In 2009, I started my own laboratory at the University of California, Riverside. In the summer of 2013, I relocated to the University of Maryland, Baltimore.

Please summarize your current research in three sentences or less.

*Dr. Pedra: My laboratory is interested in fundamental questions related to arthropod-borne diseases. We investigate the cellular and molecular mechanisms that facilitate pathogen transmission to the mammalian host. Conversely, we are also interested in understanding the underpinnings of how the immune system of both the arthropod vector and the mammalian host responds to pathogen infection. We use the rickettsial agent *Anaplasma phagocytophilum* and the Lyme disease tick vector as infectious disease models.*

What attracted you to this department at UMB?

Dr. Pedra: After working in three very different research universities in the United States, I began to understand what type of environment is better suited for my personality and research program. I believe that the Department of Microbiology and Immunology at the University of Maryland, Baltimore has the breadth and depth necessary to do competitive and modern research. There are excellent facilities, great expertise and outstanding colleagues. The infectious disease community at the University of Maryland, Baltimore is also a tremendous asset.

What is your favorite place to eat in the area?

My wife Tanja and I enjoy the city so we decided to live in North Baltimore. I like the coffee shops and small restaurants located between 33rd and 43rd streets. My favorite this is to sit outside a café, sip a good cup of coffee, read the New York Times and feel the rush of the city.

Are you looking for graduate students to rotate in your lab?

I would like to have a graduate student joining my laboratory by the summer of 2014. This is a good time in the Pedra laboratory. I am a lot more seasoned when compared to four years ago when I first started my independent career. There are also three solid projects in the laboratory. Thus, I feel I am ready to contribute to the education mission of the department.

What do you like to do outside of the lab?

Weekdays are crazy. When I am not in my office, I am either working at home or spending time with my family. My family and I have our little ritual. I prepare breakfast for the kids before waking them up, we have dinner together (this is the time when communication with the outside world is forbidden). Then, I do the dishes and read a story for my daughter Emilia before she goes to bed. During the weekends, we take a break from the city and visit Maryland State Parks. Other times, we play with the kids or just let them play with our neighbors' children. Sometimes, I go for a run or decide to cook, get a glass of wine and listen to Brazilian jazz. That is when my wife Tanja and I start discussing politics, culture, or history.



IGS Welcomes Local Students

By Kyle Tretina

On Sat, September 28th, MMI faculty **Dr. Joana Carneiro Da Silva** and **Dr. Emmanuel Mongodin** worked with organizer **Dr. Michelle Giglio** to facilitate a science and technology series for talented youth at the Institute for Genome Sciences. Started by the Center for Talented Youth (CTY), based at Johns Hopkins, this was a one-day workshop for some of the CTY students and their parents.

Attendees consisted of students from grades 7-10 and their parents. Other institutions that are hosting workshops through this program are Stony Brook University, Dartmouth College, Carnegie Mellon University, and Johns Hopkins University.

The workshop ran for the full day and had three main topics: microbiome analysis, led by Dr. Mongodin, the comparative genomics of pathogens, led by Dr. Giglio, and human variation and personalized genomics, led by Dr. Da Silva. The workshop was a huge success, giving promising local youth exposure to some of the most cutting edge technology and bioinformatics theory.



MICROSCOOP

Cheers to GPILS Teacher of the Year continued...

By Latey Bradford

Have you taught the same courses since coming to UMB 18 years ago? *Dr. Hassel: That time was prior to GPILS and there was a Molecular and Cell Biology Program that was a good fit and it was similar to GPILS in that it was interdisciplinary and people from all different departments taught [in this course]. So I taught quite a bit in that and was in charge of their qualifying exams. So for example, [I taught] the class in Nucleocytoplasmic Transport, [which is] the class I teach in the Core Course now. And once you know it pretty well, you might as well keep teaching it; it's a little less effort. When Gerald Wilson came on board and took over the molecular module of the core course, I collaborated with him in that section. I've also taught in Dr. Feldman's virology class, pretty much forever! Other things have changed throughout my time here. I started teaching in a Cancer Biology course, but since it has transitioned to a more translational slant, I don't teach that anymore. I also lead HDID small groups for the med students. So mainly I've taught the same things, just adding on a little here and there.*

Is there any particular course that stands out as your favorite to teach? **Dr. Hassel:**

Sure! I do like to teach the Interferon one. The ones that are most fun, and I think this holds for everybody, are the ones that are closest to your research. So you know more about it, and I think what makes it engaging for the students is when (1) you know the material very well so you don't have to look at your slides and (2) you provide the extra anecdotes to the background story—peppering the lecture with little stories, gossip, things like that. Understanding the history of the field and all the seminal experiments allows students to take those further, and that's what you want to do.

What have been some of your challenges as a lecturer for graduate and medical students? **Dr. Hassel:**

Other faculty members that have won this award before me, like Dr. Flajnik, can walk in "cold" and just start teaching the material. I need a little more prep than that. Honestly! So it cuts into your time for grant writing, being in the lab, and stuff like that. So I'm amazed at Dr. Wilson, Dr. Flajnik and others at how much teaching they do and are able to still keep a really productive lab going. I'm in awe of people who can juggle their schedules like that. I make an attempt at it, but I still try to limit the teaching so that I don't ignore what's going on in the lab.

Are there any mentors or former professors you really look up to and that have influenced your teaching? **Dr. Hassel:**

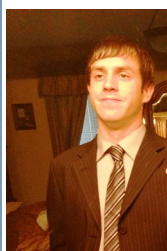
There's a fellow named Bill Meckling, who's still at Towson, and he was the genetics teacher there. He did exactly what I try to do and that is explain the seminal experiments and what the results were and how that expanded our knowledge. And I think that's really important; if we don't teach how our predecessors got to where we are now, I think we are doing a disservice to the students. Dr. Flajnik is also quite the role model, as is Dr. Wilson who took over the molecular section of the Core Course, which I was a part of and he was just amazing! I think he is one of the best in the world, period, in his organization and lecturing.

Do you have any words of advice for students who are considering an academic career?

Dr. Hassel: This is going to be a lot easier for upcoming academicians than it was for me because they are already versed in the realm of internet and everything that's out there. So to use everything that's available is my advice. Sometimes in my lectures there are figures from supply companies because maybe that's the best figure for that concept. There's so much out there such that in one sense it's easy to pick and choose what best represents what you want to say. But there's so much going on and while some facts stay the same, in most of the things we teach to advanced graduate students in the biomedical fields, things are moving so fast that you don't usually have the luxury of giving the exact same lecture year in and year out, if you want to do it well. You can maybe give some introductory lectures that way, but the more fun ones are to the advanced students who want to know what's the latest and greatest in the field. And finally, to put yourself in the position of the person you're interacting with. So ask yourself "Would this lecture make sense to me if I were a student?" And also be open to the feedback, because that's one thing that this school does really, really well – we take the feedback of the students really seriously and it's certainly given to the lecturer and most of the course masters make sure that they are responsive to those suggestions.

MMI Welcomes New Graduate Students

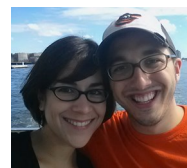
By Jeticia Sistrunk



Steven Dudics is from Doylestown, Ohio and attended the University of Toledo for undergrad. He loves immunology and hopes to focus his research studying vaccinology and tumor immunology. In his spare time Steven likes to play video games, watch anime, and hang out with his friends.



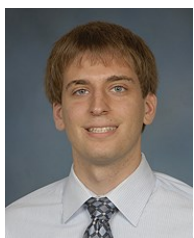
Elizabeth Weingartner is a Cincinnati, Ohio native and joins us directly after graduating from DePauw University in Indiana. As an undergraduate she conducted research studying immune mechanisms of Rheumatoid Arthritis and is interested in continuing her study of autoimmune diseases. Elizabeth loves being outdoors, watching HGTV, and cooking. You can also catch her enjoying festivals and the many sporting events around Baltimore.



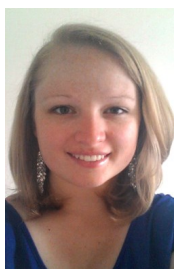
Mark Rudolph grew up in Fairfax, Virginia and Chicago, Illinois before attending the University of Rochester for undergrad. After earning his degree he spent time working at a company developing high sensitivity chemiluminescent kits for Western blots, as well as detection kits against STEC and *E. coli* O157:H7 pathogens. He is interested in studying microbiota and biofilm-mediated immunology. For fun Mark enjoys running, cooking, and watching TV with his partner Rhiannon, and rooting for the Orioles!



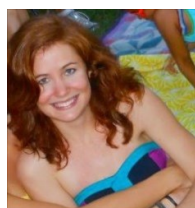
Devon Allison is from Royersford, Pennsylvania and earned her undergraduate degree at Ursinus College and Akita International University. She joins the program as a DDS/PhD student and is interested in studying microbial pathogenesis and biofilms of the oral cavity. In her free time Devon likes reading, drawing, exploring on long walks, and playing with her cat, Batman.



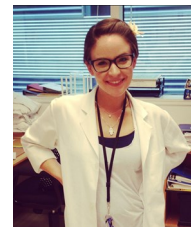
Originally from Atlanta, Georgia, **Jeffery Freiberg** went to college at the University of Virginia. After graduating from undergrad he worked at Emory University as a lab technician. Jeffery joins the program as an MD/PhD student and his research interests include studying the bacterial pathogenesis of *Streptococcus pyogenes*. When not studying he enjoys backpacking, hiking, and bowling.



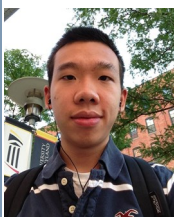
Stephanie Lehman hails from Colorado where she also attended college earning an undergraduate degree from Colorado State University. Prior to joining the program she spent three years working at the National Biodefense Analysis and Countermeasures Center. Her research interests include studying select agents, intercellular pathogens, and host-pathogen interactions. In her free time she enjoys running, biking, skiing, and painting.



Brigit Quinn is a Baltimore native and graduated from the University of Maryland Baltimore County in December of 2012. She previously worked in the Institute of Marine and Environmental Technology before joining the program. Her primary scientific interest is in infectious diseases, and when not studying Brigit enjoys baking and playing soccer.



Chelsea Rapp hails from Columbus, Ohio where she also attended undergrad at The Ohio State University. She earned graduate credit at another university before joining us at UMB. Her primary research interests include virology and vaccine development, and in her free time Chelsea enjoys Krav Maga, fitness, and music festivals.



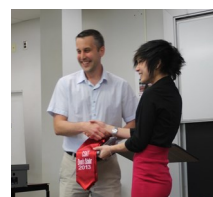
Eric Kong hails from Union, New Jersey and earned a Biology degree from Richard Stockton College of New Jersey. Eric conducted undergraduate research in bacteriology and is now interested in studying virology. In his spare time he enjoys watching Netflix and playing video games.



Originally from Strasbourg, France, **Philippe Azimzadeh** has been living in Maryland for the past 11 years and attended the University of Maryland, College Park for undergrad. Prior to joining the program Philippe spent time in New York City developing a company based on an iPhone app he and his friends created while in college. His scientific interests include computational biology, immunology, and entomology. In his free time he enjoys reading, doodling, hiking, picnics, and listening to and playing music.



Lisa Leung is from Laurel, Maryland and earned her undergraduate degree from St. Mary's College of Maryland. She previously worked as a research technician in the laboratory of Matt Trudeau within the UMB Department of Physiology before joining the program. Her research interests include bacteriology, microbial pathogenesis, and environmental microbiology. Lisa is currently working in the laboratory of Dave Goodlett within the UMB School of Pharmacy using mass spectrometry to analyze the lipid profiles on bacterial membranes. In her spare time she likes reading, writing, yoga, swimming, knitting/crocheting, and drinking wine with others.



Kimberley Filcek is from Radford, Virginia and attended undergrad at Radford University. She has research experience in arthropod-borne viruses and vectors, and wishes to continue research in virology. In her spare time Kimberley enjoys reading, sketching, and playing Pokemon.

Mark Guillotte is originally from Baton Rouge, Louisiana and attended Louisiana State University for undergrad. He then earned an MSc at William and Mary prior to joining the program. Mark is interested in studying microbial pathogenesis, and in his spare time he enjoys leisurely reading and beer drinking.

Recent Graduates

By Sabina Kaczanowska

Nicolas Dorsey presented her dissertation work "The Role of STAT6 Modulation of Natural and Inducible Tregs During Allergic Lung Inflammation" on June 3, 2013. Nicolas worked in Dr. Achsah Keegan's lab at the Center for Vascular and Inflammatory Diseases here on campus. As a MD/ PhD student, she returned to medical school this summer to continue her MD education.

Jessica Shui defended her thesis, "The Role of IRAK-M in Limiting *Helicobacter*-associated Gastric Immunopathology" completed in the lab of Dr. Thomas Blanchard on June 21, 2013. Her work was supported by a foreign doctoral research award from the Canadian Institutes of Health Research. Jess was very involved here on campus, from organizing multiple seminars to running qualifying exam study sessions, which earned her the prestigious Ollie Eylar Award for her service. Jess has now returned to medical school, jumping right in with psychiatry, family medicine and internal medicine rotations. She says that the biggest adjustment is relearning all of the clinical medicine material, and she feels that her graduate school career has prepared her to handle the workload and sticky situations.

Nate Archer defended his thesis entitled, "Th17-Associated Immune Responses Are Required for Resolution of *Staphylococcus aureus* Nasal Carriage" on July 24, 2013. His thesis work was in the lab of Dr. Mark Shirtliff with funding from the T32 Training Program in Oral and Craniofacial Biology. He is currently a post-doctoral fellow under the mentorship of Dr. Lloyd Miller at Johns Hopkins University studying host-pathogen interaction during *S. aureus* skin infections with a focus on innate immune responses. Nate first spoke with Dr. Miller after a presentation that he gave at UMB, and his advice to students is to take advantage of invited speakers as a resource for post-grad school positions.

Caitlin Castro performed her thesis work with Dr. Martin Flajnik and defended her thesis "Characterization of Plasma Cell Lineages in the Nurse Shark" on August 8, 2013. During her time here she was funded by the Institutional Training Grant in Cardiac and Vascular Cell Biology and the Institutional Training Grant in Immunity and Infection, both from the National Institute of Health. Caitlin is now working as a post-doctoral fellow with Dr. Erin Adams at the University of Chicago with a research focus on molecular immunology, specifically non-classical MHC class I loci and gamma-delta T cell ligand recognition.

Campus News: SOLAR Launch

By Sabina Kaczanowska

This fall saw the launch of a new program on campus aptly named the Sharing of Laboratory Animal tissues and other Resources (SOLAR) system. This software program is designed to help researchers save money by sharing reagents and equipment within the university. There are currently three categories listed: restriction enzymes, animal tissue, and equipment/lab ware, with more to come in the future as negotiations with vendors continue. This initiative could not have come at a better time considering the current funding situation. Within the first month, SOLAR saved UMB researchers \$4,200! Curtis Gallagher, founder of SOLAR and current graduate student in the Molecular Medicine program, gives us some insight into what went into making SOLAR a reality:

What was your role in developing this program? *Curtis Gallagher: While I am certainly not the first person to think of the idea, I decided to see what initiating something like this at UMB would entail. I disclosed the idea to our UMB Tech Transfer office, who liked it not only for the commercial potential, but to save our university money and foster more collaboration on campus. BIORESO has been very helpful on many fronts and finds SOLAR a worthy endeavor. Others have also been great to work with including University administration (up to and including President Perman), EHS, IACUC, Animal Welfare, Animal facilities, and many others who helped to mold SOLAR into what it is now.*

Did you have trouble convincing the vendors to agree to the sharing of their reagents? *Curtis Gallagher: Here's the interesting part... Anything we buy through BIORESO can be shared from a financial standpoint. In this case, the University is the customer and can 'distribute its materials as it sees fit.' Given the current wording of purchasing agreements from vendors, they don't really have a case against it (not that this won't change in the future). Certain products from vendors are proprietary and require permission for sharing on a case by case basis but restriction enzymes, for example are all excluded from this, hence why we started with that as one of the three categories. Other items like cultured cells, are purchased by individual PIs and unfortunately have purchasing agreements that disallow sharing. We are working on situations like these to allow sharing across more categories. All four animal vendors that we use on campus were on board with us sharing tissues, and said their companies would take no issue with this in the interest of the 3 R's of Animal research (Replace, REDUCE, Refine), in fact they all encouraged it.*

What is currently the largest barrier to continued success of SOLAR? *Curtis Gallagher: We are getting researchers signed up for SOLAR but are finding two bottlenecks: (1) PIs are not approving their staff who sign up. Automatic emails are generated to PI's when a staff member signs up from their lab, so they are sent information about SOLAR. We are working to determine if PI's just aren't sure what SOLAR is, or if they flat out do not wish to participate. (2) Researchers are signing up and then not signing back in to list their own surplus items. In the early stages that we're in right now, we don't have the ability to offer a tangible incentive for listing items. We are also working on ways to combat this and get more items in the database. If no one lists anything, SOLAR WILL NOT WORK! We hope to see this increase as we add more categories.*

Where do you see this program going? *What would you expect it to look like a few years down the road?* *Curtis Gallagher: We are working to add additional categories like chemicals/reagents (which should be coming soon), plasmids, antibodies, cultured cells, and others, but these require more permissions and an even more sophisticated software setup to verify that items are not proprietary and are indeed purchased from a vendor. We also anticipate adding a Q&A forum in the near future where UMB researchers can ask troubleshooting questions and get answers from someone else at UMB, hopefully increasing collaboration between departments and disciplines that currently doesn't exist. Longer term goals are the inclusion of non-human primates as an available species for tissue sharing. There are a lot of researchers who do rodent studies and wish to test primate tissue but cannot due to cost or logistics. This is an area that IACUC/Animal Welfare would like to see blossom once sharing of rodent tissue operates smoothly on SOLAR. I also see SOLAR, maybe a few years down the road facilitating sharing of human tissue from UMMC, again to make the connection from cultured cells in a dish to rodents to primates (in this case humans!), increasing the translational impact of our research at UMB.*



Announcements

Compiled by Raja Venkataraman

Manuscripts

Coleman, CB, Frieman, MB. Emergence of the Middle East Respiratory Syndrome Coronavirus. *PLoS Pathog.* 2013 Sep; 9(9):e1003595. doi: 10.1371/journal.ppat.1003595. Epub 2013 Sep 5.

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Presentations

Fouad, AF, March 26, 2013: Pulp Regeneration in Previously infected or uninfected root canal space, IADR

Fouad, AF, Satellite Symposium on: “Pulp Regeneration - Translational Opportunities”, San Francisco, following 2013 IADR meeting in Seattle, Washington. April 17, 2013: Could Endodontic Disease Contribute to Systemic Disease? Track keynote presentation at

the Annual Session of the American Association of Endodontists, Honolulu, Hawaii.

Pedra, JHF, The E3 Ubiquitin Ligase XIAP Restricts *Anaplasma phagocytophilum* Colonization of *Ixodes scapularis* Ticks. International Conference on Lyme Disease and Other Tick-Borne Diseases, Boston, Massachusetts, 2013. August 18th-21st.

Pedra, JHF, Ubiquitylation as a Regulatory Mechanism for Pathogen Colonization in Disease Vectors, Microbial Pathogenesis and Host Response, Cold Spring Harbor, New York, Cold Spring Harbor Laboratory, 2013. September 17th-21st.

Grants

Dr. Abdu Azad renewed 5-year \$3.4 million R01 from the NIH for his work entitled: “Murine Typhus: Vector Biology and Transmission”

Dr. Ricardo A. Feldman received a one-year \$75,000 UMD/UMB Seed Grant for their work entitled: “Mechanisms leading to osteoporosis in patients with lysosomal dysfunction due to genetic alterations in osteoblast and osteoclast glucocerebrosidase.”

Dr. Martin Flajnik, received a 5 year grant from the NIH for his work entitled “Evolution of Adaptive Immunity.”

Dr. Matthew Frieman received a supplement to his R01 from the NIH/NIAID in the amount of \$133,123 for his work entitled ‘Role of the Epithelial Growth Factor Receptor in SARS Coronavirus Pathogenesis.’

Dr. Kamal Moudgil received an R21 from the NIH/ National Institute of Neurological Disorders and Stroke in the amount of \$230,250 for his work entitled ‘Identification of CNS-homing peptides for therapeutic use in multiple sclerosis.’

Dr. Stefanie Vogel received an \$784,554 4 year R01 grant from the NIH/NIAID for her work entitled “Eritoran (E5564), a TLR4 antagonist, as a novel therapeutic for influenza.”



Newsletter of the Microbiology & Immunology Community
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