Message from the Director

by Robin Lorenz, MD, PhD

I first want to say a big UAB MSTP welcome to all of the applicants we are interviewing this year. Please use your time at UAB to get to know our MSTP family and to explore how UAB and the city of Birmingham can fit in with your future training plans. We will be interviewing 48 applicants this year and our current interviewees include students from 16 different states and 24 different colleges/universities. We have made several changes in our interview process for this year. First, the UAB School of Medicine will implement the Multiple Mini-Interview (MMI). The MMI offers applicants a series of short scenarios at 7-10 stations. There are no right or wrong answers, but instead the MMI gives insight into critical thinking, communication, and decision making skills. In addition to these MMIs, MSTP applicants will also do a short research presentation to the MSTP Advisory Committee and have

2014 Southeastern Medical Scientist Symposium

Hosted by Emory University

by Paige Souder

The fifth annual Southeastern Medical Scientist Symposium (SEMSS) was hosted this August by Emory University in Atlanta, Georgia, in conjunction with Vanderbilt University and UAB. The two-day event featured renowned keynote speakers, informative breakout sessions, a poster session, and of course free food and fun. Unique to this year’s conference was a collaboration with the Healthcare Hackathon, sponsored by Forge, Atlanta’s entrepreneurial healthcare organization with a vision of uniting clinicians, engineers, and business-folk. The underlying competition of budding programmers attempting to build solutions to real-world healthcare problems in a 34-hour race certainly provided a bit more heat to the already-blazing Atlanta atmosphere.
Is Birmingham the Next Great Hipster City?

The Editorial Staff of the Vulcan Letter Weighs In

by Alexander Bray

Recently, the website “Culture-map Austin” listed Birmingham, Alabama as one of America’s up-and-coming hipster cities. As the husband of a “former” hipster, I feel uniquely qualified to further expand on this topic and offer my opinion on this rapidly growing aspect of Birmingham’s culture. As a disclaimer, I am not particularly fond of hipster-dom. However, I do admit that the activities enjoyed by hipsters often strongly overlap with the interests of young professionals in general. As a result, I hope this article will prove useful to those applicants wondering “What exactly do people do for fun in Birmingham?”

Food

Over the past decade, Birmingham has built a strong reputation with regard to dining options. Southside Birmingham restaurants Highlands Bar and Grill, Chez Fon Fon, and Bottega have all received numerous awards under the management of award winning chef Frank Stitt. Similarly, eateries like Hot and Hot Fish Club and Veranda have also garnered national acclaim. However, a new type of restaurant has more recently begun to gain popularity in Birmingham. Gastropubs such as Paramount and Carrigan’s Public House have begun drawing young professionals back to downtown Birmingham in droves, and both provide an enticing combination of gourmet pub food, draft beer, cocktails, and unique atmosphere. El Barrio provides much of the same but with a Mexican twist; this author recommends the chorizo meatloaf enjoyed alongside a house-made spicy margarita.

Drink

Within the past 5 years, Birmingham has accumulated a number of local microbreweries, including Good People, Avondale, Cahaba, and Trim Tab. Each is worth a try, and if you want you can even combine your beer drinking with exercise through the annual Tour de Brewers 10k fun run, which stops at each brewery for a drink (or four) over the length of its course. Furthermore, if four microbreweries isn’t enough, be sure to take advantage of the yearly Magic City Brewfest, which offers the chance to sample over 200 beers from breweries across the country. If cocktails are your preference, try the Collins Bar downtown. Its highly trained bartenders can make you a cocktail based on a description of your mood alone, and its décor includes a Birmingham themed periodic table of elements. Alternatively, head to 41st Street Pub, located in Avondale, where you can drink delicious ice-cold Moscow mules out of a copper mug.

In addition to alcohol, Birmingham also has several fine venues for coffee drinkers. O’Henrys, a local gourmet coffee roaster, has locations in both Homewood and in the Highland Park neighborhood of Birmingham. Relative newcomer Octane also serves an extremely good cup of coffee,
and is known to host latte art competitions, just in case you want to observe the evolutionary pinnacle of hipster kind.

Music
Like any great hipster city, Birmingham is becoming a favorite city of musicians and music fans alike. Entertainment venues like Bottletree, Work Play, and the newer Iron City draw substantial local bands, independent talents, and a growing number of big name performers. The recent Cask and Drum music festival epitomized this diversity, and included acts ranging from Girltalk and Drive by Truckers to Lee Baines III. Looking for more adventure? Head to Horse Pens 40 less than an hour outside of Birmingham to experience some of the best rock climbing in the southeastern United States. Alternatively, explore one of the many caves in Northern Alabama. For more low key forms of physical exertion, take a jog down the Lakeshore or Vulcan Trails. It is the personal opinion of this author that the latter is home to some of the best scenic views in Birmingham. Finally, Birmingham is also home to an 18 hole frisbee golf course located on the west side of the city less than 5 minutes from UAB’s campus.

Outdoors
Birmingham isn’t Portland, but it still has plenty to do for those looking to spend time outdoors. Railroad Park is right in the center of the city, and combines green grass, a babbling stream, and the creaking antiquity of the nearby train engines into an outdoor novelty found nowhere else. Looking for more adventure? Head to Horse Pens 40 less than an hour outside of Birmingham to experience some of the best rock climbing in the southeastern United States. Alternatively, explore one of the many caves in Northern Alabama. For more low key forms of physical exertion, take a jog down the Lakeshore or Vulcan Trails. It is the personal opinion of this author that the latter is home to some of the best scenic views in Birmingham. Finally, Birmingham is also home to an 18 hole frisbee golf course located on the west side of the city less than 5 minutes from UAB’s campus.

I believe the writers at “Culture-map Austin” were actually mistaken. Birmingham is not a rising hipster city. It is currently a hipster city, and has been one for some time. Put another less snarky more meaningful way, Birmingham has plenty to do for young 20-somethings, and I believe the city has done a masterful job of purposefully catering to this demographic. This has been clearly evident to me since I’ve begun living here, and it is one of the major reasons I’ve so greatly enjoyed my decision to attend UAB.
by Alexander Bray

The MSTP advisory committee (MSTPAC) recently added three new faculty members to its roster as part of its yearly member rotation. These committee members serve valuable roles within the MSTP by acting both as advisors on policy and admissions decisions, and also as assigned mentors for 3 to 5 students in the program. So let’s welcome Chad Steele, Michelle Fanucchi, and Jennifer Pollock into their new positions in the MSTPAC by learning a little more about each.

Chad Steele III, PhD

Dr. Chad Steele comes to the MSTPAC as a professor in the Division of Pulmonary, Allergy, and Critical Care Medicine. Dr. Steele obtained his bachelor’s degree in chemistry from the University of Louisiana at Monroe in 1995, and earned a doctoral degree in microbiology at Louisiana State University Health Sciences Center-New Orleans. Dr. Steele remained at LSUHSC for a postdoctoral fellowship and then spent four years at the University of Pittsburgh before becoming a faculty member at UAB. Dr. Steele is primarily interested in understanding innate and adaptive immune responses against opportunistic fungal pathogens that cause life-threatening lung infections in immunocompromised patients. While studying the fungal pathogen Pneumocystis carinii, the Steele laboratory uncovered a role for alternatively activated macrophages in the efficient elimination of this infectious agent from the lung. Currently, the Steele laboratory is attempting to expand on this discovery by characterizing the innate immune mediators present in the lung during P. carinii infection to better understand macrophage responses against this pathogen.

Talene Yacoubian, MD, PhD

Dr. Yacoubian joins the committee as an Associate Professor of Neurology and Parkinson Association of Alabama Scholar in the Division of Movement Disorders. Dr. Yacoubian received her B.A. in Biochemical Sciences from Harvard University before enrolling in the MSTP at Duke University School of Medicine. After graduating in 2001, she completed her internship at Brigham & Women’s Hospital in Boston and her neurology residency at Massachusetts General Hospital/Brigham & Women’s Hospital in Boston. Prior to joining the UAB Neurology faculty, Dr. Yacoubian was a Research and Clinical Fellow in at Harvard Medical School/Massachusetts General Hospital, where she had been studying the role of alpha-synuclein in Parkinson’s disease. Since arriving at UAB in 2007, she has divided her time between patient care and laboratory research. Clinically, she primarily specializes in movement disorders and ataxia. Her research is focused on understanding mechanisms underlying neurodegeneration and testing proteins with neuroprotective potential in cellular and animal models of Parkinson’s disease.

Jennifer Pollock, PhD

Dr. Jennifer Pollock was recently recruited to UAB from Georgia Regents University in Augusta. She had been a faculty member at GRU since 1995 where she had served as the director of their MD/PhD program. Dr. Pollock is currently a member of the Division of Nephrology at UAB, and is the leader for the newly created section of Translational Cardio-Renal Research. Dr. Pollock’s primary research focus is on Nitric Oxide and its role in mammalian cell function. More specifically, Dr. Pollock is interested in how NO production, or lack thereof, is involved in the pathogenesis of renal and cardiovascular diseases, especially those linked to acute or chronic stress early in life.
Big Extracurricular Changes at UASOM: Learning Communities and Student Senate Combine

by Shima Dowla

As you may or may not know, the school administration, Student Senate, and the Learning Communities have been working tirelessly to provide the best extracurricular experience for UAB medical students. To avoid any redundancies between the Student Senate and Learning Communities, the two have now merged, with elected student officers both forming the Student Senate as well as leading their respective Learning Communities (see figure below).

What are the Learning Communities (LCs)?

With the LCs being a fairly new organization to UASOM, many students are still confused as to their particular role in shaping the medical student experience. Officially, the LCs seek to create and implement specific programs to help medical students develop academically, professionally, and socially. Unofficially, think of LCs like the Houses at Hogwarts. Each has their own Faculty Mentor (“Headmaster/Headmistress”), LC Representatives (“Prefects”), and Community Space. Students are “sorted” into their specific LCs at the beginning of the year, based on clerkship campus assignment. Moreover, “LC Points” are given to the LCs throughout the year, based on participation in specific events and winning school-wide competitions such as the LC Olympics. The LCs include the Hill, Evans, Pittman, Kezar, Hoesley, Kirklin, Carter, Harrison, Many, Hirshowitz, and Taylor Communities.

What do the Learning Communities Do?

Every month, LC Representatives attend a training meeting that provides guidance regarding a specific topic they are expected to discuss with their communities. Topics are chosen based on expressed need by students and faculty and include managing stress, diversity and cultural competency, goal setting, etc. LC Representatives are also encouraged continued on page 6

Diagram of newly revised structure of student government within the UAB School of Medicine. This figure does not accurately depict name or number of LC's.
traditional interviews with MSTP Advisory Committee members. Please use these opportunities to show us your passion for research and your drive to become a physician-scientist.

This has been a unique year for physician scientists, as the NIH released a report from the Physician-Scientist Workforce (PSW) Working Group that made recommendations for actions that NIH needs to take to “help sustain and strengthen a robust and diverse PSW”. This report demonstrated that in the NIH workforce there are ~9000 physician-scientists, of which about 50% have MD-PhDs (with the majority of the remainder holding MD degrees). The report strongly recommended that the NIH sustain support for the training of MD/PhDs (including MSTPs). In addition, the NIH recognized that it needs better tools for tracking the outcomes of MSTPs (and other training programs) and all of our MSTP alums will be participating in a national study of MD/PhD Program outcomes. Finally, the report indicated that existing physician-scientist programs should leverage the existing resources of the NIH Clinical and Translational Science Awards. UAB is the recipient of one of these awards (UAB Center for Clinical and Translational Science (CCTS)) and the MSTP (along with other physician-scientist leaders at UAB) is actively working with the UAB CCTS to offer several novel training opportunities in clinical and translational research.

We have also had several changes in our MSTP Student Administrations with the addition of three new student committees/groups: the CAMS Seminar Committee, the UAB American Physician Scientists Association (APSA) Chapter, and the Southeast Medical Scientist Symposium (SEMSS) Planning Committee. Each of these student committees contains student representatives from a mixture of medical and graduate years and are excellent ways to become involved in your MSTP (along with our Events and Communications Committees and the Griffin Society). My heartfelt appreciation goes out to all of the MSTP students who have been giving their time and energy to making this a great MSTP. There are many more than I can easily list, but special thanks goes to the students who helped organized SEMSS 2014 (Katie, Muhan, Jenn S., and Tyler), to those who have put their efforts into the new UAB APSA chapter (Travis, Alice, Stephanie, and Tyler), to the leaders of the Griffin Society (Katie, Heather, Stephanie, Alice, Evida, and Brandon), to the organizers of our fantastic retreat (Jeff, Jon, and the rest of the Events committee), and to the students who have contributed to our blog, UnABridged (Elizabeth, Juan, Tim, Alexander, Lindsay S., Mark, and Muhan). Your efforts help to make our MSTP a fantastic program and I am looking forward to our next year together.

-Robin Lorenz, MD, PhD
MSTP Director, University of Alabama at Birmingham
The first keynote speaker, Dr. Dennis Liotta from Emory’s Department of Chemistry, discussed his expertise in antiviral and anti-cancer drug therapy. He played a pivotal role in developing Emtriva, an anti-HIV drug currently used with great success by HIV-positive patients. As if that wasn’t enough, he is now working on drugs to target an HIV1 co-receptor via biological, clinical, and computer-modeling/molecular docking studies. He further discussed how these techniques could be applied to anti-cancer therapies and stem cell research—he is definitely hopeful of exciting breakthroughs on the horizon.

Next up was Dr. Linda Cendales from Duke’s Department of Surgery. Widely respected for her studies in the field of Vascularized Composite Allotransplantation (VCA) and her dual training in hand transplantation and micro-surgery, Dr. Cendales participated in the first two hand transplantations performed in the US. She spoke about her first-hand experience (no pun intended) with establishing VCA programs, and more broadly on the challenges and rewards of introducing a novel discipline into the scientific and medical communities.

Several breakout sessions were offered in the afternoon to give attendees the opportunity to learn from program coordinators and current students. The large undergraduate presence at the conference was catered to through panels with MD/PhD directors and current MSTP students, following the success of these panels during the 2013 conference at UAB. These gave current and potential applicants an opportunity to hear about program specifics from both an administrative and student perspective with representatives from Emory, Vanderbilt, and UAB. For current students, there were sessions on women in academia and medicine (featuring our beloved Dr. Robin Lorenz), the future of personalized therapies for psychiatric diseases via molecular and genetic studies, non-traditional research tracks pursued by current GS-phase students, and the new individual development plan (IDP) requirements issued by the NIH.

Following breakout sessions was a poster session featuring undergraduate, medical student, and graduate student research. It was a great way to both gain experience presenting research and also learn of the interesting science students are engaged in at UAB and elsewhere. Posters were judged and the top three posters received cash prizes, yet another motivation for making a stellar poster to present to your peers and impress program directors. The competition was followed by a fancy dinner and late-night social event out on the town in Atlanta, without which no conference would be complete.

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Facing Reality Outside the Laboratory
Vulcan Letter Staff Member Writes from Africa

by Anna Joy Rogers

Most PhD students who have entered candidacy find themselves in a lab with four walls, high-tech instruments, a private work bench, and a set of controlled experiments. As a doctoral student of public health doing my dissertation in Kenya, however, my lab has none of those elements.

Instead of four walls, I have four research sites spread throughout Western Kenya from which I am gathering data. Instead of high-tech instruments, we have paper clinical charts from which I am abstracting numbers into an Excel spreadsheet for later analysis. Instead of a private workbench, I share a wooden desk in small, simple workroom with several other research assistants. And the effects of HIV and AIDS are anything but controlled. It is not an experiment – it is a very harsh reality.

I am living just a few miles north of the equator in Kisumu, a small city that sits at the edge of Lake Victoria. As a foreigner of mixed Caucasian and Chinese blood, the local children alternately call out to me using the phrase “mzungu,” which refers to white-skinned people, and “ching-chang-chong,” which I assume refers to my Asian heritage.

Although I have only been here since the beginning of October, I have already delved headlong into my research project on the prevention of mother-to-child transmission (MTCT) of HIV. Taking a public health perspective, I am assessing the policy of repeat HIV testing during pregnancy. The basic premise is that although Kenya has succeeded in testing almost every pregnant woman at least once for HIV during early pregnancy, the prevalence of HIV in the community is so high that it has also impacted the incidence of HIV acquisition in pregnancy. It is estimated that between 2% - 5% of pregnant women may seroconvert from HIV-negative to HIV-positive over the course of pregnancy and postpartum, depending on the region. Not only does a mother who newly acquires HIV during pregnancy not get placed on antiretroviral therapy to prevent MTCT of HIV, she is also at a much higher risk of transmitting HIV to her child during pregnancy, delivery, or breastfeeding because a new HIV infection results in very high viral loads.

My dissertation project encompasses several aspects of this health policy and employs quantitative and qualitative methods. While I am sure I will learn a great deal from this research experience over the seven months that I am living here in Kisumu, it is the day-to-day living that has taught me the most thus far. Most glaringly, I have learned how HIV and AIDS have devastated the population. Families routinely care for the orphans of their brothers or sisters who have died of AIDS, in addition to their own children. Less fortunate orphans live on the streets, darting in and out of alleyways sniffing bottles of shoe glue, which provide temporary
Anna Joy Rogers is an MSTP student in the second year of her graduate school training. Currently enrolled in the UAB School of Public Health, her research focuses on perinatal exposures (especially those nutritional in nature) and resulting health outcomes. She has already presented her work at several local and national conferences and obtained a competitive fellowship to perform her dissertation overseas in Africa. Please continue to read the newsletter for additional articles on Anna Joy’s experience in Kenya, as we will continue to receive updates from her as the year progresses.

Thanks,
The Editors
Congratulations to Alexander Bray and Dr. Tasnia Matin on their recent marriage on August 16, 2014

Congratulations to Sergey Antipenko and Jessica Patterson on their recent nuptials

Congratulations to Alex Dussaq on his recent engagement to Kelly Roszczynialski

Thunderous applause to Heather Allen for her recent performance in a recital at Samford University

Many congratulations to Mark Pepin and his wife Sandy who are now expecting their second child.

Welcome back to Ryan Wells, who is back from Africa where he completed his PhD.

**Thesis Defense - Success!**

Congratulations to Dr. Emily Blosser, who defended her thesis in Microbiology on June 20!

Congratulations to Dr. Brian Warmus, who defended his thesis in Neurobiology on July 2!

Congratulations to Dr. Catherine Poholek, who defended her thesis in Microbiology on September 12!

Congratulations to Dr. Zachary Dobbin, who defended his Cancer Biology thesis on September 10!
The conference was rounded out on Sunday with keynote speakers Dr. Christian P. Larsen (current Emory SOM dean) and Dr. Nate Gross. Dr. Larsen helped develop the Emory Transplantation Immunology Lab and its product, immunosuppressive co-stimulation blockers, and discussed his current work in providing better transplant strategies that induce true tolerance of transplanted organs. Dr. Gross followed with a collaborative talk highlighting the intersection between health, policy, and technology. Hearing his perspective from both a business and medical standpoint was certainly informative and provided a new way of looking at the future of healthcare and policy.

Overall, the conference provided both future and current students with a chance to network, gain presentation experience, and learn what physician-scientists have in store for the future of healthcare. MS1 Brandon Pope felt his weekend at the conference was well spent: “As a first year MSTP student, SEMSS was my first opportunity to interact with MSTP students from other schools. It was great!” SEMSS 2015 will be held at Vanderbilt University, so be sure to keep it on your radar!