Studies in Excellence

By Dave Beaudouin

From every gift, two stories emerge—the one behind the giving, and the other that blossoms from the receiving. Such is the case with the Roger Westgate Scholarships in Engineering. In just four years, these extraordinarily generous merit scholarships have attracted exceptional students to the Whiting School of Engineering, all in the name of a professor who delighted in nurturing students and their research.

Established in 1998 through a gift from a former student, the Westgate Scholarships are named in honor of Charles Roger Westgate. Designated for freshmen in the Whiting School, they are renewable each year. There have been eight awarded to date, including two for 2003–04. Currently the largest merit awards offered by the Whiting School, the Westgate Scholarships cover full tuition plus a stipend. Each Westgate Scholar thus receives more than $100,000 over a four-year period.

Interim Dean Andrew S. Douglas views the Westgate Scholarships as an important opportunity for the Whiting School. “We simply want to attract the very best students,” he says. “The Westgate Scholarships allow us to compete for them.”

According to Douglas, the rigorous review of candidates begins at the Admissions Office, where a short list of leading prospects is developed. These finalists are then invited to visit the Homewood campus for a tour and an interview with Whiting School faculty. Afterwards, Douglas and the faculty interviewers confer to rank the finalists and then make offers to the top two. “Finalists who present themselves well are usually those who have done research projects in high school,” says Douglas. “It’s one of the key components of our criteria.”

Here is a glimpse of the first three Westgate Scholars (they graduated in May), plus a profile of the professor whose dedication to teaching inspired it all.

The Versatile Biomedical Engineer

Manish Gala ’03 views his future career as a type of Swiss Army knife that will give him the tools for many tasks. “After I complete my medical education, I’d like to pursue a PhD in engineering,”

“From left) Carolyn Williams ’03, Ravi Kavasery ’03, and Manish Gala ’03 excelled in the classroom and in their diverse extracurricular activities.
he says. “I’d love to fuse medicine and engineering in a way that I could be teaching, doing research, and seeing patients.”

Given his recent accomplishments, these goals are very realistic. Gala specifically picked the Whiting School because of an early passion: “In high school, I saw a great synergy in bioengineering,” he notes. “I chose Hopkins for that reason—it has the best biomedical engineering department in the country, hands down, drawing upon the strengths of both the Whiting School and the School of Medicine.”

As one of the first two students chosen to receive the Westgate Scholarship, Gala immersed himself in both the academic and the extracurricular sides of campus life. He was one of 20 undergraduates to receive the University’s Howard Hughes Summer Research Fellowship. Through this fellowship, Gala conducted basic research at the School of Medicine’s Gastroenterology Department lab. His investigation, which studied the pain medication sulindac sulfide and its possible chemo-preventative effect on colon cancer, resulted in a paper that appeared in the journal Cancer Letters. Gala’s academic achievements brought him recognition as a 2003 USA Today All-American, one of 60 undergraduates chosen nationwide. Gala also is a member of the Biomedical Engineering Honor Society and Tau Beta Pi (the Engineering Honor Society).

Outside the classroom, Gala excelled equally well. For three years he served on the undergraduate Student Council, two as secretary and during his senior year as president. He was a member of the Commission on Undergraduate Education, which included an important focus on improving community life. He was a member of the Johns Hopkins Debate Team and was active in volunteer work, tutoring middle school students and making weekly visits to a downtown rescue mission to assist in providing free medical care to the homeless.

Now weighing his choices for medical school (he was accepted at Hopkins, Harvard, Stanford, and Duke), Gala is grateful for his Westgate Scholarship. “The scholarship gave me a phenomenal opportunity to attend Hopkins,” he says. “I can think of no other institution where I would have been better off, or achieved so much success. It has set me up very well for the future.”

The Fast-Track Researcher

“I don’t entirely have a master plan,” Carolyn Williams ’03 says with a laugh. However, her accomplishments so far indicate otherwise. Although she received her Westgate Scholarship as an entering freshman in Fall 2000, her accelerated progress as a Biomedical Engineering major resulted in early graduation this past May.

It didn’t hurt that Williams arrived at Hopkins with 20 college credits already in hand, due to qualifying exams and a high school Senior Honors Program at the University of California, Berkeley, where she took a freshman biomaterials course. “My experience with this course confirmed for me that Biomedical Engineering was going to be my major,” she says.

On entering Hopkins, Williams also received a prestigious Hodson Trust Scholarship, which is awarded on the basis of academic and personal achievement to fewer than 20 freshmen annually. Her other honors include a National Merit Scholarship and a 2001 GE Fund Faculty for the Future grant.

During her three years at the Whiting School, Williams pursued a highly focused course of study and research. As a research assistant, she worked in the lab of Michael I. Miller, director of the Center for Imaging Science, to develop a protocol for a program that constructs 3D volumes from MRIs using Gaussian analysis. She also worked in the lab of James L. Harden, assistant professor of Chemical and Biomolecular Engineering. “My research there focused on the construction of a prototype of a prostate cancer biosensor,” she says.

“Ideally, the team hopes to create a polymer biosensor that can be inserted into the bloodstream of a patient, and will fluoresce upon contact with cancer cells. The application would aid in the diagnosis of cancer and help to identify what treatments and medications are necessary to treat the cancer.”

Williams is now entering the PhD program in chemical engineering at the University of California, Los Angeles (UCLA). “I am particularly interested in the research there, and there are several professors I’d like to work with,” she says. “After completing my doctorate, I will be able to make a decision about what I want to do next.”

Whether she pursues a career in academia or industry, Williams cites the Westgate Scholarship as the source of her current momentum. “Hopkins is definitely the...
strength school in the country in biomedical engineering,” she notes. “I didn’t want go anywhere else. This scholarship allowed that to happen.”

The Multi-dimensional Maverick

“I have no idea where my career will lead me,” Ravi Kavasery ’03 says, and that’s fine with him. “I used to think it was a bad thing to be such a generalist—to be pulled in so many different directions. But after four years at Hopkins, I see it as a strength now, rather than a weakness.”

But in his case, being a generalist hardly means skimming the surface. In addition to being one of the first two recipients of the Westgate Scholarship, he was also one of just 100 high school seniors to be awarded a 1999 Toyota Scholarship. In his sophomore year, he received a Provost’s Undergraduate Research Award, which he applied to setting up the very useful EON (Experts and Opportunities Network). This programming and database project matches Johns Hopkins faculty and students with research and other learning opportunities. He partnered with Keenan Wyrobek ’03, a Mechanical Engineering major, to establish EON.

In addition, Kavasery worked with Matthew Holden Jr., a public policy scholar at the Woodrow Wilson International Center for Scholars, on a book about deregulation and the California energy crisis. Kavasery is a member of theEta Kappa Nu (the National Electrical and Computer Engineering Honor Society) and the Tau Beta Pi (the Engineering Honor Society).

His four years at Hopkins reveal a deep involvement in the University community. He served as chair of the Student Council Academic Affairs Committee, as a student member of the Commission on Undergraduate Education, as a Whiting School student representative on the Alumni Council, and as president of his class for the past two years. During his first two years, he was also vice president and tournament director of the Johns Hopkins Debate Team.

Kavasery points to his volunteer work with a special source of pride. “I was a member of the Jail Tutorial Project during my first two years and directed the program in my junior year,” he recalls. “We would go into Baltimore County and Baltimore City prisons and work with female inmates to build the skills they would need to receive their high school equivalency diplomas. This experience was really one of my best at Hopkins, working with such a phenomenal group of fellow students—and our [inmate] students in the prisons.”

After graduating in May with a degree in Electrical Engineering with minors in Mathematics and Economics, Kavasery is looking forward to his next challenge. Selected by the Henry Luce Foundation as one of 15 Americans under the age of 30 to be a Luce Scholar (at 20, he was the youngest), he will spend the next year in Asia, implementing a research project of his own design. Kavasery describes the project as one where he is “using technology to address issues in Asian urban development.” His study is expected to address concerns such as the adoption of more efficient public transportation systems as a means of combating urban congestion and air pollution, as well as digital divide issues and access.

Whether he ends up in engineering or makes use of it in pursuing his many other interests, Kavasery feels that “Hopkins and the Westgate Scholarship have provided me with the tools that I need. I now feel confident walking into any setting, and equally comfortable talking with people about any issues, from politics to engineering. My experience at Hopkins cultivated me in many different directions that I don’t think I’d have gotten elsewhere.”

The Modest Mentor

Even over the phone, Roger Westgate conveys a sense of genuine modesty and engaging warmth, qualities that made him not only popular but also a mentor to countless engineering students during his 35 years at Hopkins.

“It was a great surprise to have the scholarship founded in my name,” Westgate admits, “and probably the nicest thing of many good things that happened to me at Hopkins.” The Westgate Scholarships were established through the generous gift of Kwok-leung Li ’79, and his wife, Felice V. Li ’80 M.A. Kwok Li is a University trustee, co-chair of the Whiting School’s campaign, and chairman and manager of Linsang Partners, LLC. An Electrical Engineering major, he went on to become a high-technology entrepreneur who wanted to honor his favorite professor. Westgate likewise holds Li in high regard, and remembers him as an exceptional student. In 1998, when the gift was announced, Li commented that in honoring Westgate, he wanted “the faculty at Johns Hopkins to know how much students value good teaching and caring faculty.”

At the Whiting School, Westgate was the William B. Kouwenhoven Professor of Electrical Engineering. He joined the faculty in 1966 and taught until 2001. During his career, he also held several administrative posts. Beginning as the first director of Part-time Engineering in the 1980s, he built up the program considerably, including adding an innovative distance learning program. Frequently tapped for leadership, he served as chair of the Department of Electrical and Computer Engineering, associate dean for Academic Affairs, and interim dean of the Whiting School (1997-98). Westgate’s research interests are in high frequency circuitry and devices. Among his many honors, he received a Student Council Award for Excellence in Teaching and was named Maryland Engineer of the Year by the Maryland Society of Professional Engineers.

In 2001, Westgate was appointed dean of the Watson School of Engineering and Applied Science at Binghamton University (part of SUNY), in the city in New York State where he grew up. The school is named for Thomas Watson Sr., founder of IBM.

Westgate’s ties to Hopkins remain strong. In May 2003, he returned for Commencement to see the first Westgate Scholars graduate. “I’m more honored by these graduating Scholars than I am even by the scholarship in my name,” Westgate says.