

# The Vulcan Letter

Voice of the MSTP at UAB

June 26, 2013  
Retreat edition

## Update from the Director

by Robin Lorenz, MD, PhD



I am writing this update the day after the NIH/NIGMS site visited Birmingham and the UAB MSTP. Every one of you participated in this review in some way, either by talking with the site visitors, by updating your student bios (multiple times), by publishing excellent research, and by just being a part of this great program. Although we will not know the results of the site visit until late July, I want each of you to know how much I enjoy having you in the program and how much I appreciate all of your efforts to help improve our MSTP for both current and future students. I think our new incoming students decided to come to the UAB MSTP in a large part because of the involvement of our current students in the program. Please join with me in welcoming our new students and in helping to make them feel a part of the UAB *continued on page 6*

## American Physician Scientist Association - UAB MSTP Style

by Travis Hull and  
Alice Weaver

The 2013 – 2014 academic year has been a productive one for UAB's Chapter of the American Physician Scientists Association (APSA). In the spring semester alone, our chapter sponsored 19 events specifically tailored to bolstering the training of UAB's aspiring physician-scientists. Of the 45 events UAB APSA has sponsored over its short two-year history, seven have been co-sponsored with

other groups at UAB or within the greater Birmingham community. For example, our chapter organized a breakout session at the 2013 Southeastern Medical Scientist Symposium focused on the role of physician-scientists in community outreach. In addition, we sponsored and staffed a free health screening at the North Jefferson Women's Center in collaboration with Equal Access Birmingham, the UAB School of Dentistry, the UAB School of Optometry, the UASOM Medical Spanish Interest Group,

and the UASOM Ob/Gyn Interest Group, among others.

The success of our chapter in organizing these events hinges upon our members' commitment to a mission of developing the careers of physician-scientists via networking at the local, regional, and national level and inspiring others to pursue careers as physician scientists through community outreach. Each event we sponsor is proposed, planned, and organized by committees composed of APSA members; *continued on page 7*

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# Welcome to the Class of 2022!

*Compiled by Alexander Bray*

**Sushma Boppana**



Sushma grew up in the distant land of Vestavia Hills, Alabama, and attended Vanderbilt University where she received a degree in Molecular and Cellular Biology. While most of her past research has been focused on the circulatory system of mosquitoes, she is currently interested in studying immunology and infectious diseases. Outside of the lab, Sushma enjoys traveling to India, playing ultimate frisbee, and performing Bharatanatyam.

**Garrett Brinkley**



Garrett graduated from UC-Santa Barbara with a degree in biochemistry. He is interested in research on tissue engineering and regenerative medicine. Garrett's previous research was focused on production of functional small intestine

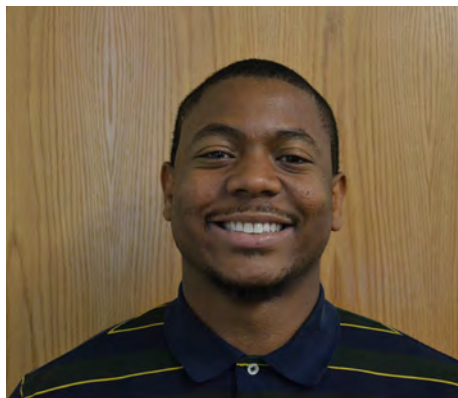
tissue on scaffolds composed of novel biomaterials. In his spare time, Garrett enjoys play sports and cooking.

**Matthew Neu**



Matthew attended the University of Florida where he received a B.S. in microbiology. Following graduation, he worked in an NIH laboratory dedicated to identifying mutations responsible for undiagnosed neuromuscular diseases observed in pediatric patients. Matthew Neu's current research interests were strongly shaped by this experience, and at UAB he hopes to engage in genomics research to discover a cure for muscular dystrophy. Outside of the lab Matthew enjoys fencing,

**Brandon Pope**



Brandon was raised in Stone Mountain, Georgia, and attended the University of Georgia where he

received B.S. in Cellular Biology and a B.S. in Psychology. Following graduation, he worked as a lab technician at the Medical College of Georgia and then as a postbaccalaureate IRTA fellow at the NINDS. At the NINDS, his research focused on, the neuropeptide, neuropeptide Y and the modulatory role that it plays on the gonadotropin releasing hormone (GnRH) cell niche and GnRH secretion. Brandon's research interests revolve around neuroscience, the neurobiology of health and disease, and developmental and cell biology. Outside of the lab, Brandon enjoys playing and watching sports, lifting weights, and is prone to bouts of television dependency.

**Fabio Raman**



Fabio graduated from the University of Pennsylvania with a degree in bioengineering. Currently, his research interests are in medical imaging and tissue engineering. Previously, he worked at the NIH where he studied whole-heart coronary magnetic resonance angiography. In addition, as an undergraduate at UPenn he helped design novel tissue scaffolds. Outside of the lab Fabio enjoys running competitively.

## Incoming MSTP Students, continued

**Jaclyn Paige Souder**



Page grew up in a small town in western Kentucky and attended Samford University here in Birmingham where she majored in biochemistry and minored in bioinformatics. Paige's research interests are focused on drug discovery and neuroscience, and she has already spent time studying Alzheimer's disease here at UAB. Clinically, Paige is interested in pediatrics and was attracted to UAB based on their new Children's Hospital. Outside of the lab, Paige is obsessed with UK basketball and Cardinal's baseball, and looks forward to exploring downtown Birmingham.

**Morgan Zipperly**



Originally a native of Mobile, Alabama, Morgan graduated from the College of Charleston where she majored in psychology. Morgan is

primarily interested in the field of neuroscience, and has spent time in several labs studying the molecular and behavioral effects of alcohol and cocaine abuse. Outside of the lab Morgan is a member of several honors societies and enjoys volunteer work. While the education at UAB was clearly a factor, Morgan admits she chose the UAB MSTP primarily for its students who are "friendly" and "interesting" (allegedly).

**Shima Dowla**



Shima was born in Auburn, Alabama but her family has lived in Kentucky for most of her life. Shima attended Dartmouth College, where she graduated in 2011 with degrees in Neuroscience and Asian & Middle Eastern Studies. After an underwhelming experience with basic research (is there any other kind?), Shima became involved with community based infectious disease research, and had the opportunity to work in countries like Haiti, Bangladesh, and Tanzania. As a result of this experience, Shima is primarily interested in research surrounding domestic minority health. Outside of work,

Shima enjoys working with the UAB Learning Communities, The Best Medicine Show, and community efforts focusing on minority health.

*A big welcome to the incoming class of 2022! We are all very excited to have you join our program, and look forward to the amazing things you will accomplish while you are here!*

*The annual MSTP retreat is a great time to get to know all the upperclassmen, and get a feel for some of the research opportunities available here at UAB (don't forget to check out the poster session!) As you've probably also figured out already, getting to know others in the program is a great way to get insights into the best music, shows, restaurants and bars, places to go, and things to do around town. :)*

*We hope you come to know and love Birmingham as so many of us have grown to. Let us know if there's anything we can do to help ease your transition into both the Magic City and the MSTP!*

*Take care, and we'll see you in med school and the lab!*



# Congratulations to the Class of 2014!

*Compiled by Elizabeth Ma*  
**Juan Calix, MD, PhD**

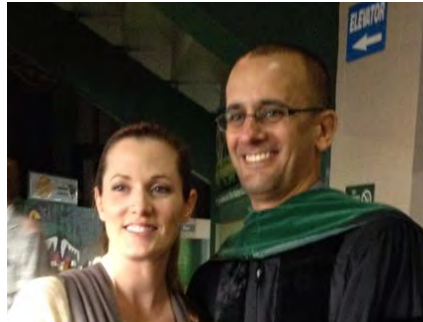


**Department:** Microbiology (mentor and grant were through Pathology)  
**Thesis:** “Discovery and characterization of *Streptococcus pneumoniae* serotype 11E reveals a novel model of serotype evolution”  
**Residency:** Internal Medicine (Research Track)-Barnes-Jewish Hospital, Washington University in St. Louis, St. Louis, MO

I am excited about the research opportunities at Washington University in St. Louis, where evidence based medicine is pervasive in the Internal Medicine residency and where the Research Pathway was born. My passion for host-microbe interactions, molecular microbiology and immunology are wholly compatible with my plans to continue as a physician scientist in infectious diseases. I challenge everyone to maximize the opportunities our unique MD/PhD training offers for excelling during the MS-3/4 years. The earlier you establish your be clinical, research and/or personal identity

(“brand”?), the sooner you can use the abundant resources available for building the package you will try to sell to residency programs. I will miss the friends and colleagues to who I owe the lion’s share of my successes, especially including the MSTP administration. Without the support of my friends in the program, I would not have had the courage and ability to act on my ambitions.

**Ryan Corrick, MD, PhD**



**Department:** Pathology  
**Thesis:** “Effects of Stress on Growth Hormone Receptor Signaling”  
**Residency:** Emergency Medicine-University of Nebraska, Omaha, NE

My wife and I decided to rank the University of Nebraska first because, of the places I interviewed, Omaha just seemed to be more family friendly than the rest. I also liked the research going on in their Department of Emergency Medicine, which is similar to what I was working on during my graduate years. They are studying changes in bioenergetics following ischemia/reperfusion injury, with particular relevance to trauma/hemorrhage. Trauma has always been my major research and clinical interest, so this was another huge draw for me.

Reasons I chose Emergency Medi-

cine include – plenty of trauma, resuscitations of all types, interesting areas of expertise (EMS, tactical medicine, disaster medicine, international medicine, flight medicine), opportunity to subspecialize in critical care, incredible work schedule (<40 per week is full time, great for academics). I like everything about Emergency Medicine, but the real deciding factor was the ability to spend lots of time with my family and still work full time.

Advice I can contribute – I rented a car and drove to most of my interviews. I saved a ton of money doing this and really enjoyed the drive, so I highly recommend it. Other than that, just try to enjoy the years in the program. Don’t look at it as something you just have to get through because there really are a lot of roses to stop and smell along the way.

**John Jarboe, MD, PhD**



**Department:** Biochemistry and Molecular Genetics  
**Thesis:** “Myristoylated Alanine Rich C-Kinase Substrate (MARCKS) is a regulator of Glioma Proliferation, Radiation Sensitivity and is a Novel Prognostic Factor”  
**Residency:** Radiation Oncology-University of Miami, Miami, FL

(Preliminary Surgery – Baptist Hospital, Birmingham, AL)

The best advice I can give in choosing a specialty is something Dr. Vicker's said to us on Match day, which is to think of which specialty gave you the most enjoyable patient interactions and the rest will come easy. For me I learned around my second year that I wanted to work with cancer patients. The best part was that I never felt once like I was wasting my time with them. I chose to pursue the radiation side of things because we treat mostly early stage disease with curative intent, which is very rewarding. For those patients where the treatment is palliative it makes them feel a whole lot better. Also, the disease I have studied since I started research is glioblastoma multiforme for which radiation will most likely always be a part of the treatment. I matched at the University of Miami Radiation Oncology Residency. I ranked their program highly because the Chairman is a physician-scientist who has expressed significant support in my training toward that goal and it is very close to my parents who recently retired to Key Largo. My favorite thing about the UAB MSTP is how well our program

is put together to make sure we succeed. I don't ever remember having to worry about much of anything except for my training. The best advice I can give about the whole process is to figure out what you want to do as early as possible if you can. If you can do this then you can position yourself appropriately for success.

### Aimee Merino, MD, PhD

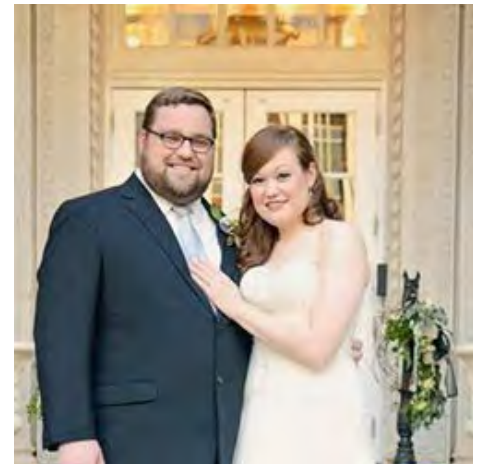


**Department:** Microbiology  
**Thesis:** "Killer Immunoglobulin-like Receptors and Human Leukocyte Antigen Polymorphisms in HIV-1 Pathogenesis"  
**Residency:** Internal Medicine (Research Track) – University of Minnesota, Minneapolis, MN

I chose the Physician Scientist Training Program (PSTP) at the University of Minnesota because I wanted to have a guaranteed fel-

lowship spot (Hem-Onc) at a place with a strong background in bone marrow transplant and research in adoptive cellular therapies for malignancy. Since University of Minnesota pioneered bone marrow transplant, they continue to do a high volume of these procedures in addition to a lot of basic and clinical research in the area. I also liked that they have a three hospital system that provides residents with a wide variety of patients in different health care systems (county hospital, VA, and private hospital).

### Jacquelyn Zimmerman, MD, PhD



**Department:** Genetics and Genomic Sciences  
**Thesis:** "Evaluating the Efficacy of Radiofrequency Amplitude-Modulated Electromagnetic Fields as a Novel Treatment for Hepatocellular Carcinoma"  
**Residency:** Internal Medicine, Johns Hopkins, Baltimore, MD

I am going to Johns Hopkins Hospital for Internal Medicine training as part of their categorical program, and I plan to complete a Hem/Onc fellowship after. I chose this program because I was looking for a versatile program that would provide outstanding clinical training while still preparing me for



## Director's Welcome, continued

MSTP family.

We have several significant changes that either already have occurred or will be soon occurring. First, as you all have heard, the Graduate School has approved a stipend increase for all students. Therefore, those of you who have been admitted to candidacy will now make \$27,500 per year, and those of you prior to candidacy will make \$26,500. A second change has been that we now have approval for a new MSTP specific course (MSTP 793 – Basic Science Research Form). This course will be taught by Dr. Jennifer Pollock and will substitute for GBS 707/708/709. It provides a mechanism to fill in gaps in the curriculum between these GBS courses and the SOM Fundamentals I course. It will also promote and enhance critical thinking and team science skills. MSTP students will now be required to take the full Fundamentals I course. The SOM is also changing its attendance policy and starting in Fall of 2014, MS1 and MS2 students will no longer have an attendance requirement for the lecture component of their courses.

Additional new requirements for all UAB MSTP's include the requirement that all MSTPs will need to complete (and keep updated) an Individual Development Plan (IDP) and that all MSTPs (who are currently GS2 and earlier) have to submit an F30/F31 NIH NRSA (Individual Fellowship Grant Application) prior to the end of their GS2 year. The March 2014 Vulcan Letter included some background on IDPs and we will discuss the specifics of the UAB MSTP IDP at this year's retreat. In order to help you think about which NIH institute might be the best fit for your F30/F31 grant submission, the 2013 funding levels for F30 grants for multiple institutes can be found in the table below.

NIH Institute	Number of Applications Reviewed	Number of Applications Awarded	Success Rate
NCI	110	50	45.5%
NHLBI	81	13	16.0%
NIA	36	15	41.7%
NIAAA	7	5	71.4%
NIDA	11	3	27.3%
NIDCD	4	2	50.0%
NIDCR	18	11	61.1%
NIDDK	44	26	59.1%
NIHES	5	3	60.0%
NIMH	46	16	34.8%
Total	362	144	39.8%

## Graduating Seniors, Cont'd

a career as a physician-scientist. Medicine was the right specialty for me because it allows physicians to care for complex patients while also developing a longitudinal relationship.

The residency preparation and interview process is a marathon that spans a significant portion of the MS3 and MS4 years. My best advice is to make a timeline for application components and spend a significant amount of time researching programs prior to the opening date for ERAS. This will give you the best chance for having a list of programs that will fit your needs/expectations, and it will minimize the bill at the end of the ERAS submission process.

UAB is a fantastic place to complete an MD/PhD. It is a wonderful and supportive family that is there during the challenging parts of the program, like the transitions between medical and graduate school. Continue to keep the end in sight and listen to the advice of your mentors. At the end of the program, you will have a lot of doors open for the next phase of your training. I want to thank the program leadership, especially Robin, for providing invaluable guidance and advice throughout the past seven years.

*Congratulations to all the graduating seniors! Well done and well deserved. Thank you for all your hard work, as well as all your advice throughout your years here. We will miss you, and wish you all well in residency and beyond!*

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# APSA, continued

this year we had over 30 members who served in an active role on these committees.

For our hard work, our chapter has been recognized with several accolades this year. We received multiple nominations for Outstanding UAB Student Group of the Year. We received two \$100 grants from the national APSA office to help sponsor events on campus. In addition, we received a \$500 Institutional Travel Award to the Annual Meeting of APSA, held in conjunction with the American Society for Clinical Investigation and the American Association of Physicians. To that end, we were able to send 9 members of our Chapter, including all officers, to the annual meeting held in Chicago, Illinois. Our designation as a local chapter of excellence also allowed us the opportunity to speak at the APSA business portion of the meeting about how our local chapter has been successful.

The success of UAB APSA this year has not been limited to our local initiatives. Several of our members have been recruited to serve as leaders on standing committees within the national APSA organization. Ryne Ramaker and Josh Cohen are currently serving as co-Vice Chairs of the APSA Partnership committee, which seeks to align APSA with professional societies like the Academy of Clinical and Laboratory Physicians and Scientists so that members can receive addi-

**Members of UAB's APSA Chapter who served on standing committees at APSA National during 2013 – 2014.**



**Back:** Tyler McCaw (Membership), Elizabeth Ma (Policy), Ryne Ramaker (Finance/Partnership), Morgan Locy (Annual Meeting).  
**Front:** Muhan Hu (Public Relations), Stephanie Brosius (Annual Meeting), Jennifer Stanley (Annual Meeting).  
**Not pictured:** Josh Cohen (Finance/Partnership).

tional professional opportunities such as travel grants to annual meetings. In addition, Travis Hull is currently serving as the vice chair of the Membership Committee, wherein his central focus will center around building a framework to increase the number and quality of local chapters of APSA at medical schools around the country. Other UAB APSA members serve on the committees for policy, public relations, finance, and the annual meeting. UAB had the most representation within the national APSA organization of any institution in the country this year, with nine of our members serving on standing committees.

As of June 1, 2014, our chapter went through a change in leadership, with Alice Weaver (rising MSTP GS2) taking over as the new president of UAB APSA. While the basic organization of the club will be much the same, a new initiative for our chapter this year will be the development of an APSA research project, in which we aim to focus the diverse research skills of our members on a single scientific question. In addition, we plan to increase the topic diversity of APSA sponsored events to better cater to the widely varied interests of physician-scientists training here at UAB. As our chapter evolves, we continue to increase our involvement around campus, specifically with regard to career development, networking and outreach

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**The 2014 APSA/ASCI/AAP joint meeting in Chicago, IL**



Top Row: Travis Hull (President), Tyler McCaw (Vice President-Elect). Bottom Row: Jennifer Stanley (Vice President), Alice Weaver (Treasurer and President-Elect), Stephanie Robert (Secretary), Muhan Hu (Secretary-Elect).  
Not pictured: Catherine Poholek, Brian Warmus, Stephanie Brosius

# ANNOUNCEMENTS



**Left:** Congratulations to Jackie and Jim Byham on their marriage on April 26, 2014! Best wishes for the happy couple!

## Thesis Defense - Success!

Congratulations to **Dr. Michael Lopker**, who defended his thesis in Microbiology on April 24!

Congratulations to **Dr. Stephanie Brosius**, who defended her thesis in Neuroscience on May 30!

Congratulations to **Dr. Avinash Honasoge**, who also defended his thesis in Neuroscience on June 2!

## Upcoming Events

### **Thesis Defense:**

Brian Warmus - July 1, 1pm at Shelby 1015

### **Southeastern Medical Scientist Symposium**

(SEMSS) - Aug 23-24 at Emory University

## Director's Welcome, continued

I also thought you might like to see a few numbers from the most recent recruiting season.

2013-2014	Number of Applicants	M/F	States Represented	Average MCAT	Average GPA
All Applicants	268	179/89	39 (+DC)	32 (13-43)	3.64 (2.56-4)
Applicants Interviewed	43	24/19	20	34 (27-43)	3.81 (3.04-4)

Thanks to everyone for your involvement in recruiting our new 2014 class (who are introduced in this newsletter). We welcome any and all feedback about the recruitment process and about the program in general. We will be having a Town Hall at this year's retreat (on Sunday AM) so that everyone has a chance to give feedback about the program and to give their ideas and views about the new programmatic requirements and MSTP activities.

**-Robin Lorenz, MD, PhD**  
**Assistant Dean for Physician-Scientist Education**  
**MSTP Director, University of Alabama at Birmingham**



# Publications

Gamble KL, **Berry R**, Frank SJ, Young ME. Nat Rev Endocrinol. 2014 May 27. doi: 10.1038/nrendo.2014.78. [Epub ahead of print]. Circadian clock control of endocrine factors. PMID: 24863387.

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Life Sci. 2014 May;71(10):1839-54. doi: 10.1007/s00018-013-1521-z. Epub 2013 Nov 27. PMID:24281762. PMCID: PMC3999209.

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**Watkins S**, Robel S, Kimbrough IF, **Robert SM**, Ellis-Davies G, Sontheimer H. Disruption of astrocyte-vascular coupling and the blood-brain barrier by invading glioma cells. Nat Commun. 2014 Jun 19;5:4196. doi: 10.1038/ncomms5196. PMID: 24943270.

## APSA, continued

opportunities for aspiring physician-scientists at UAB. Our increased involvement requires a proportional increase in membership involvement within the chapter. To that end, we encourage the members of our MD/PhD program to consider contributing to our chapter's activities and have increased our efforts to recruit members from the schools of medicine, dentistry, and public health.

Any students with an interest in participating in the APSA research project, or in proposing events for the upcoming school year, are encouraged to send suggestions to [UAB.APSA@gmail.com](mailto:UAB.APSA@gmail.com). Furthermore, we hope everyone will make plans to attend our next membership meeting in August to help create a strategic plan for the 2014-2015 academic year.

## The Vulcan Letter

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