

# INSCRIPTO

## Letter from the Director

Whew! What a year. Each year gets busier, but in spite of that we keep adding to our load with great new ideas. This year's idea was the inaugural Emory University STEM Research and Career Symposium, which was held at the Emory Conference Center April 3 to 5. More than 150 undergraduates, graduate students, and faculty from all over the country participated. It was a rousing success with students presenting their research in platform talks and poster sessions as well as attending a series of workshops on careers in the sciences. Two articles in this issue describe the symposium. Look for the announcement of next year's version and send students if you have (or know of) them. This promises to be one of the most effective recruiting tools we ever have devised.

The heartening thing about my job is seeing the successes our students are having. This was celebrated January 11 with the tenth-annual GDBBS Student Symposium. Our students gave talks and presented posters discussing their dissertation research. As always, it was very successful, and a description



and list of award winners is also featured in this issue. We also have features on a few alumni for you to enjoy.

Finally, what about the future for PhD degree holders? The good news is we always have been able to place our students in labs, and most report gainful employment after graduating from Emory. However, given the cyclical nature of funding and the sequester, we have to ask how many students we should be training

and for what type of careers. We can all contribute to solving this conundrum by speaking out for the sciences, especially to our legislators. Thus, we have an article on science policy that features interviews with some of our graduates who have training, or are currently employed, in developing and influencing science policy.

We hope you enjoy this edition and will contact us soon if you have questions or feedback.

*Keith D. Wilkinson, PhD*

*Director, GDBBS*



EMORY

L A N E Y  
GRADUATE  
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of Biological and  
Biomedical Sciences

# Emory's STEM Symposium: An Answer to a National Concern

BY SHAYLA K. SHORTER

Scientific and technological innovation is an essential key to solidifying a country's global competitiveness and leadership<sup>1</sup>. Advancements in these areas are linked to increased job creation and growth, economic stability, and more positive health outcomes. As a result, efforts to produce and retain the world's top scientists and engineers continue to be a major goal in order to secure the United States' role as a top global leader. Several initiatives, both in the federal and private sectors, have been developed to address the growing need for professionals trained in the fields of science, technology, engineering, and mathematics (STEM).

A chief area of focus for such initiatives has been directed toward science education, especially the recruitment and retention of students who chose educational paths leading to STEM careers. Though many students begin their undergraduate careers with a STEM major, many fail to complete the journey. Current studies estimate that less than 40 percent of undergraduate students who begin a STEM-related major actually graduate with that major, with many leaving in the first two years.<sup>2</sup> Reasons for this increased attrition rate in STEM academic tracks include discouragement about the perceived difficulty of STEM classes, gaps in academic preparation for college-level courses, and unengaging teaching methods.<sup>3</sup>

An area of particular concern is the significant under-representation of certain groups in STEM-related academic and career fields. Under-represented minorities, or URMs, are defined as persons belonging to the following



ethnic or racial groups: American Indians or Alaska natives, blacks or African Americans, Hispanics or Latinos, Native Hawaiians or other Pacific Islanders. URM status can also be classified by disability or socioeconomic status. In addition to the traditional deterrents that discourage students from continuing science-related degrees, URMs can be subject to barriers that exacerbate the growing achievement gap, including lack of URM faculty role models, stereotype threat, and cultural pressures. As such, federal initiatives cite “providing educational opportunities and supports for women and historically underrepresented minorities” as a key point in addressing the country's STEM crisis.<sup>4</sup>

Along with the many federal and nonfederal entities that have taken up the challenge to address this issue, Emory

University is among those that continue to be actively engaged in addressing this national concern. It began as a dialogue between Graduate Division of Biological and Biomedical Sciences Director Keith Wilkinson and Emory College Center of Science Education Director Pat Marsteller—the question of how Emory could specifically and uniquely address the problem many institutions of higher learning have in recruiting URMs to STEM doctoral programs. Along with input from colleagues Mary DeLong, assistant dean of the Office of Postdoctoral Education, and Mary Horton, co-director of the MD/PhD program, the idea of the STEM Symposium took shape.

A key component of the recently submitted Initiative for Maximizing Student Development (IMSD) NIH grant, the STEM symposium grew out

of a desire both to attract high-achieving STEM undergraduates and graduates and to provide an opportunity to recruit students from minority backgrounds to Emory's top-rated graduate programs. The symposium took place April 3 to 5 and attracted approximately 100 students from colleges and universities across the country, with 75 percent belonging to a URM group. Additionally, almost 30 faculty/staff members attended to support their own students at the symposium and to garner information with the thought of encouraging students at their home institution to consider Emory for their graduate studies. The symposium was sponsored by the Laney Graduate School along with a consortium of Emory departments and programs, including the Provost's Office, the Emory College Center for Science Education, the Office of Postdoctoral Education, the Medical Scientist Training Program, and Emory School of Medicine. The event featured inspiring Emory-affiliated keynote speakers—George Jones and James Gavin III—high-quality student poster and oral presentations, and professional-development seminars followed by tours of the Emory campus.

Many students were impressed by the professional tone of the symposium and left feeling that their desire to pursue a STEM academic route had been affirmed. Elvin Lauron, a master's student at San Francisco State University, gave glowing reviews, writing, "My experience was fantastic. I gave my first oral presentation, I was able to see the campus, I talked to faculty about their research, and I met a number of students from different fields. The energy and vibes were very positive. In addition, I was truly inspired by the

keynote speakers and by the enthusiasm of the STEM organizers." His oral presentation, "Langerhans-Type Dendritic Cells Restrict Human Cytomegalovirus Infection by Repressing Viral Gene Transcription" won him an award for second place. He further noted that he heard about Emory's STEM symposium at the Annual Biomedical Research Conference for Minority Students held in November 2012, where several Emory graduate programs recruit undergraduates every year.

The STEM symposium is one of several unique programs that exhibit Emory's commitment to diversity and inclusiveness in education. The overwhelmingly positive feedback from both the registered attendees and the myriad Emory faculty, staff, and students who contributed their valuable time and effort further underscores solid support for Emory's role in contributing to the national efforts to support growth in STEM fields. ■

## References

<sup>1</sup>A Companion to Science and Engineering Indicators—[nsf.gov/statistics/nsb0803/start.htm](http://nsf.gov/statistics/nsb0803/start.htm)

<sup>2</sup>"A Report to the President: Engage to Excel: Producing One Million Additional College Graduates with Degrees in Science, Technology, Engineering, and Mathematics"—[whitehouse.gov/sites/default/files/microsites/ostp/pcast-executive-report-final\\_2-13-12.pdf](http://whitehouse.gov/sites/default/files/microsites/ostp/pcast-executive-report-final_2-13-12.pdf)

<sup>3</sup>"Studying STEM—What Are the Barriers?"—[theiet.org/factfiles/education/stem-report-page.cfm](http://theiet.org/factfiles/education/stem-report-page.cfm)

<sup>4</sup>Michael Feder, "One Decade, One Million More Graduates"—[whitehouse.gov/blog/2012/12/18/one-decade-one-million-more-stem-graduates](http://whitehouse.gov/blog/2012/12/18/one-decade-one-million-more-stem-graduates)



# STEM Symposium and Award Winners

BY SHAYLA K. SHORTER

On April 3 to 5, 2013, Emory unveiled a new recruitment initiative called the STEM Research and Career Symposium. Its objective was to showcase the research of high-achieving undergraduate and graduate students while also promoting Emory's top-rated graduate programs in the fields of science, technology, engineering, and math.

Most participants arrived on the evening of April 3, at which time they were treated to a welcome reception at the Emory Conference Center.

The official symposium events began early on April 4 with breakfast for all attendees at the Emory Conference Center. The first session commenced with an inspiring message by Goodrich C. White Professor George H. Jones. Students were encouraged and entertained by Jones's message; he shared poignant lessons from his personal journey of becoming a scientist, which he illustrated using an amusing juggling routine.

The rest of the day was divided into segments for student oral and poster presentations. Undergraduate and graduate students gave impressive overviews of their research and fielded questions from the audience and judges. In between sessions, attendees partook in a networking lunch. Tables were sectioned by academic interest to allow students to interact with other students and faculty with similar interests.

The day culminated with dinner and another engaging speech by James R. Gavin III, chief executive officer and chief medical officer of Healing Our Village as well as Emory Board of Trustees member. After the long day of academic

discourse, students were released to enjoy a night of bowling and pool.

The next day, both students and faculty engaged in several different professional-development breakout sessions at Cox Hall. Sessions took place in both lecture and panel style and targeted various aspects of the graduate school experience. Examples of session titles included, "Succeeding in a Graduate Program," "How to Find the Right Postdoctoral Research Experience," and "Helping Your Students Prepare for the Graduate School Transition."

The latter portion of the morning featured tours of Emory's STEM-related academic departments and programs. Attendees had the opportunity to view the impressive facilities and resources available in their department or program of interest. Many students also availed

themselves of the opportunity to ask more specific questions about Emory and its programs in one-on-one meetings with Emory faculty. All participants got lunch before their midday departure from the campus.

The STEM symposium organizers and volunteers are to be commended for this well-organized and successful inaugural initiative. The symposium uniquely approached the idea of recruiting top-ranked students to Emory's graduate programs by combining an Emory-sponsored research symposium with opportunities for professional and academic development. This approach highlights Emory's commitment to the recruitment, retention, and development of its students on multiple levels and will prove to be an attractive feature for potential students to consider. ■

## 2013 STEM Symposium Poster Winners

### Undergraduate:

1. Bhargav Kondeti, University of Florida
2. Bolivia Hurtado De Mendoza, Columbus State University
2. Patrick Weathers, University of Florida
3. Ariel Harden, Spelman College
3. Mary Garner, University of Florida
3. James Stokes III, Alabama State University

### Graduate:

1. Bianca Baker, Virginia Tech
2. Diandra Randle, Clark Atlanta University
3. Ivory Dean, Wayne State University

### Oral Presentation:

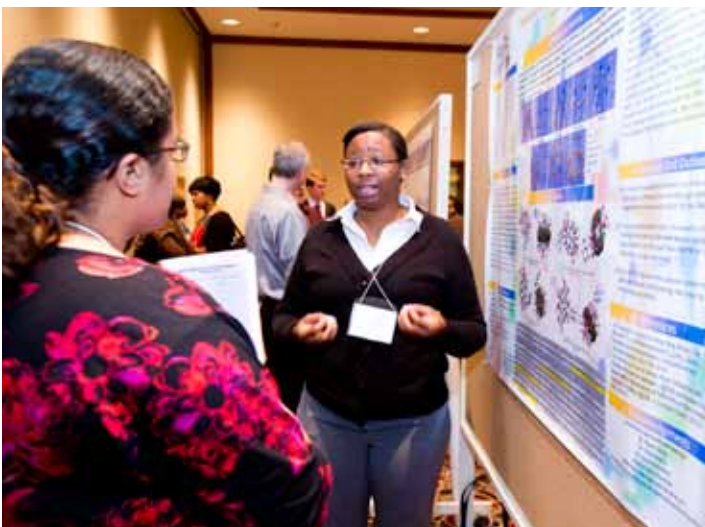
1. Blossom Tewelde, University of Maryland–Baltimore County
2. Elvin Lauron, San Francisco State University

“The symposium was very well organized, the food was great, and the leaders were very well spoken. Overall, it was a very enriching and enjoyable experience.”

—*Bolivia Hurtado De Mendoza, undergraduate, Columbus State University*

“After spending time on Emory’s campus and getting to know the science and administration, it is one of my top choices for MD/PhD.”

—*Blossom Tewelde, undergraduate, University of Maryland*



“My experience [at the STEM symposium] was fantastic. I gave my first oral presentation, I was able to see the campus, I talked to faculty about their research, and I met a number of students from different fields. The energy and vibes were very positive. In addition, I was truly inspired by the keynote speakers and by the enthusiasm of the STEM organizers.”

—*Elvin Lauron, graduate student, San Francisco State University*

“It was an honor for me to be invited to speak at the STEM Symposium. I was thrilled to see so many minority students who are interested in careers in the biomedical sciences. I continue to believe that we have an intellectual resource in the US that has barely been tapped, namely the population of underrepresented minorities. Anything we can do to encourage black, Hispanic, and Native American young people to consider STEM careers should be vigorously supported.”

—*George H. Jones, speaker*

# Division Students Advisory Council Symposium

BY JULIE FRITZ

The tenth-annual Division Students Advisory Council (DSAC) Symposium occurred on January 11. It was a chance for students from all nine GDBBS programs to come together and learn about the amazing diversity found here at Emory. This year's participation was off the charts, with 65 students presenting posters and 23 giving oral presentations. To round out the day of exciting discussion, we heard Steve Warren, chair of the Department of Human Genetics, speak about his research, which is focused on understanding more about the inherited disease Fragile X Syndrome. Finally, there was a reception in the School of Medicine lobby with light snacks and drinks to allow students from all programs the chance to unwind from the day and socialize.

The day was an overwhelming success, both at highlighting the student participants and at bringing scholars from so many fields to one place in order to discuss exciting research and hear about questions from a number of new and different perspectives.

So often, as students, we delve deeply into our project and bury ourselves in the narrow focus of our work. It turns out that GDBBS students have a lot to talk about, and the social gathering at the end of the day lasted for several hours as students took advantage of a little time out of the lab and some free food. All the participants in this year's DSAC Symposium did a great job, and the judging and award decisions were difficult. Below is a list of the award-winning scholars. ■

## Oral Presentations

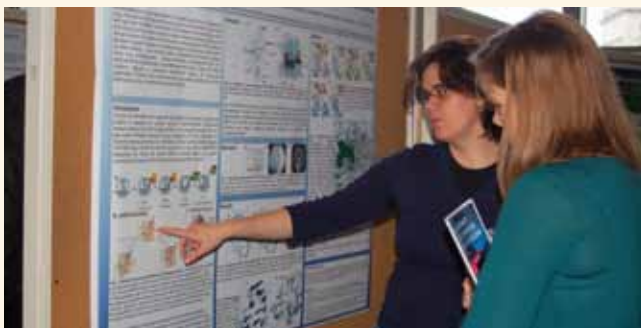
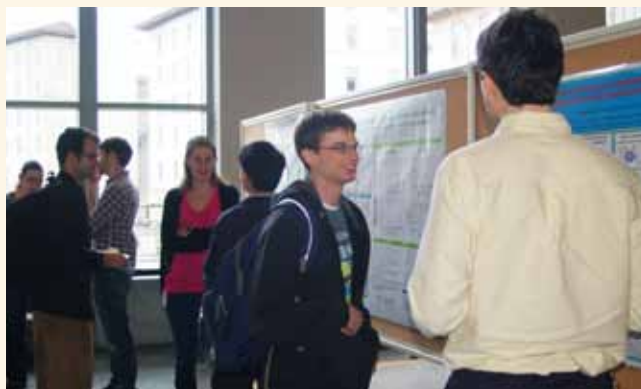
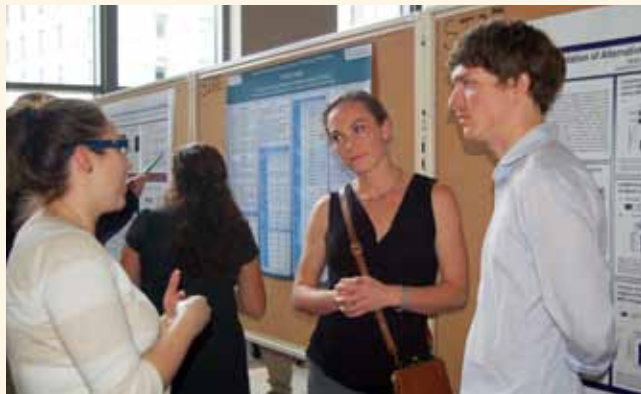
1. Bree Szostek Barker, MMG
2. Kathryn Shepard, NS
3. Tim Sampson, MMG

## Poster Presentations

1. James Cordova, MSP
2. Sharon Soucek, BCDB and James Burkett, NS
3. Kathryn Williams, BCDB; Sherry Adesina, MSP; Philip Zakas, MSP; Kathryn Bryant, NS

## Image Contest

1. Brooke Napier, MMG
2. Paul Evans Jr., NS
3. Jill Seladi-Schulman, MMG



# Outstanding Current Students

BY SARAH BAY

## Lisa Staimez

Lisa Staimez, a Nutrition and Health Sciences graduate student, received first prize in Emory's first Three Minute Thesis (3MT®) competition. 3MT® is an academic competition that originated at University of Queensland in Australia; in it, PhD students are required to give an overview of their thesis work and its significance in only three minutes. This forces students to distill the most important details of their work into a quick talk, and the challenge provides the student with a unique perspective on their own work. This year was Emory's pilot competition, and awards were given for presentation and for written abstracts. Staimez's winning presentation was titled "Unlocking the Gates to Diabetes Prevention."

## Sara Freeman

Emory's Crystal Apple awards are given to outstanding teachers to commend them for excellence in teaching and involvement in the Emory community. This year, for the first time in its 14-year history, the award also was given to an outstanding graduate student teacher. Sara Freeman, a Neuroscience student in Larry Young's lab, was awarded the Crystal Apple for Excellence in Teaching by a Graduate Student. The awards are entirely student run, and this new category was added by popular demand.

According to Sara: "Teaching has given me extensive experience with communicating scientific concepts to a broader audience than just the research community. In doing so, I greatly have improved my ability to speak in a concise and clear manner. But by far, my favorite part of teaching has been that I've been able to connect with bright, passionate undergraduate students. It's truly motivating to see the way they grapple with a challenging or novel concept, and it's so fulfilling to think that I played a part in guiding them ultimately to understand it. In short, teaching keeps me excited about science."

## Callie Wigington

The 63<sup>rd</sup>-Annual Lindau Meeting of Nobel Laureates takes place this summer in Lindau, Germany. This meeting, begun in 1951, features Nobel Laureates in chemistry, medicine/physiology, and physics coming together to have informal meetings with graduate students and young researchers. Callie Wigington, a Biochemistry, Cell, and Developmental Biology student in Anita Corbett's lab, was nominated to attend the meeting, whose focus is on chemistry and chemistry-related disciplines. She was given a travel award and will go to Germany this summer.

According to Callie: "Being selected to attend the Lindau Nobel Laureates meeting is an incredible honor and such an exciting opportunity for a young scientist. I will interact with and learn from more than 30 Nobel Laureates in an environment that historically has fostered inspirational discussions among junior scientists and the leaders in their fields. I also will have the chance to network with some of the best and brightest young scientists from around the world."

## Thoughts? Comments? Feedback?

Contact us at [contact.gdbbs@emory.edu](mailto:contact.gdbbs@emory.edu) to share your thoughts about *Inscripto*.

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# Emory Graduates Tackle Science Policy

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BY KATHRYN SHEPARD

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**E**arlier this year, President Obama announced the BRAIN initiative, a proposal to pour \$100 million into the development of new technologies to treat brain disorders like Alzheimer's, schizophrenia, and epilepsy. Bright though he is, the president didn't singlehandedly conceive of this massive project; rather, he was helped by the combined efforts of a team of science policy advisers. Science permeates government decision making in the obvious places like the National Institutes of Health, National Science Foundation, and National Aeronautics and Space Administration, but it is also in the State Department, Department of the Interior, and Congress. And at each of those posts are PhDs from the sciences, using their expertise and scientific training to serve the public interest.

As scientists, we know the broad relevance of our work and may even have ideas about how it should influence policy, but in reality it takes a few steps before, for example, your thesis on population biology influences conservation practices at national parks. Science policy advisers are the translators who turn original research findings into practical directives for policymakers. They turn the latest research on climate science into federal emissions regulations. They help direct the flow of scientific grant money and regulate the pipeline of researchers. They establish how science is taught in public schools and determine how animal research subjects should be treated. They even do work some would consider far-flung from the realm of science—for instance, GDBBS alumna Emma Delva is at the head of an initiative to end child marriage internationally. In the fall, she

will be working with the United States Agency for International Development as a science and technology higher education adviser in Jakarta, Indonesia. In this role, she will work with the Indonesian government to ensure that colleges and universities have the institutional capacity to teach aspiring science, technology, engineering, and mathematics professionals in their country.

The field of science policy attracts researchers who are compelled to put their expertise to use in public service. "It's a tough funding environment and things need to change," says Rebecca Rosen, a 2009 GDBBS graduate who holds a post as senior researcher with the American Institutes for Research. Her work focuses on "the science of science policy," as she put it. Her office uses data-driven analyses to examine the outcomes of federal funding initiatives, and granting institutions then can use this information to inform future funding decisions. With her up-close look at Washington's science budget, Rosen is pessimistic about the current funding climate. Although a return to the bench would not be unprecedented, Rosen does not plan to do so. "I can do a better job at a different level of the system," she says.

Rosen entered the field of policy as a science and technology policy fellow with the American Association for the Advancement of Science (AAAS). The AAAS policy fellowship is a primary way that young scientists gain entry into the world of policy. Each year, approximately 200 scientists at various stages in their career leave the bench and enter the yearlong program, which provides an intensive crash-course in the ins and outs

of policy along with a generous stipend. At least five of Emory's recent graduates are currently involved in science policy, including Sara Dodson and Heather Kimmel.

It is a compelling time to enter the field of science policy. While on the one hand the BRAIN initiative signifies a strong federal commitment to advancing science, the recent budget sequester has funding agencies tightening their purse strings. Ongoing debates around climate change and health care reform still rage. The policies that are drafted today will influence life both inside and outside the world of research for years to come, and they will carry the fingerprints of Emory graduates who worked hard to advance their fields. ■



# News from the Laney Graduate School Office of Development and Alumni Relations

## Alumni Accomplishment

by Amanda Wendt

### Qizhi Cathy Yao

Qizhi Cathy Yao graduated with a PhD in Immunology and Molecular Pathogenesis from Emory in 2006 and held a postdoctoral position in Richard Compans's lab. She quickly was hired as an assistant professor in the Department of Microbiology and Immunology and then was recruited to work at Baylor College of Medicine.

There she became a full professor in 2007. Yao has authored more than 170 publications and for more than 15 years has been engaged in vaccine development. Her research interests cover pancreatic cancer pathogenesis and immunotherapy in addition to work on chimeric virus-like particles for HIV mucosal vaccines.

## DAR Update

The LGS closed Campaign Emory and raised 13.2M, 30 percent above our campaign goal to support graduate education. Campaign Emory closed on December 31, 2012, and your gifts made a difference—thank you! Make a gift to GDBBS and continue this wonderful momentum as we work towards a \$4M goal for this fiscal year.



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**Professionalization Opportunities:** One of our top funding priorities is the professionalization offerings for our students. This year we offer the Alumni Mentor Program, the 3-Minute Thesis Competition, Grant Writing Workshops, Dissertation Boot Camps, Networking Events, and more. And, the very popular Pathways beyond the Professoriate this year featured many fantastic speakers each month, including GDBBS alumna Rebekah Kushner 09G.

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Calling all LGS Biology Alumni. Together with GDBBS alumnus Paul Orser 71G 74G, we are planning a reunion of Biology alumni in conjunction with Homecoming and the 2013 GDBBS Banquet, September 27 to 28, 2013. To ensure strong attendance, we need your help. If you believe our records may be outdated, please send us your most updated contact information and pass this email to any members of your graduate school cohort so they will be sure to do the same. Stay tuned for more information on this special reunion in the coming months.

*A special thank you to Wells Fargo for its ongoing support and sponsorship of the Laney Graduate School's new student orientation and the Annual Graduate Students with Families event.*

