

INSCRIPTO

Letter from the Director

Giving back can be good!

Welcome to the spring 2012 edition of *Inscripto*, a newsletter that highlights the GDBBS and its activities and accomplishments. This edition contains a number of articles that update you on current events in the life of the division.

For example, one article describes the ninth-annual Student Advisory Committee Research Symposium held in January. Nearly 100 of our students presented their research, and the all-day event was a huge success. Congratulations to all the students who won awards.

This edition also reminds me how amazed I am at the energy, breadth, and dedication exhibited by our students, alumni, and faculty. Not only do our students publish outstanding research and present it at regional, national, and



international meetings, but they give back with their time, money, and volunteer activities. Current students and faculty contribute to the community with a variety of activities. They gather clothing and food at the holidays; they walk, run, and ride for charity; they volunteer at soup kitchens and in general show the love and concern for others that we could only hope everyone would exhibit.

On a professional note, our alumni are also active contributors. One article details a special mentoring relationship fostered through the Laney Alumni PhD Mentor Program. Both Giles Shih 99G and Ablimit Aji 10G 16G, a current student, are learning the joys of working together, and Aji is getting valuable mentoring that would be hard to find elsewhere. In its second year, this program has matched

more than 100 students and alumni, operating entirely on a volunteer basis. Registration for 2012–2013 will open this fall. If you are interested, contact Robin Harpak (rharpak@emory.edu).

Finally, it is a great pleasure to acknowledge the philanthropy of Bill Rice (PhD in biochemistry, 1986) and his wife, Catherine. They have established the William and Catherine Rice Endowed Research Award that will go to one outstanding student in the Cancer Biology program each year. This is one of the few named awards we have to offer our outstanding students, and I want to encourage more of you to consider this as a way to give back to Emory, especially if you thrived here. [Click here to make a gift to GDBBS.](#)

Keith D. Wilkinson, PhD
Director, GDBBS



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Graduate Division
of Biological and
Biomedical Sciences

Cancer Biology Program Receives Endowment for a New Award

COURTNEY ST CLAIR ARDITA

William Rice 86G, an alumnus and former faculty member, kindly has created an endowment that will support a new award for one student in the newly created Cancer Biology (CB) program every year. The William and Catherine Rice Endowed Research Award, named after Rice and his wife, will provide one deserving student with an extra \$2,000 per year, in addition to his or her yearly stipend provided by the university. Laney Graduate School Dean Lisa Tedesco, GDBBS Director Keith Wilkinson, and CB Program Director Erwin Van Meir will choose a recipient from the CB program annually, starting with this fall's incoming class.

Bill Rice's roots are pretty deep at Emory. He earned his PhD and met his wife in Emory's Department of Biochemistry. After his postdoctoral training at the University of Michigan, Rice returned to Emory and worked as a professor of pediatric hematology and oncology in the School of Medicine for four years. During his time as an Emory professor, Rice was so successful that he was offered a job at the National Cancer Institute (NCI)-Frederick Research Center. He left Emory and became the youngest person to serve as the senior scientist and head of the Drug Mechanism Laboratory at the NCI. From there, Rice went on to become

founder, president, director, and CEO of Achillion Pharmaceuticals. After selling Achillion, Rice moved on to his current position as president and CEO of Cylene Pharmaceuticals, a company that focuses on developing small-molecule drugs to fight cancer. In the midst of demanding work at Cylene Pharmaceuticals, he manages to find time to serve as the Laney Graduate School representative to Emory's Alumni Board.

"Emory launched my career in so many ways, I got so much out of [my experience here that] I'm going to start giving back," says Rice. He "stresses education [because] it's the differentiator . . . , [and with education] you'll always be able to be employed, you'll be employed better, you'll be able to think better. And hopefully [be] better citizens." He picked the CB program for his first award because his company focuses on developing anti-cancer drugs and he understands how important and challenging the field can be. He remembers how hard he worked as a graduate student and recalls not having much money during that time. He hopes that this award will give students additional inspiration to work hard, allow them to put something extra on their resumes, and help "take a little bit of the pressure off" them financially while they pursue their training. Rice plans to

sponsor students with additional awards in the future.

Rice's generosity is greatly appreciated. Aside from lending distinction to and delivering financial relief to one student in each incoming class, this award may help attract better students to Emory. Considering that the CB program is in its inaugural year and currently only consists of 10 students, the chances of an incoming student receiving this award are fairly high. The possibility of receiving a larger stipend may be one of the deciding factors in a prospective student's choice to join the Emory community. The GDBBS's success depends on its ability to attract good students, to provide them with excellent training, and to keep them motivated during the process. The William and Catherine Endowed Research Award will help keep GDBBS on a successful path and will be the beginning of a new trend in which Emory's scientist alumni give back to the institution where they started their careers. ■

Ninth-Annual GDBBS Research Symposium

SAURABH CHAVAN

The ninth GDBBS Research Symposium kicked off 2012 with a bang, showcasing talks on topics ranging from gene expression to intriguing novel therapies. The symposium showcased graduate student innovation and hard work and was replete with oral and poster presentations alike. The daylong event encompassed 21 oral presentations and 73 posters, including a presentation of scientific images from GDBBS students—the highlight of this year’s symposium. The event culminated with an award ceremony preceded by a well-attended reception and keynote address by Fadlo Khuri, professor and chair of hematology and oncology and deputy director of Winship Cancer Institute.

Sherry Adesina—a PhD student in the Molecular and Systems Pharmacology program and member of the Student Advisory Committee—helped organize the event. Adesina and student representatives from each GDBBS program spent more than a semester organizing this year’s event because they believe the GDBBS Research Symposium is important for numerous reasons. Adesina says, “Taking a university or local presentation opportunity gives students a chance to practice public speaking (which a majority of us find extremely difficult), practice effective communication skills to relate

our data to others in similar or different fields, and to get new perspectives and suggestions for ways to pursue our current projects.” She adds, “It does not matter what year of graduate school you are in—first or sixth—it is vitally important for you to present your work at the GDBBS and all such platforms.”

Monica Taylor, GDBBS director of student development, says faculty participation is vital to the success of the symposium. Many GDBBS faculty who wholeheartedly supported the event not only took on the tough job of judging the work of talented students, but also recruited their colleagues for the event. Their participation furthered healthy student-mentor relationships as faculty members were able to hear critiques and suggestions from other researchers, making the symposium a win-win for faculty and students.

The current Biochemistry, Cell, and Developmental Biology (BCDB) representative, Michael East, feels that apart from being a great addition to one’s CV, the GDBBS Research Symposium also serves as a good platform to present one’s work in a supportive environment, at least once before one’s day of judgment—thesis defense. He strongly believes that the GDBBS Symposium is a class apart due to its diverse student composition and the

fact that presentations are prepared for a wide audience rather than just fellow students from one’s own program. This year’s event saw an overwhelmingly positive response, and the organizers hope that it will continue to grow. This year’s winner for the oral-presentation competition was Pearl Ryder, a PhD student from the BCDB program; for the poster competition, it was Elizabeth Bowman, also from the BCDB program. See below for a complete list of award winners. ■

2012 Award Winners

ORAL PRESENTATIONS

- 1st Place: Pearl Ryder (BCDB, MD/PhD)
- 2nd Place: Sharon Soucek (BCDB)
- 3rd Place: Jonathan Havel (MSP)

POSTER PRESENTATIONS

1st Place
Elizabeth Bowman (BCDB)

2nd Place
Andrew Bankston (BCDB)
Megan Murphy (IMP)

3rd Place
Ginny Vachon (MMG)
Megan Allen (BCDB)
Sindhu Lakkur (NHS)

POSTER IMAGE CONTEST WINNERS

- 1st Place: Andrew Swanson (NS)
- 2nd Place: Crystal Fagan (BCDB)
- 3rd Place: Ming-Fai Fong (NS)

Where Are They Now?

AN INTERVIEW WITH GDBBS GRADUATE FRED SCHNELL 06G BY MIMI HOFSTETTER

Now in its 22nd year, the GDBBS has graduated 912 students. Where do these graduates go after Emory? GDBBS alumni can be found in all tiers of the academy, industry, and business. They are in government, law, and medicine. They write, teach, and raise families. An Emory GDBBS degree, it would seem, prepares recipients for all walks of life. In this installment of “where are they now?,” we catch up with Fred Schnell 06G.

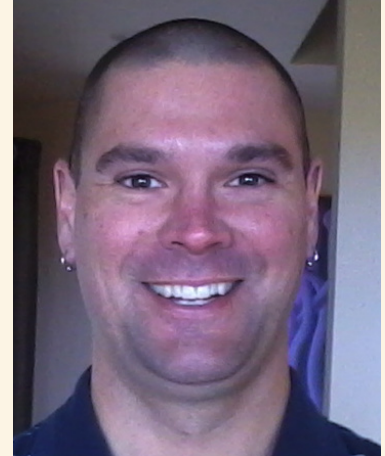
Schnell is currently working with AVI Biopharma in Oregon, where the weather is not as nice as Atlanta’s. Schnell is familiar with Georgia weather, having grown up in the Peach State. After receiving his BS in biology at North Carolina’s Davidson College in 1998, he returned to Georgia. For the next 10 years, he worked at Emory, progressing from a technician to a postdoc. His experience as a technician in Chuck Parkos’s lab, studying epithelial cell-leukocyte interactions, ignited his interest in immunology. He later joined the Immunology and Molecular Pathogenesis (IMP) program in 2001. Schnell completed his thesis work in Gil Kersh’s laboratory, where he studied the genetic control of thymocyte emigrants, becoming familiar with basic immunology. He published two first-author papers with Kersh and contributed to two other articles as a member of that lab.

After receiving his PhD from the IMP program in 2006, Schnell took a brief postdoctoral position in Brian Evavold’s lab, studying the intracellular signaling of T-cell response to Lymphocytic Choriomeningitis Virus (LCMV) escape mutants, in comparison to wild-type virus. Although he didn’t know it at the time, this LCMV work would land him his next job and launch his career in the biotech industry. His experience with LCMV was particularly attractive

to AVI Biopharma, in that the company was interested in targeting arenaviruses. Schnell accepted the position with AVI and now has been with the company for more than three years.

As a molecular immunology scientist at AVI, Schnell works at the first stage of drug development. AVI specializes in antisense RNA therapeutics. These small-molecule inhibitors bind to RNA and cause various outcomes, including translational blockades, splice altering, or exon skipping. This drug technology can be applied to a variety of problems, including directly reducing viral titers by blocking viral protein translation, or reversing antibiotic resistance by targeting bacterial resistance gene products—two applications Schnell has worked on personally.

He also has the opportunity to bring creativity and innovation to the table. Schnell and his colleagues search the literature for problems that could be addressed by AVI’s therapeutics and pitch it to their superiors. Depending on available budget, they might receive the go-ahead to investigate further. That budget, and the general mood of the company, depends on AVI’s stock price. “We are a biotech; we are always reliant on investor funding to keep afloat,” Schnell explains. He has seen three major layoffs and three different CEOs during his time at AVI. Although



Fred Schnell 06G

this is a frequent occurrence in biotech, he pointed out that often biotechs are centered in major hubs around the country—in New Jersey, Boston, San Francisco, San Diego, and Seattle, for example—and that if one gets laid off from a company, the tendency is to shift to another company within the same area. Schnell explains, “The mobility in tenure track is much more limited. The process of applying is very structured. In my [area], it seems that if I lose my job, I could get right back in the market.”

Another difference between industry and academia is the diversity of research projects. As Schnell divulged, “What I like about working in industry is you get to work in a number of different areas.” He described himself as “a bit ADD on science.” He contrasted this variety to academia, where “you tend to latch onto a certain idea from your postdoc and carry it on for the rest of your career.” In his words, “I like consistency and structure, but from a scientific standpoint, I can’t stand that. In Brian’s lab, I had five projects going. Brian likes the shotgun approach to science. Luckily, I have been able to carry that into my career.”

Brought into AVI because of his LCMV experience, he quickly was expected to learn arenaviruses, becoming more a virologist despite his immunology training. When pandemic influenza emerged, he was asked to become an expert on flu. Similarly, when a project working with bacteria and drug resistance was moving forward, he was able to learn about antibacterials and contribute to those studies. Although publishing permissions at AVI change with the CEOs, the current policy is pro-publication. For Schnell, this means several publications in the near future, at least one of them a first-author manuscript.

Schnell shared some advice for current GDBBS students, noting, “In my application process, at least in industry, one of the helpful things I had is that I was well rounded from an assay standpoint.” He went on to explain that because he was always in small labs, without technicians, if he ever had to perform a new assay, he had to go out and learn it himself. Doing so gave him experience in a variety of techniques that companies are specifically looking for and tend to hint at in their job postings. Furthermore, you don’t necessarily need to have used the technique recently; at one interview he impressed his interviewers with hybridoma techniques he hadn’t used in more than seven years.

Overall, Schnell is happy with his decision to work in biotech. He enjoys the huge translational aspect of this type of research, as well as the creativity and innovation that goes along with it. As he puts it, “Do you see a drug there? If you do, test it!” He still communicates with the graduate student carrying on his project in the Evavold lab, and he is always willing to answer questions and provide guidance. In this way, he continues to contribute to the Emory GDBBS community, even as he moves forward with his career. ■

Mentors and Protégés Benefit from Shared Experience

MICHELLE VALIGURSKY



GDBBS student Ablimit Aji and alumnus Giles Shih 99G participated in the Laney Graduate School Mentor/Protégé Program.

Ablimit Aji 10G 16G is tackling a tough course of study to earn his PhD. Digging deep into computer science and informatics, Aji is immersed in his fourth year and discovering the finer points of advanced mathematics and data management. Giles Shih 99G—CEO of BioResource International—has stepped up to mentor Aji. With an MBA and personal track record of achievement in both leadership and biotechnology advancement for enzyme research and animal

nutrition, Shih shares his professional wisdom with Aji.

Communicating with each other via email, phone, and in person, the pair finds the ongoing collaborative process productive. “I’m glad to help in whatever way I can,” Shih says. Aji has had internship experience, but Shih explores with him “opportunities outside of academic postdoc channels, including starting and running your own company.” In addition, they have discussed how Aji might consider joining a start-up company in the early stages of funding to allow him “to

gain experience quickly with less financial risk.”

Shih is Aji’s sounding board. “He controls his own destiny,” Shih says. “And I’m glad to answer his questions as he makes important career decisions.”

“Shih helps me to consider new ways to translate my research into the business world,” Aji says of the crucial role his mentor plays. With firsthand experience of running and expanding a high-tech start-up company, “Shih is inspiring me on how to commercialize and gain exposure

for my work.”

The Laney Graduate School Mentor/Protégé Program “helps us connect with alumni who are working outside the university,” Aji explains. As Aji reaches each milestone in pursuit of his PhD, Shih is there to help facilitate personal growth and coach his protégé through succeeding levels of inquiry on his path to career development. Both Aji and Shih used the same word to define their mentor/protégé relationship: *rewarding*. ■

Building the Bridge: Biology and Billions

GAYATRI SEKAR

Raymond F. Schinazi is currently the Francis Winship Walters Professor of Pediatrics and Chemistry and director of the Laboratory of Biochemical Pharmacology at Emory. Known best for his work on several drugs that are now approved by the FDA or are at various stages of clinical development, his inventions have annual sales of more than \$2 billion, and more than 94 percent of HIV-infected individuals take at least one of the drugs he invented.

As the founder of several biotech companies—including Pharmasset (VRUS), Triangle Pharmaceuticals, Idenix Pharmaceuticals (IDIX), and RFS Pharma—Schinazi is the recipient of numerous prestigious awards. He is often referred to as a one-man bridge between academic and commercial research, and Schinazi's companies have been acquired for high prices in the market.

Gilead Science, the world's largest maker of HIV drugs and a major player in other antivirals, recently acquired Pharmasset for \$11.2 billion. It is thought that the deal could have been made for much less just a few years ago. Schinazi is the largest individual shareholder of Pharmasset and saw the value of his own 4 percent stake soar to more than \$440 million. The company is developing a hepatitis C treatment considered so hopeful that Gilead

agreed to an 89 percent premium on top of Pharmasset's already elevated stock price.

Although Schinazi has not been involved with the administration of Pharmasset since 2006 and played no active part in the current Gilead deal, he was chair of the board that led the chemistry group concerned with the discovery of the hepatitis treatment molecule, the object of the takeover. Schinazi also cofounded



Raymond F. Schinazi

Triangle Pharmaceuticals along with fellow Emory scientist Dennis Liotta; that company developed drugs for HIV and hepatitis B. They sold it to Gilead in 2003 for \$464 million—a 33 percent premium compensation. Alongside this deal, Gilead paid Emory \$540 million for the sale of future royalties on Emtriva, approximately \$200 million of which was shared by the founders and codeveloper

Woo-Baeg Choi. Emtriva was one of the first drugs to treat the virus that causes AIDS and a key part of the widely used combination HIV drugs Truvada and Atripla, which are sold by Gilead. The likelihood of the company pioneering the control and elimination of HCV-HIV coinfections is huge.

When asked about being referred to as the “bridge between academic and commercial science,” Schinazi states that a lab should be run like a business, but with a heart. “Companies have hearts too,” he added with a smile. “They have to make profits for their shareholders. And reagents and equipment cost money; it is important to keep that in mind.” Stressing the importance of learning to file for patents and licenses as early as you believe that you can, he explained that no monetary gain can be realized by waiting and watching.

Today, RFS Pharma has multiple drugs that are in phase-two clinical trials and could be Schinazi's next Pharmasset or Triangle. Beginning in Alexandria, Egypt, and moving arduously to a refugee camp in Italy, the long journey of this researcher has brought him to the forefront of the battle toward eradicating hepatitis B, hepatitis C, and AIDS. He is a force to be reckoned with, and his story is one of inspiration and optimism. ■

Want to GIVE Back?

GDBBS VOLUNTEERS GET OUT OF THE CLASSROOM AND INTO ATLANTA

AMANDA WENDT

The mission of GIVE (GDBBS Involved in Volunteerism at Emory) is to “foster civic responsibility and engagement from the GDBBS community through outreach activities organized by faculty, staff, and students.” The organization works to bridge the gap from the laboratory to the Atlanta community in bringing together faculty, staff, and students outside an academic setting.

GIVE accomplishes this task in several ways. The group acts as a facilitator between students and faculty across different disciplines of GDBBS who may be interested in volunteer opportunities. Each month, GIVE shares different activities and events with all of GDBBS. In this way, GDBBS members can volunteer as a group. Recent opportunities included fund-raiser walks such as March of Dimes or Walk MS.

GIVE also organizes drives to collect food and clothes for families in need and partners with Adopt-a-Family during the holidays. In November, GIVE coordinates with Families First to adopt families and sponsor their Thanksgiving dinners. Upcoming opportunities include volunteering with Side by Side, a clubhouse for people impacted by brain injury, and projects with Project Open Hand, which provides nutritionally balanced meals to patients based on their medical needs.



GIVE volunteers working with Project Open Hand (July 2011) to provide nutritionally balanced meals to patients based on medical need. <l to r> Meriem Gaval 12G (neuroscience), Alisha Epps 06G (neuroscience), Yvonne Ogbonmwan 08G (neuroscience), and Mike Glover.

Alisha Epps, the Neuroscience representative to GIVE, discussed the impact GIVE has made on her time here at Emory: “As graduate students in biomedical research, there can be a tendency to get so focused on a particular aspect of our project that we may lose perspective. For example, we may focus on a particular protein or gene involved in a disease and lose sight of the patient who is experiencing that disease, particularly for those of us who work with animal or cellular models. Participation in these types of events, even if not focused

on a disease I am currently researching, helps me to regain this perspective and remember the ultimate driving force behind my research: to help improve the lives of patients.”

GIVE enables students to engage the community, while being able to get to know other students from different disciplines in a more social setting. “I joined GIVE to make a difference in the community. . . . [I]t allows GDBBS students to take an interest in something outside of science and help improve Atlanta,” says

Sindhu Lakkur, Nutrition and Health Sciences representative.

When asked how GDBBS can help strengthen GIVE in the upcoming year, the most popular response was to see more faculty involvement in GIVE activities. Encouragement by faculty to involve their lab groups in activities such as adopting a family or participating in food or clothing drives also would be a great way to show support of GIVE and the Atlanta community. To be able to get to know faculty outside a lab setting and work together to better the community is a unique aspect of GIVE, one that only can work with the active participation of both GDBBS students and faculty. ■

GIVE has added program representatives from within GDBBS to promote food and clothing drives and collections at department events. A large thank you goes out to this year's program representatives:

GDBBS Program

Biochemistry, Cell, and Developmental Biology
Cancer Biology
Genetics and Molecular Biology
Immunology and Molecular Pathogenesis
Microbiology and Molecular Genetics
Molecular and Systems Pharmacology
Neuroscience
Nutrition and Health Sciences
Population Biology, Ecology, and Evolution

GIVE Program Representatives

Tara Wabbersen
Gina Alesi
Erica Mills
Megan Murphy and Cathy Gaville
Patricia Campbell
Richard Stanton
Alisha Epps
Amanda Wendt and Sindhu Lakkur
Karoun Bagamian

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

- The Laney Graduate School has raised more than \$9,900,800 toward its \$10 million campaign goal to support graduate education. Campaign Emory will come to a close on December 31, 2012, and your gift—of any amount—will help us exceed our goal and continue the great work of supporting graduate students. Thank you to all who have already donated to help us get this far. For more information on Campaign Emory, please [click here](#). To make a gift to GDBBS, please visit [here](#).
- GDBBS Alumnus James R. Gavin III 73G is chair of the board for Partnership for a Healthier America (PHA). On March 28, Emory's campus was the site for PHA and *Family Circle* magazine's first in a series of solutions-oriented roundtable discussions about the childhood obesity crisis. PHA works with honorary chair Michelle Obama and the private sector to end the childhood obesity epidemic within the next generation.
- Tyl Hewitt 78G, biology, was the guest speaker for our final 2011–2012 Pathways beyond the Professoriate (PBP) program. Hewitt is branch chief of the Developmental Biology, Genetics, and Teratology branch of the Eunice Kennedy Shriver National Institute of Child Health and Human Development and currently serves as acting deputy director of the Center for Developmental Biology and Perinatal Medicine. For more information on PBP and all professionalization opportunities offered by the Laney Graduate School, please [click here](#).
- Josep Call 97G was honored with the Sheth Distinguished International Alumni Award in November and was featured in the spring 2012 issue of *Emory in the World* magazine. A psychologist, Call did much of his research in collaboration with faculty at the Yerkes National Primate Research Center. Call is the director of the Wolfgang Kohler Primate Research Center at the Max Planck Institute in Leipzig, Germany. Please [click here](#) for the full story of Call's award and visit to Atlanta.
- The Laney Graduate School established the first Laney Graduate Student Giving Committee (LGSGC) in fall 2011. The LGSGC is a group of students—including GDBBS student Amanda Wendt—who help spread the word about the student-giving campaign launched in 2010 to engage current students in philanthropy to Emory. Each member of the committee represented the graduate school at a variety of events, helped spread the word to other students about student giving, and donated a minimum of \$1.75 a month to the graduate school in honor of Emory's 175th anniversary. We are so excited and proud of this group of committed students as they work to engage their peers. Their efforts have resulted in a 100 percent increase in student giving.