Once again I am asked to introduce the GDBBS Alumni Newsletter and say something that will make you want to read it. Here goes!

Our students, faculty, and alumni continue to thrive. On September 27, we gathered at the Druid Hills Golf Club to celebrate their successes at the fourth annual GDBBS Awards Banquet. Many were honored, but none more than Marion Sewer 98PhD, our GDBBS Distinguished Alumni Award winner who is currently associate professor of pharmacy and pharmaceutical sciences at University of California, San Diego. We also were delighted to award two named fellowships to students in the new Cancer Biology program. See pictures of the event and read about the banquet, the awardees, and an interview with Marion inside this edition.

As proud as we are of these accomplishments, if we are to continue to improve our programs, we must look forward too. I am excited to tell you about two new NIH grants that will significantly enrich the training experiences for our students. The first is an NIH Director’s Biomedical Research Workforce Innovation Award: Broadening Experiences in Scientific Training (BEST). This grant, led by Associate Professor Nael McCarty, will build an infrastructure of career resources and experiential learning that will better prepare our students to pursue careers outside the professoriate. This is an area of intense interest to our students and will help prepare them to identify and be more competitive for the types of positions most will pursue. The second grant, led by Professor Pat Marsteller and me, is an R25 education grant: Initiative to Maximize Student Development (IMSD), which seeks to increase admission and graduation of students from groups traditionally underrepresented in the sciences. Participating graduate programs include GDBBS, Psychology, Chemistry, Epidemiology, Biostatistics, and Environmental Health.

As you can see, our programs are strong and vital, and still looking to the future. Come by and see for yourself the next time you are in Atlanta.

Keith D. Wilkinson, PhD
Director, GDBBS
Revelry at the 2013 GDBBS Awards Banquet

MELO-JEAN YAP

 Held at the fanciful Druid Hills Golf Club, the fourth annual GDBBS Awards Banquet recognized the achievements of students, faculty, and alumni on Friday, September 27, 2013. Under a backdrop of glitz and glamour, the students sparkled in their beautiful dresses and handsome tuxedos in celebration of their and their peers’ achievements as scholars, scientists, educators, leaders, mentors, and public servants. The proud faculty, distinguished alumni, and guests joined the honorary revelry—first at a cocktail reception, followed by a formal three-course dinner featuring an address by keynote speaker and GDBBS alumnus William G. Rice 86PhD, who graduated from Dr. Jack Kinkade’s lab in the biochemistry department.

“I’m very impressed with how the banquet has improved over the years,” said Sherry Adesina, a fifth-year PhD candidate in the Molecular and Systems Pharmacology graduate program. As a GDBBS student who has attended the banquet since its inception, Adesina enjoyed the evening and was pleased with the fancy venue. “For all of our hard work and passion for making Emory a top-notch research institution, the students and faculty deserve to be honored in this manner,” she added.

During dinner, Rice delivered a powerful speech that encouraged students to take advantage of all the research opportunities and social capital at Emory in preparation for a career that is adaptable to working in academia, government, industry, and beyond. Currently the president and CEO of Cylene Pharmaceuticals, Rice prided himself on his versatility as a scientist who has explored nonacademic tracks. He urged GDBBS students to follow suit in building upon the Emory PhD by forming strong relationships with faculty and other students, improving the way they present their skills and attitude, and diversifying their training through the pursuit of eclectic opportunities. He believes that Emory students will be highly competitive to employers if students demonstrate strong work ethic, engaging attitudes, and professional presentation.

Rice also addressed the faculty by reminding them to train students for diverse careers. He advocated for open-mindedness by avoiding an academic-centric mindset. Rice noted that since faculty would be judged by the success of their students, a mentor’s goal should be to ensure a student becomes gainfully employed after graduation.

Following the keynote, Rice presented the William and Catherine Rice Endowed Research Award to Jasmine Miller-Kleinhenz, a third-year PhD candidate in Cancer Biology. Afterwards, another Cancer Biology student, Rachel Commander, received the W. Robert Wellborn Research Award. Commander, who previously earned her MS in genetics from Tulane University, is a first-year PhD student who thinks that her first semester is “going well” at GDBBS. She hopes to take part in the “future of personalized medicine in cancer treatment” throughout her PhD studies.

<table>
<thead>
<tr>
<th>Award Winners</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FACULTY MENTOR AWARD</strong></td>
</tr>
<tr>
<td><strong>GRADUATE CAREER AWARD</strong></td>
</tr>
<tr>
<td><strong>OUTREACH/COMMUNITY SERVICE AWARD</strong></td>
</tr>
<tr>
<td><strong>STUDENT LEADERSHIP AWARD</strong></td>
</tr>
<tr>
<td><strong>STUDENT MENTOR AWARD</strong></td>
</tr>
<tr>
<td><strong>STUDENT TEACHING AWARD</strong></td>
</tr>
<tr>
<td><strong>Program Scholar of the Year</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
This year fourth-year Microbiology and Molecular Genetics (MMG) PhD candidate Timothy Sampson won the Graduate Career Award. Working in Dr. David Weiss’ lab, Sampson investigates novel mechanisms of regulating CRISP-R, which is commonly referred to as bacteria’s immune system. Sampson has shown that the enzyme Cas9 has the ability to regulate a bacterial gene in the bacterium *Francisella novicida*—a novel finding that was published in Nature with Sampson as first author. “I found these findings to be very surprising,” Sampson said.

When asked how he manages to stay balanced with a hectic schedule as a high-profile graduate student, Sampson stressed the importance of having a social outlet. He appreciates his wife, who has been very supportive of his career.

Student educators also shined in the spotlight with the presentation of the Student Teaching Awards to the dynamic duo from Cancer Biology, MaKendra Umstead and Scott Wilkinson, who are both third-year PhD candidates. They won this award for their innovative and interactive lesson curriculums in the introductory cell biology course at Emory College. Inspired by what they learned from the TATTO teaching training that the Laney Graduate School offers annually, Umstead and Wilkinson devised live quiz polls that allow undergraduates to send answers to their questions via text or by typing in a web browser.

“Since students nowadays are always wired to their phones, iPads, and laptops, we used these platforms in engaging them to the subject,” said Umstead, who conducts research on protein interactions that contribute to the development of glioblastoma multiforme—the most aggressive form of brain cancer. Aside from being an innovative educator, Umstead leads Emory’s Black Graduate Student Association as its current president.

Social involvement—whether campuswide or divisionwide—seemed to be a popular outlet for many GDBBS student award recipients, despite their busy schedules and stellar performances. The student of the year in Cancer Biology, Alessandra Salgueiro, encouraged fellow PhD students to meet and make friends. “I’m in my second year, and I have only survived because of the friends that I have made so far,” said Salgueiro, who studies metastasis in Dr. Adam Marcus’s lab in the Winship Cancer Institute.

Thanks to Director Keith Wilkinson, Dean Lisa Tedesco, the LGS and GDBBS staff, Monica Taylor, Robin Harpak, and Katie Busch, who ensured a successful and memorable banquet for all of those who attended.

*continued on page 4*
Banquet honorees pose with LGS Dean Lisa Tedesco and GDBBS Director Keith Wilkinson after receiving their awards.
BEST award for Emory trains the next generation of biomedical scientists

KATHRYN COAKLEY

Despite difficulties securing training funds and a government shutdown, the Laney Graduate School, the Emory Office of Postdoctoral Education, and Georgia Tech have combined forces and received a $1.8 million NIH Broadening Experience in Scientific Training (BEST) award.

BEST awards derive from the NIH Common Fund's Strengthening the Biomedical Research Workforce program and reflect the NIH’s goal to transform the way biomedical PhD students and postdoctoral scholars are trained. As a larger number of students pursue more diverse opportunities during and after training, it is essential to expose young trainees to nontraditional careers.

The award will enhance training opportunities for science, technology, engineering and mathematics (STEM) graduate students and postdoctoral scholars who are interested in careers in the biomedical research workforce outside conventional academic research. Participants will gain invaluable experience in industry, government, business, and patent law through course work, rotations, workshops, and hands-on training experiences.

Nael McCarty, Marcus Professor of Cystic Fibrosis in the Department of Pediatrics, led the effort. He hopes to transform the approach to training the biomedical research workforce of the future while engaging mentors for these trainees who are better equipped to provide guidance across a more diverse field of career outcomes.

Each cohort of BEST trainees will include 50 graduate students and postdoctoral fellows, half from Emory and half from Georgia Tech. Cohorts will spend two years as BEST trainees (though further participation is encouraged), and students from any program at each university may apply. The diversity of BEST participants will foster interdisciplinary interaction among trainees and between trainees and mentors. The program will launch during the 2013-2014 academic year with a slightly reduced scope prior to full engagement of activities over the 2014-2015 academic year.

Revolutionizing training of PhD students and postdoctoral scholars may require a paradigm shift in current models of training. Students also are supportive of opportunities provided by the BEST award and the potential changes in academic infrastructure, objectives of graduate training, and career outcomes. Erica Smearman, current MD/PhD student in the Molecules to Mankind and Behavioral Sciences and Health Education graduate programs, said, “There are some really interesting career paths to consider following our training and this program is a great step in raising awareness of these opportunities and linking students in with hands-on experience while also helping move doctoral education to a more independent and tailored training experience that many students seek.”

Keeping science abreast of culture requires evolution of traditional training. The BEST program will provide opportunities for students to fully explore and experience careers in the biomedical sciences, strengthening the next generation of professionals and, ultimately, the trajectory of science.

For more information on the BEST award, including how your organization or institution may partner with the BEST program, please contact Nael McCarty at namccar@emory.edu or 404.727.3654.

Educating PhD and post-doc students may require a paradigm shift in current models of training

INSCRIPTO
Emory University joins several top-tier research institutions as a recipient of the Initiative for Maximizing Diversity (IMSD) R25 grant. IMSD grants are awarded to institutions that create a program to “develop the pool of a diverse group of highly trained undergraduate and graduate students who go on to research careers.”

Emory’s IMSD grant is being used to support a new program to increase the recruitment and retention of underrepresented minority students (URM) in the sciences. According to the National Institutes of Health (NIH), underrepresented minority students are defined as members of a group that has been insufficiently represented in the fields of science, technology, engineering and mathematics (STEM). These include members of certain racial/ethnic groups (American Indians or Alaska Natives, blacks or African Americans, Hispanics or Latinos, Native Hawaiians or other Pacific Islanders), students from lower income families, or those with physical or mental disabilities.

According to a 2011 National Academy of Science report, despite making up about 30 percent of the US population, ethnic/racial minorities represent only 5.4 percent of the nation’s STEM doctoral degree graduates. Although URM students in Emory’s Graduate Division of Biological and Biomedical Sciences (GDBBS) programs have a comparable degree completion time, URM students have a higher rate of attrition in the first year of graduate school. This new IMSD program seeks to use a pipeline approach in providing support and enrichment for undergraduates and early graduate students in their pursuit of STEM degrees, with a special focus on URM students.

The IMSD is a two-year program designed to provide support to both undergraduate and graduate students. Undergraduate IMSD fellows will be paired with a research mentor and lab to engage in hands-on research throughout their term as a fellow. Students also will receive training in research methods and tools, preparation for science careers, and assistance in developing applications for graduate school and fellowships. These interventions will serve to educate and prepare IMSD fellows to enter competitive research-based academic programs. Graduate IMSD fellows will participate in several enrichment programs that begin the summer before their first year of graduate school and continue throughout their term at Emory.

Fellows will take part in journal clubs, professional/academic development seminars, and mentoring training. Students also will develop an individual development plan (IDP) that will assist in the development of both short- and long-term academic and professional goals. Both undergraduate and graduate fellows will be assisted in developing meaningful mentor-mentee relationships. These relationships have been identified as a critical component in both undergraduate and graduate student success in STEM-related academic tracks, particularly for URM students.

Participants will have access to both local mentors at Emory (both faculty and students) and well as non-Emory mentors. With these interventions in place, the IMSD Program aims to “double the number of underrepresented (UR) undergraduates entering PhD programs and to increase by 50 percent the number of UR graduate students who complete Emory PhDs and go on to high-quality postdoctoral training.”

GDBBS Director Keith Wilkinson and Emory College Center for Science Education Director Patricia Marsteller are the co-principal investigators of this ambitious initiative. Facilitation of IMSD program activities also includes Edward Morgan, Leah Anderson-Roesch, and Cathy Quinones. The program has collaborative support from other faculty spanning many Emory departments. The objectives of this new IMSD program nicely parallels the university’s mission to welcome “a diversity of ethnic, cultural, socioeconomic, religious, national, and international backgrounds, believing that the intellectual and social energy that results from such diversity is a primary asset of the university.”

References


Three Questions: Distinguished Alumna Sewer

SHAYLA K. SHORTER

On September 27, Marion Sewer was awarded the 2013 GDBBS Distinguished Alumni Award. Sewer is currently an associate professor at the Skaggs School of Pharmacy and Pharmaceutical Sciences at the University of California, San Diego. Her lab focuses on elucidating the factors that regulate steroid hormone biosynthesis. She earned her PhD in the Molecular Toxicology and Therapeutics program (now Molecular and Systems Pharmacology) in 1998 with Edward Morgan as her advisor.

What attracted you to the GDBBS program at Emory?
I matriculated into the GDBBS in the fall of 1993. During my last two years as an undergraduate I became interested in pharmacology, so I applied to several graduate programs that had a strong focus on pharmacology. I was drawn to Emory after meeting with faculty and students in the Department of Pharmacology.

How did your GDBBS experience prepare you for your career?
At the completion of my five years as a GDBBS graduate student, I was exceptionally prepared for my next step, a postdoctoral position. During my graduate training I was not only able to gain technical laboratory experience but improve my written and oral communication skills, expand my knowledge of biochemistry, pharmacology, physiology, and molecular biology, and develop critical-thinking skills.

What advice would you give to current GDBBS students?
I would recommend that graduate students currently in the GDBBS program devote sufficient time to their research projects and course work. I also would advise students to set realistic career goals and to do regular self-assessments to ensure that progress is being made towards these goals. It is important during graduate training to attend regional, national, and international conferences to learn more about new areas of biomedical research and to take advantage of career development workshops. Networking, particularly if a career goal includes postdoctoral training, and a career in academia or the pharmaceutical industry, is especially important.

Distinguished Alumna Marion Sewer, PhD, with her doctoral advisor Edward Morgan, PhD.
Cancer Biology Endowments Support Students’ Potential

Jasmine Miller-Klein-Ken, the second recipient of the William and Catherine Rice Endowed Research Award, poses with Bill Rice, who established the award to support Cancer Biology students.

The first recipient of the W. Robert Wellborn Research Award, Cancer Biology student Rachel Commander poses with GDBBS Director Keith Wilkinson after being recognized for her award at the Fall Banquet.
Biology Reunion Prompts a Look Back at the Creation of the GDBBS

SARAH BAY

When Paul Orser 74PhD told friends he was planning a reunion for graduates of the Emory Department of Biology, he was told, “No one does a reunion at their graduate institution.” But Orser decided to do just that, and because of his hard work, graduates and faculty of the Emory Biology department from 1969–1981 gathered on campus during Homecoming Weekend to see how much Emory has grown in the intervening years and to reminisce about their time here.

The group first came together on Thursday evening at Emory Point to have a welcome reception and get reacquainted with one another. Orser noted that Emory Point, the new residential, shopping, and dining locale that opened over the past year now stands where married and graduate student housing was in 1969.

After enjoying their welcome reception, the alumni began Friday by meeting with current graduate students and faculty to learn about the Graduate Division of Biological and Biomedical Sciences (GDBBS), a program that was created long after Orser and his peers had moved on. The group then went on a tour of the Math and Science building, after which they had lunch and honored the faculty from their time at Emory, both those who were present and those who had passed on.

Emory’s chief environmental officer, John Wegner, gave the group a presentation on the ecological and environmental efforts under way at Emory. At homecoming, the group had a conversation with Dean Lisa Tedesco about graduate education and development. Their weekend concluded at the Druid Hills Country Club for the GDBBS Awards Banquet.

For Orser, one of the highlights of the weekend was learning about the changes that have happened in the study of biological sciences at Emory, specifically the current structure and organization of the GDBBS. “We came together as a group of biologists, and most of us did not know the evolution of the department becoming [part of] the GDBBS. It was exciting to put some faces on grad students and faculty so we now begin to understand how things are organized. The interdisciplinary nature of the work is totally different. We carried away a picture of the new approach that I think everybody in our group found very exciting.”

Orser says it’s hard to say how he and his colleagues would have assumed themselves in the late ’60s and ’70s had the newer interdisciplinary approach been available to them. “It’s so vastly different from what we had,” he says. “I think that my colleagues would say that it’s very exciting, and quite frankly, we look forward to coming back again and learning more about it at the next reunion.”

Up until 1988 Emory’s graduate programs were strictly departmental, and each department granted its own PhD. Over time, interest groups in genetics and molecular biology and neuroscience formed since there were no departments to house those interests. Students and faculty held seminars and journal clubs under those titles. Eventually those programs were approved to grant PhDs, and the faculty and administration put together a proposal for a new interdisciplinary doctoral program under a new division within the graduate school—GDBBS.

At its inception, GDBBS was made up of six interdisciplinary programs: Biochemistry and Molecular Biology (BMB), Cell Biology (CB), Genetics and Molecular Biology (GMB), Immunology and Molecular Pathogenesis (IMP), Neuroscience (NS), and Physiological and Pharmacological Sciences (PPS). It was an exciting idea to have this interdisciplinary structure, but individual departments were concerned at the outset that the new organization would lead to “winners” and “losers” in terms of recruitment. Former Provost Billy Frye made the promise of new resources to come under the new division structure, and this convinced the faculty that change was worth a try.

Since 1988, the makeup of GDBBS has stretched and been rearranged to accommodate shifting faculty interests and the fluid nature of biological research. Programs in Nutrition and Health Sciences (NHS) and Population Biology, Ecology, and Evolution (PBEE) were added in the early 1990s. Later in the decade BMB and CB merged to form Biochemistry, Cell, and Developmental Biology (BCDB); PPS was dissolved and replaced by Molecular and Systems Pharmacology (MSP), and a program in Microbiology and Molecular Genetics (MMG) had been added. The addition of the program in Cancer Biology (the “new” CB) just over two years ago brought GDBBS to its current structure of nine PhD-granting interdisciplinary programs. Keith Wilkinson, current director of GDBBS, finds the flexibility of the division, as shown through its restructuring over the years, to be one of its greatest strengths.

continued on page 10
Now that the reunion has come and gone, Orser is using the goodwill and good feelings garnered by the gathering to put together an ebook of biographical and honorific information for alumni to contribute to and share. He hopes that this first effort might be a starting point for other departments to use for their own reunions. He also says that one of the topics discussed at the reunion was the idea of making an honorific monetary gift to celebrate their time together, so that “Maybe we [can give] something else back to Emory.”

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

There are two new acquisition and funding priorities in the Laney Graduate School (LGS): the Robert T. Jones Jr. Program and the Brickman/Levin Fund. World-renowned golfer Bobby Jones Jr. 29L was an extraordinary man of compassion and integrity. As an Emory, Georgia Tech, and Harvard alumnus, Jones created a legacy of academic excellence and leadership. We hope to expand the footprint of his name by endowing the Jones Program in Ethics and the Jones Biomedical Engineering Fellows.

From 1948–1961, 65 percent of Jewish students at Emory’s now-closed dental school were targets of discrimination. One of those dental students, Perry Brickman, brought this injustice to light in his documentary film From Silence to Recognition: Confronting Discrimination in Emory’s Dental School History. Brickman’s research led to Emory’s formal apology and noted the efforts of Arthur Levin, the former Anti-Defamation League Southeastern regional director who documented the pattern of discrimination and took his findings to then-Emory President Walter Martin. Laney Graduate School and Emory’s Tam Institute for Jewish Studies are honoring those who endured this discrimination with a new endowment to support graduate-level scholars in Jewish studies.

Professionalization opportunities for students continue to be a top funding priority. The Alumni Mentor Program and “Pathways Beyond the Professoriate” are parts of a growing portfolio of professional development programs for LGS students. Likewise, we have Professional Development Support Funds, networking events, the new Three-Minute Thesis competition, the Grant Writing Program, the Program for Scholarly Integrity, and more.

This year LGS had its most robust Homecoming weekend ever. We hosted a fantastic reunion of Biology alumni who graduated between 1969 and 1981. The Graduate Division of Biological and Biomedical Sciences held its fourth annual Awards Banquet celebrating the achievements of outstanding faculty, students, and alumni. GDBBS alumnus Jim Gavin 70PhD, presented during Homecoming’s “Back to Class” event. Lastly, we launched the new Laney Development Council. The council, with Gavin as chair, serves as advisers to and a resource for LGS’s dean, development office, and faculty, staff, and students for fund development and connecting to external corporate and community leaders to aid in the assistance in raising the school’s endowment and increasing funding for special projects.

Upcoming events for the LGS Development and Alumni Relations team include the fall Competitive Fellowship reception, a reception at the AAR/SBL annual meeting in Baltimore, the 10th anniversary of the PhD program in business, and the Laney Symposium. We have a new engagement opportunity for alumni via the “Emory@Work” series, in which we’ll bring updates from LGS to institutions/organizations in which there is a concentration of LGS alumni.