Science & Medicine Graduate Research Scholars Program at the University of Wisconsin-Madison

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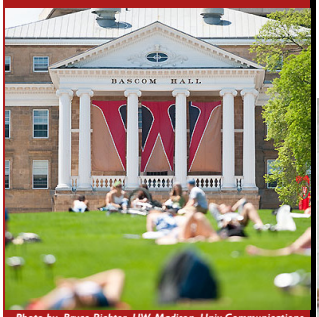


Photo by Bryce Richter, UW-Madison, Univ.Communications

SciMed GRS Participating Graduate Programs:

Ag & Applied Economics
Agroecology
Agronomy
Animal Science
Bacteriology
Biochemistry (IPiB)
Biological Systems Engineering
Biophysics
Cancer Biology
Cellular & Molecular Biology
Cellular & Molecular Pathology
Clinical Investigation
Comparative Biomed. Sciences
Dairy Science
Endocrinology & Reprod. Phys.
Entomology
Food Science
Forest Ecology
Genetics
Horticulture
Landscape Architecture
Life Sciences Communications
Medical Micro & Immunology
Medical Physics
Microbiology
Molecular & Cell. Pharmacology
Molecular & Env. Toxicology
Neuroscience
Nutritional Sciences
Pharmaceutical Sciences
Physiology
Plant Breeding & Plant Genetics
Plant Pathology
Population Health
Soil Science
Wildlife Ecology

Summer/Fall 2014

2014 By The Numbers:

- Alumni: 38 (24 PhD, 14 MS)
- Current PhD student fellows: 123
- Current MS student fellows: 12
- Total number of current fellows: 135
- Total number of UW graduate programs affiliated: 36
- Number of National Science Foundation awards in current community: 14
- Number of National Science Foundation honorable mentions: 6

SciMed GRS Students at the 2013 Poster Session on September 19th at the Wisconsin Institutes for Discovery

Recent Topics & Events Include:

- Harvest Party at SciMed GRS Director Dr. Sara Patterson's Farm
- Resource & Fellowship Session on NSF, NIH and Ford fellowships
- PhD Pathways Career Panel focusing on industry, policy, communications and teaching
- Faculty Career Path Talk with Dr. James Ntambi, UW Dept. of Nutritional Sciences and Biochemistry
- Invited Alumni Speaker Dr. Anita Fernandez, Fairfield University, "How I Survived Grad School"
- Ice Cream Social Meeting — "The Science of Melting Ice Cream."

Welcome from the SciMed GRS Program

We hope you will enjoy reading about the exciting developments in the SciMed GRS program, enhancing underrepresented graduate student's experiences. We look forward to the upcoming year, and enthusiastically await the arrival of a new cohort of incoming SciMed Fellows. The peer mentors will help give a warm welcome, offering new venues for connection and support; helping make the transition to graduate school as smooth as possible.

The annual SciMed GRS poster session will be in September and features over 60 presenters, showcasing the research efforts of Fellows. As the SciMed GRS program has grown, we are looking to expand efforts to provide resources and sessions designed for those in the final stages of their graduate career and approaching the job market. Lastly, we are quite excited about our growing alumni network as they provide excellent role models, mentors and unique perspectives and contributions to our community. We love opportunities to connect with alumni. Please visit us if you are on campus!

- Abbey Thompson, SciMed GRS Coordinator and Dr. Sara Patterson, SciMed GRS Director

SciMed Peer Mentoring Program: Continues to Thrive

The SciMed GRS Peer Mentor Program continues to play a vital role, providing guidance and stability for the incoming cohort in both personal and academic matters. This past year 15 fellows volunteered as mentors to serve 30 mentees.

Peer mentor committee member Angel Del Valle-Echevarria said he enjoys working as a mentor and helping other students with everything from navigating health care and paychecks to finding placement with the right PI.

"I think it's important in the sense that it either directly or indirectly helps students that might be on the edge of saying 'you know what, maybe this is not for me…'" said Del Valle-Echevarria, who explained that incoming students are often overwhelmed by the transition.

In 2013, mentors and mentees had opportunities to talk at the regular SciMed meetings, independently, and at additional program activities throughout the year. Highlights included attending the Taste of Madison, an annual winter shopping trip, the Madison farmer's market and a new favorite, the team-building ropes course. The committee has decided to hold regular office hours this coming year in addition to individually pairing mentors and mentees. They plan to participate in regular monthly lunches with the cohort to give insights on whatever topic is discussed from the perspective of an advanced student. They've also developed a small group of "field staff" mentors who will participate in regular events and outings.

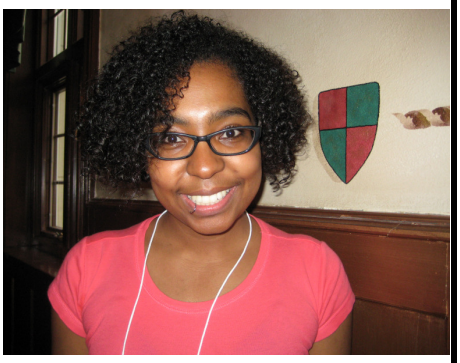
The committee invites involvement of interested students in the peer mentor initiative. Del Valle-Echevarria encourages everyone to participate, saying the experience has enriched his experience as a student.

"The most rewarding thing is that people tend to be very thankful. When we do a call for mentors, we see that our former mentees want to give back. If someone is taking time to do what you did that means you did it well," said Del Valle-Echevarria.

To learn more, contact Angel Del Valle -Echevarria - delvalleeche@wisc.edu

Danielle Stewart
5th year PhD in Cellular and Molecular Pathology
"One of the most useful events was the career day seminar because it got me in touch with a career I want to pursue for the rest of my life – scientific policy."

Justin Salisbury
1st year PhD Agricultural and Applied Economics
"My favorite event was going to Sara's farm house for a cookout and getting to bond with everyone in a casual and social atmosphere miles away from Madison."



Jaye Gardiner
3rd year PhD Cancer Biology
"The ice cream event was my favorite – not just because I got free ice cream but I got to learn about the properties of ice cream as well!"

SciMed GRS Outreach Committee: Giving back to the Community

The SciMed GRS Outreach Committee has expanded in both scope and size in the past year, growing to twelve committee members and playing an important role in six major events. The Outreach Committee was created in 2012 with the goal of not only increasing the visibility of the SciMed GRS program to the broader Madison community, but also playing an important role in encouraging young minority students to pursue higher education in STEM fields. Up until 2013 this focus was mainly on elementary school students, but over the past year the group has focused more of its attention on middle, high school and undergraduate students.

SciMed GRS volunteers Sarah Franco (Cellular and Molecular Pathology) and Akire Trestrail (Medical Physics) teach science to elementary school students at Nuestro Mundo Science Night in Monona in April.

Committee Chair Zulmarie Perez (Cellular & Molecular Pathology) said expanding the committee's reach has been a major goal. She is excited about focusing on undergraduate mentoring in 2014, saying it will allow the group to "take advantage of the great opportunity SciMed GRS students have to serve as role models for underrepresented undergraduates on campus."

Latoya Allen (Comparative Biomedical Sciences) uses food coloring to teach kids about germs.

Event coordinator Sarah Lewis (Genetics) said the committee feels it is their responsibility as students who have received the support and privilege to pursue professional degrees to encourage younger minority students to do the same, and pass on the gift. Lewis explained that it is important to reach out to students at all levels and encourage their dreams to work in science and technology, while educating them on how to navigate the path to a PhD.

Outreach activities in 2013 involved organizing on-campus event to provide resources and insight to undergrads considering doctoral programs in science and technology; representing SciMed GRS at a statewide science education event, Wisconsin Festival; and holding several hands-on science education events at local elementary and middle schools, including Toki Middle School and Mendota Elementary. The group continued the annual tradition of Nuestro Mundo, a favorite SciMed event held at Nuestro Mundo Elementary School in Monona, where more than fifty volunteers from SciMed GRS and Engineering GERS volunteered to work with about 400 students. The kids enthusiastically participated in experiments that ranged from building Mars rovers to drawing aliens with adaptations for planets with extreme conditions.

Perez said the committee only plans to grow and expand, "With the experience we have gained and the collaborations that we have established I am confident that we will be able to repeat successful events and we have ideas to improve others."

To learn about how you may participate or donate to the cause, email Outreach Committee Chair Zulmarie Perez—

Student Spotlight:
Axel Ramírez-Madera

Degree: Plant Breeding and Plant Genetics Ph.D. Student
Anticipated graduation: 2016
Third year in SciMed GRS

What is your favorite part about being part of the SciMed GRS community?

"You don't feel alone. I think one of the main goals or impacts of SciMed throughout my PhD career is that you don't feel alone and you are not alone. Regardless of your background, where you're coming from or where you're going – either academia or the private sector. You're not alone and that makes a big difference."

Do you feel that you get both an academic and personal value from SciMed GRS?

"Yes. Because you learn about other people and other backgrounds and other people's lives, you realize that you come from a certain background but other people fought as hard or even harder than you did to get here. I appreciate the opportunity to interact with the SciMed community. And SciMed provides me with opportunities to do more than just academics. There are many committees that allow us to be leaders, well-rounded individuals, agents of service and better scientists. In the end fellows who take advantage of these opportunities will be better prepared for important positions in government and other areas."

Tell us about your research.

"I'm working on disease resistance in cucumbers. I'm trying to understand the genetic mechanism of a virus that affects cucumber production in order to increase yield and therefore feed a world with increasing population."

Axel Ramirez-Madera (Plant Breeding & Plant Genetics) in Walnut Street Greenhouse

How did you get started?

"I was working under a plant breeder that inspired me at the University of Puerto Rico in Mayaguez, and he had projects in developing countries. I also had an experience in El Salvador where I saw how important agriculture is for poor people in the developing world and I wanted to make a change. So that inspired me to pursue a career in plant breeding."

What has been the value of serving as a peer mentor?

"I've been a mentor for two years now and every time is different - there are some mentees that will get used to the place quickly and others who will struggle more. I like to help others. I've been able to help my mentees and in some cases I've even become a friend. I like to help people; I like to make them feel like they have someone to talk to in case they need to. The good thing about being a mentor in SciMed is either I have the answer or someone else on the team does and I feel like there's always someone who's willing to help. I would encourage others to mentor because sometimes you don't realize what you're going through until you hear from someone else and that helps you to reflect upon yourself.

What are your plans after graduation?

"I'm inclined to look for a postdoc position because I'd like to be in academia as a professor and researcher. I'd like to teach because I spent three years in my master's program teaching and I really enjoyed it. I haven't taught here yet but I will give it a try next year."

Ramirez-Madera shows off one of many generations of cucumbers he screens for inheritance of specific traits.

Alumni Spotlight: Dr. Samira Musah

Photo credit: Seth Kroll, Harvard University

Degree: Ph.D. in Chemistry, 2012
Currently: Postdoctoral research fellow at Harvard University

Where are you from?

"Originally from Ghana, I attended high school in New York City, and then moved to upstate New York where I completed my undergraduate studies in Chemistry at the State University of New York Binghamton"

Can you describe your research in a few sentences?

"My postdoctoral research focuses on applying stem cell biology and genome engineering technologies to develop patient-specific organs-on-chips microphysiological systems that can recapitulate key functions of human organs *in vitro*. I envision that this work could provide powerful new tools for unraveling the molecular mechanisms that govern congenital diseases and facilitate therapeutic development by providing in vitro models that are more predictive of human disease phenotypes and drug responses."

How did SciMed GRS prepare you for your current position?

"The program offered several faculty panels to discuss career paths after graduate school. Through these workshops and seminars, as well as contact with SciMed GRS alumni, I learned a lot about the expectations for postdoctoral fellows. I was encouraged to do good science, publish in visible journals and take every opportunity to share my work with the scientific community. I believe all of these factors helped strengthen my candidacy for a postdoctoral fellowship."

What are some of the biggest challenges you have faced in your new career?

"I get very excited about learning new things and I find great joy in solving problems. Consequently there have been many times during my graduate and postdoctoral work when I needed to learn completely new fields in order to advance my research – for example, I started graduate studies with a chemistry background and I immediately realized that I needed to learn biology in order to pursue the research projects that excited me; and now as a postdoctoral fellow, I am learning from the fields of microchip engineering, human pathophysiology, and genome-engineering. While these moves seemed challenging at first, they have proven powerful in defining the trajectory of my scientific development."

What advice do you have for new graduates?

"UW-Madison is such a strong academic institution, and I firmly believe that most of its graduates are well-prepared for their next career move. I encourage current graduates to stretch their beliefs about what's possible and go where their ideas and imaginations take them. I also urge them to be proactive about seeking new and unique opportunities."

What prepared you to land a successful post-doc and what would you recommend current SciMed GRS students do to pursue that route?

"The interdisciplinary and rigorous nature of research in the Kiessling Research Group at UW prepared me well for postdoctoral studies. I recommend that SciMed GRS students pick research areas that excite them, and seek mentors who will both challenge and inspire them to excel. As a graduate student, I learned the most when things didn't go as expected. Those occasional moments of "failure" might simply unleash your creativity and ultimately define the mountains you climb."

What's next for you?

"My goal is to become a full professor at one of America's leading research institutions, where I envision pursuing interdisciplinary research at the interface of science and medicine. I imagine that my current postdoctoral training at Harvard University will help advance my academic and professional skills into full time professoriate career."

- This issue of the SciMed GRS newsletter was written and assembled by fellow Tegan Wendland, M.S., Life Sciences Communication with assistance from Abbey Thompson, SciMed GRS Coordinator

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We welcome any questions, comments and updates! Please direct correspondence to:

Abbey Thompson
SciMed GRS Coordinator
email: akthomp1@wisc.edu
Phone: 608-890-2308

Support SciMed Graduate Research Scholars

I/we wish to join other students/alumni, industry, and friends in enhancing the service, opportunities in the SciMed GRS Program by contributing as indicated below. Please make checks payable to: UW Foundation-Science & Medicine Graduate Research Scholars. Contributions can also be made online through the SciMed GRS Website: http://www.cals.wisc.edu/gradstudies/gradscholars/

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- ☐ Student support (travel to conferences etc.)
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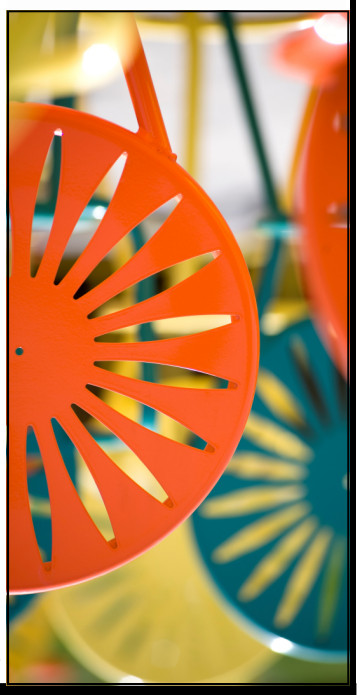

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