Diversifying the Face of Engineering
Thomas Jefferson was, above all, a pragmatist. He advocated democracy over aristocratic forms of government for the simple reason that a democratic society benefits from the contributions of the many, not just the few. From an engineering perspective, democracy is the most efficient solution to the problem of advancing human progress.

Jefferson advocated universal public education to give bright young people the knowledge they need to be active leaders in a democratic society. An important measure of the University’s effectiveness in continuing and expanding upon that legacy is the diversity of our student body.

Over the past two decades, the School of Engineering and Applied Science has succeeded in significantly increasing the number of women enrolled as undergraduates. A relative rarity in engineering programs 20 years ago, women today make up approximately 30 percent of our student body. Also, during that same period, we have seen the number of African-American students rise, thanks in part to the support these students receive from the Center for Diversity in Engineering. In fact, this fall’s entering SEAS class is the most diverse first-year class on record.

While this diversity helps fulfill our institutional mission, it also serves an important educational purpose. Our students will spend their working lives in a world characterized by diversity. We have a responsibility to see that they can navigate this environment and, what’s more, tap into the richness it provides. That’s because the challenges they will confront will be far too complex to be solved by individuals sharing a single, limited viewpoint. The diversity we have attained in the Engineering School gives our students the opportunity to build the skills needed to thrive in a diverse world, as well as to enrich it.

The challenges they will face during their careers also require a global perspective. Our students have formed a very active chapter of Engineering Students Without Borders — and since 2003, 25 engineering students have spent their vacations using their engineering knowledge to assist people in developing countries.

Taking a semester for formal study has been more difficult, primarily because of the prerequisite structure of the engineering curriculum. Now, however, by using a software program developed by a team of 2007 graduates, undergraduates can simply enter their major and the courses they’ve already taken, and the program suggests the optimum semester-by-semester schedule to accommodate a semester abroad.

To ensure that our students get the most out of their overseas experience, I have appointed Professor Dana Elzey as our first director of international programs. He will establish exchange programs with non-U.S. universities while cultivating relationships with multinational companies to create international internships.

The world that this generation of engineers will encounter is quite different from the world I entered after graduating from U.Va.’s Engineering School almost 40 years ago. Nonetheless, our responsibility remains the same — to equip students to use the skills they learn here to advance human progress. Our efforts to promote diversity and an international perspective are a critical part of that preparation.

JAMES H. AYLOR
Louis T. Rader Professor of Electrical Engineering Dean of the School of Engineering and Applied Science
Inside SEAS
Professor, Surgeon, Mentor
Dr. Cato Laurencin
By Morgan Estabrook

An Advocate for Diversity in Computer Science
Professor Mary Lou Soffa
By Linda Kobert

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Address corrections to:
School of Engineering and Applied Science
University of Virginia
P.O. Box 400259
Charlottesville, VA 22904-4259
As University Professor, Lillian T. Pratt Distinguished Professor and Chair of the Department of Orthopaedic Surgery, and a professor of biomedical engineering and chemical engineering at the University of Virginia School of Engineering and Applied Science, Dr. Cato Laurencin is many things — chief among them, a strong advocate for diversity in engineering and medicine.

Now a force in diversity efforts in the sciences locally and internationally, Laurencin first became interested in reaching out to underrepresented minority students when he was one himself in the early 1980s. While simultaneously earning his M.D. from Harvard University and Ph.D. in biochemical engineering/biotechnology from the Massachusetts Institute of Technology (MIT), Laurencin helped establish Harvard’s Hinton-Wright Biomedical Research Society (now the Harold Amos Biomedical Research Society) in 1983 and MIT’s Summer Science Research Program in 1986 to address the issue of the underrepresentation of minority students in engineering and the sciences. Both programs continue to flourish to this day, which Laurencin finds both gratifying and encouraging.

“I’m happy to see that these programs have stood the test of time,” he says. “These efforts to foster diversity are working. The face has been changed.”

Today, the impact of Laurencin’s efforts is felt far beyond Cambridge, Mass. The Helen I. Moorehead-Laurencin, M.D., Foundation, which Laurencin established in honor of his mother, helps award scholarships to minority women in medicine at Drexel University, in Philadelphia, where Laurencin served as a professor of chemical engineering and of orthopaedic surgery for five years before arriving at U.Va. He currently chairs the W. Montague Cobb/National Medical Association Health Institute, an organization dedicated to reducing racial and ethnic health disparities. And, as chair-elect of the College of Fellows of the American Institute for Medical and Biological Engineering, Laurencin seeks...
to establish a committee for underrepresented minorities in medicine and biomedical engineering.

“The difference Cato has made in the world of medicine and technology through his leadership and mentoring of underrepresented minorities is extremely important,” says William Harvey, vice president and chief officer for diversity and equity at the University of Virginia. “We must have a diverse workforce in the medical and science fields in order to address the issues of health equity and equal access to technological solutions, and Cato’s tireless efforts in this area have had a tremendous impact.”

Laurencin is cultivating workforce diversity internationally through the African Institute of Science and Technology (AIST), an initiative of the Nelson Mandela Institution. As a member of the AIST program committee, Laurencin has twice traveled to sub-Saharan Africa to work with local medical professionals to foster workforce diversity throughout the nations of Africa. Locally, Laurencin reaches out to minority students involved in his lab’s Research Experience for Undergraduates program, funded by the National Science Foundation, and participates in an award-winning yearly clinic, hosted by the U.Va. Orthopaedic Surgery Department, that works with the community surrounding U.Va. Recently recognized for his diversity efforts throughout the state of Virginia with a Virginia Commissioner’s Healthcare Workforce Recognition Award, he also motivates young students involved in a summer minority program held by Dr. Moses K. Woode, speaking to them about what it takes to be successful in life.

“I always start with a picture of a highway that’s incomplete,” he says. “I don’t have all the answers yet — my life is a work in progress.”

While that may be so, Laurencin has achieved success as a teacher and mentor, roles he finds particularly critical to diversifying the fields of engineering and medicine. Having mentored generations of biomedical engineering and chemical engineering leaders and orthopaedic surgeons — now spread across the globe — he has recruited a widely diverse orthopaedic surgery group to his lab at U.Va. His e-mail inbox is overrun with letters from students and residents hoping to join his lab — he receives 500 fellowship applications each year.

“As a faculty member, my mentoring activities represent some of the most gratifying things I do,” he says. “Mentors are a key ingredient for success in the academic environment. Establishing and cultivating mentor relationships, I’ve found, has made the difference for my students.”

His students, many of whom traveled with him from Drexel, couldn’t agree more.

Meng Deng, a chemical engineering doctoral candidate in Laurencin’s lab, says, “By teaching us to aim high, to look at obstacles and frustrations as opportunities, and to prioritize, Dr. Laurencin leads us to achieve our dreams. He has given me a lot of freedom to conduct my research while providing the necessary guidance to keep me on the right track.”

Duron Lee, a biomedical engineering M.D./Ph.D candidate who followed Laurencin from Drexel to finish his dissertation work, said his decision to make the move was a “no-brainer,” adding, “When he decided to move down here, I just asked him when and where!”

Citing Laurencin’s strong commitment to his students and their success, Lee says Laurencin brings out the best in all of his students. “He sets the bar high. He has high expectations, and he really pushes you, and that translates into you doing the best work that you can do.”

While Lee feels that he has greatly benefited from Laurencin’s expertise as a scientist and clinician, he also looks up to Laurencin as a significant role model in his life.

“It’s extremely valuable to me, an African-American male in engineering and clinical science, to have an African-American male in a mentorship position. That’s something I didn’t see very often growing up and even as an undergraduate,” Lee says. “It adds a different dimension. Having someone I can look up to who kind of looks like me and is doing the wonderful things that he’s doing is extremely motivating.”

As Laurencin sees it, in addition to being vital to supporting underrepresented minorities in the sciences, mentorship is a way to give back — a welcome imperative.

“I think mentoring is very important — it’s an essential part of life,” he says. “I think that we are all here to, in our own way, make this world a better place and leave something for the next generation.”

In recognition of his achievements, Dr. Cato Laurencin has been awarded the inaugural Robert A. Bland Award, given in honor of the first African-American to graduate from the University of Virginia and the School of Engineering and Applied Science. (For more information, see Reflections, page 18.)
Despite the current reality, the field of computer science has not always been populated primarily by men. “In the very beginning, it was a woman-dominated field,” explains Owen R. Cheatham Professor of Computer Science Mary Lou Soffa. “In the early 1960s, the majority of the programmers were women.”

Prior to the prominence of the machine we all know as the computer, it was mostly women who did the work of calculating and recording logs in the business world. These technicians were known, in fact, as “computers.” When the electronic version of the computer came along, these women logically moved into programming. According to Soffa, once the value of such a role became apparent, men started entering the field, which they now dominate.

Female computer scientists such as Soffa, however, want the pendulum to swing back to center. Much more than a matter of fairness, they would like to see a significant increase in the number of women entering, working in and earning higher degrees in the field.

“We are still not able to fill all the jobs for really skilled computer scientists,” Soffa asserts. “If this trend continues and women and minorities do not participate in the field, then the United States has a good chance of losing its edge in computing.”

Soffa, who serves as chair of U.Va.’s Computer Science Department, is determined to reverse current trends and has demonstrated significant success, especially in her own research group. While the national average for women earning doctoral degrees in computer science has been 15–18 percent in recent years, in 30 years of teaching, Soffa has graduated 23 doctoral candidates and 56 master’s degree students, more than half of whom have been women. Eight of these former students are now serving as role models themselves as tenured or tenure-track faculty members at universities across the country.

As a member of the Computing Research Association’s Committee on the Status of Women in Computing Research (CRA-W), Soffa also works to institute mentoring programs on a national level. For example, she is co-founder of the CRA-W’s Grad Cohort Program, which is trying to swell the ranks of senior women in computing by creating a community of colleagues who can support each other as they progress in the field. The program’s annual workshop brings computer science graduate students together with a wide range of professional role models who share their strategies, provide personal insights and support students’ success in completing doctoral programs. Enrollment has increased dramatically over the past three years for the two-day workshops, which now include more than 200 participants.

Industry giants like Microsoft and Google help support this program, which continues even after the workshops conclude. The program facilitates mentoring relationships between students and computing professionals and creates peer networks that can serve as a valuable source of support during difficult times in a student’s graduate career.

The National Science Foundation sponsors a second CRA-W program co-founded by Soffa known as the Cohort of Associate Professors Project (CAPP). This project focuses on supporting female computer science and engineering faculty from colleges and universities across the country as they work to become full professors. As with the Grad Cohort Program, CAPP attempts to create a community that can sustain associate professors through mentoring involvement with distinguished professors, leadership training, professional development and ongoing peer relationships.

Soffa’s success in developing and funding these programs has not gone unrecognized. In 1999, the White House presented her with the Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring, and last year the CRA awarded her the A. Nico Habermann Award. These awards recognize her exceptional efforts to enhance the participation of women and minorities in science and technology fields.

While the current underrepresentation of women in her field disturbs her, Soffa is hopeful. “It is a difficult problem because we don’t fully understand why women do not go into computer science,” she says. “For 20 years we’ve worked very hard nationally to try to increase the representation of women and minorities in computer science. I hope we will eventually be successful and no longer need specialty programs.”
The Center for Diversity in Engineering — a vibrant, bustling suite of offices almost always filled to the brim with activity — provides supportive services and programs for U.Va. Engineering School students and faculty as well as for promising junior and senior high school students throughout the nation.

Under the guidance of its director, Carolyn Vallas, the center assists in student recruitment and mentoring through programs such as the ExxonMobil Bernard Harris Summer Science Camp; the annual Engineering Open House; tutoring programs in local high schools; and the Introduction to Engineering program, a one-week summer camp for rising high school juniors and seniors.

The center provides support for current students through the Bridge Program, an intensive six-week summer program designed to help incoming first-year students from underrepresented populations make a smooth transition from high school to college. The center also sponsors Project View, a corporate mentoring program that provides students in engineering with opportunities to visit corporations under the mentorship of company engineers and project managers.

Vallas, who joined the center in 1988, serves as an adviser to student leaders in the Society of Women Engineers; the National Society of Black Engineers; the Society of Hispanic Professional Engineers; and Alpha Omega Epsilon, a service organization for female engineering students and alumnae.

The center also works to attract funding opportunities and initiative partners. One recent initiative is a $5 million grant from the National Science Foundation's Louis Stokes Alliance for Minority Participation Program. The initiative comprises state universities and historically black colleges and universities with the shared goal of doubling the number of students from underrepresented minorities graduating with degrees in science, technology, engineering and mathematics from alliance schools.

The Center for Diversity in Engineering partnered with the U.Va. Office for Diversity and Equity in securing that grant. In addition, the center frequently partners with Engineering School faculty and colleagues and with others Grounds-wide to support programs ranging from student enrichment to faculty recruitment.

“My vision for the center is to provide the highest quality programming and support for all students and faculty at the Engineering School,” Vallas says. “We can’t do it alone, and we appreciate the faculty, staff and administrators who join us in this work.”
The opportunity to study abroad has been a dream of undergraduate students in the School of Engineering and Applied Science (SEAS) for many years. Dean James H. Aylor’s recent appointment of Professor Dana Elzey as SEAS’ director of international programs is helping to make this dream a reality for more SEAS students than ever before.

Elzey is the perfect person to move this venture forward. An associate professor in the Materials Science and Engineering Department, Elzey has served as the faculty adviser to students in the Rodman Scholars program for three years and recently led a summer course in Germany: “Engineering in a Global Context.” Elzey wants to see a study-abroad experience become a viable option for all SEAS undergraduate students.

“There is something wonderful that happens when you find yourself in unfamiliar territory and you have a new language to learn and a new culture to understand,” Elzey says. “You grow and change in ways that are difficult to predict, but which are unforgettable.”

As headed by Elzey, the SEAS International Programs Office will have dual thrusts: creating and developing new study-abroad programs specifically designed for Engineering School students through faculty-led initiatives as well as marketing participation in the program to undergraduates from their first year of school through graduation. The office will help students manage their way through the process of course approval and will work with the U.Va. International Studies Office to ensure that students have the information they need to make the best choice possible.

As a fourth-year, Emily Ewell (ChE ’07), then president of the Engineering Student Council, worked with capstone project teammates Allison Hastings, Louise Montgomery (CS ’07) and Marta Morales (SE, Economics ’07) last year to make a major contribution to this effort with the creation of a dynamic tool to make international study easier for SEAS students to achieve. The resulting innovative Curricular Design Tool, developed as part of the students’ capstone project, is an Internet database of all possible study-abroad opportunities that works in concert with engineering degree requirements. The four students also worked with the dean to have international study advisers appointed in each department.

“It is essential that we provide international study options to our students so that they have an understanding of the global impact of the solutions they develop as working engineers.”

—Dean James H. Aylor

Elzey couldn’t agree more. “I am pleased,” he says, “to have the opportunity to work with faculty within the Engineering School and the University, with SEAS student leaders and with colleagues in the U.Va. International Studies Office to help make these opportunities a real possibility for SEAS students.”
Corporate Engagement

Lockheed Martin Supports Diversity of Experiences

Lockheed Martin Corporation, an advanced technology company, is the largest provider of information technology services, systems integration and training to the federal government. The company is also a decade-long supporter and “Industry Partner” of the University of Virginia School of Engineering and Applied Science (SEAS). In these roles, Lockheed Martin works closely with the Center for Diversity in Engineering as well as many of the School’s departments and programs to make a variety of opportunities and experiences possible.

And that’s important to Lockheed Martin. In fact, partnering with and supporting groups, universities and individuals with diverse backgrounds in terms of sex, race, age, geography, education and experience is a business effort that helps Lockheed Martin maintain a competitive edge, according to Susan Chong, the company’s campus relations manager.

SEAS is one of many organizations that benefit from Lockheed Martin’s generosity. In the past, the company has supported Rodman Scholar outreach initiatives; funded Engineering in Context capstone projects; and contributed tens of thousands of dollars annually to SEAS organizations such as the National Society of Black Engineers (NSBE), the Society of Hispanic Professional Engineers (SHPE) and the Society of Women Engineers (SWE). Through these contributions, Lockheed Martin has supported a variety of diversity programming, including NSBE’s Pre-College Initiative program; SHPE’s local Charlottesville, Va., high school outreach efforts; and SWE’s “Discover Engineering Day,” a program supported by Lockheed Martin.

“We are grateful for Lockheed Martin’s continuing support,” says James H. Aylor, dean of U.Va.’s Engineering School. “Lockheed Martin’s involvement in our School — from advisory board representation and recruitment efforts to research collaborations and diversity initiatives — is helping to elevate SEAS programming to new heights.”

Nationally, Lockheed Martin contributes hundreds of thousands of dollars each year to the national chapters of SWE, NSBE, SHPE, the American Indian Science and Engineering Society, and the Society of Mexican-American Engineers and Scientists.
Would you like to intern in Paris? During an information meeting last fall, Science and Technology Policy Internship Program Director Edmund Russell, Engineering School professor of science, technology and society as well as history, revealed some exciting news: During summer 2007, the program would offer its first international placement at the National Science Foundation (NSF) Europe Office, located in Paris.

Christine Devlin, a rising fourth-year student in the Charles L. Brown Department of Electrical and Computer Engineering, was selected to be the first intern — from anywhere — to serve in the NSF’s Europe Office. During her nine weeks in Paris, she researched university reform throughout France and worked with the science counselor at the U.S. Embassy. Devlin reports that the highlight of her summer was meeting with four U.S. Supreme Court justices. When asked to describe her experience, she states simply, “I had the best internship in the world.”

In August, Devlin returned to the United States to join 10 more 2007 policy interns in Washington, D.C., at the program’s final research symposium, held in the House Science Committee Hearing Room. This year’s interns gave presentations on a wide range of issues, from stem cell policy to assessing learning in educational video games.

Since the internship program began in 2000, more than 70 undergraduate students have interned in Washington, D.C., with congressional offices, federal agencies and nongovernmental organizations. In 2006, the program expanded with a placement in Richmond, Va., working for Virginia’s secretary of technology. The latest expansion overseas furthers the program’s goal to train leaders in science and technology policy by providing opportunities to appreciate the global context of engineering.

The success of the program is due in part to the high-level placements achieved with the help of Jim Turner, chief counsel for the House Science Committee and a member of the SEAS Trustees. This summer’s D.C. placements included the White House Office of Science and Technology Policy, the National Institutes of Health and the office of Sen. Hillary Clinton.

For the students, the summer internships are truly life-changing. Intern Vinu Ilakkuvan (BME ’09) reflects, “I found an amazing work experience, a wonderful set of friends and a slew of career options I had never before considered. Innovative learning opportunities such as the Science and Technology Policy Internship Program set SEAS students apart with an unmatched perspective on the role of engineering in society.”

The Science and Technology Policy Internship Program is supported by contributions from SEAS alumni and friends. Additional information on the program is available at www.sts.virginia.edu/pip/.

Marin Odioso is a fourth-year student in the Department of Systems and Information Engineering. She worked at the National Capital Planning Commission as a 2006 policy intern. For the past year, as assistant to the program's director, Ed Russell, she helped train the 2007 interns.
In a world of virtual reality, online socialization and instant gratification, where does a young student fit in whose curiosity can be satisfied only by taking something apart and putting it back together again? Moreover, with lab equipment and technologies becoming ever more expensive, how can teachers with finite resources provide their students with a comprehensive, hands-on engineering education?

These questions, shaped by his lifelong dedication to education, prompted John C. Bean, J. M. Money Professor in the Charles L. Brown Department of Electrical and Computer Engineering, to create the U.Va. Virtual Lab. The lab is actually a Web site five years in the making that employs emerging software visualization tools to explain technologies affecting our daily lives.

“I grew up when you could buy a kit that would walk you through the process of building a television or shortwave radio,” says Bean. “Today, children don’t have that option.” For example, you can’t explain nanoscience using Styrofoam cups and rubber bands; sophisticated technology can’t be taught on a shoestring budget. So, how can students attending schools with limited resources be expected to compete?

Bean met with two science instructors from local high schools to investigate this problem. Both teachers suggested that the problem for them was in providing the explanations behind “wow-factor,” in-class demonstrations — demonstrations that were becoming increasingly expensive to implement.

These comments got Bean thinking: What if the behind-the-scenes causality could become part of the visual demonstration? What if the demonstrations and the explanations could be made available online — to anyone, anywhere, for free? He took this idea to the National Science Foundation in the form of a proposal, which ultimately resulted in funding for the U.Va. Virtual Lab site.

Currently there are eight virtual labs on the Web site. They range from a microelectronics teaching lab to an electricity and magnetism lab to a nanoscience component. Each lab contains a variety of subject-relevant experiments: Once visitors select an experiment, explanatory text, accompanied by animated images, guides them through it. In many cases, the visualization is also accompanied by a podcast narrated by Bean.

Educational Web sites such as the U.Va. Virtual Lab help to level the playing field between schools. Like their counterparts in well-funded schools, students in financially disadvantaged schools can still be exposed to the knowledge and experiences gained in top-quality labs through this site. And it seems to be working. Bean carefully tracks visitors to the site, and his findings verify that the site is reaching those populations for whom the content was intended — in particular, students and teachers in schools with limited means.

“Through virtual reality,” says Bean, “I hope to provide this generation with alternative tools for figuring out how things work.”

Read more: www.virlab.virginia.edu/VL/home.htm
T. C. Scott, associate professor in the School of Engineering and Applied Science's (SEAS) Department of Mechanical and Aerospace Engineering (MAE), spent the spring 2007 semester at Sweet Briar College (SBC) helping to jump-start the nation’s second engineering program at an all-women’s institution. Scott assisted in curricula development, created lab content and worked with SBC faculty members to meet Accreditation Board for Engineering and Technology (ABET) requirements to ensure the continued success of the new program.

Five years ago, the SBC faculty proposed the creation of a general engineering degree program to build on the strength of the school’s existing liberal arts and sciences curricula. The model for this initiative was Smith College, which had already established a similar program with great success.

Scott’s involvement began in 2004, when he was asked to help develop the program once its National Science Foundation funding had been secured.

A teaching professor with decades of industrial experience, a SEAS undergraduate student adviser, the director of the MAE Department’s undergraduate labs and an 18-year member of the SEAS ABET committee, Scott brought the unique skill set needed to help develop the engineering program at SBC.

“T. C. was critical to launching our program,” says Hank Yochum, associate professor of physics in SBC’s Department of Physics and Engineering and director of the engineering program. “He has been instrumental at every level — from getting our curriculum together, to identifying which labs and equipment we need to be competitive, to educating us about the ABET process.”

Scott expects SBC’s engineering program to be ABET-accredited by 2010, with program enrollment growing each year.

“There are young women who want to pursue an engineering degree but who also want to attend a women’s college,” says James H. Aylor, dean of U.Va.’s Engineering School. “Sweet Briar is filling this important need through their new engineering degree program, and U.Va.’s Engineering School is thrilled to be able to contribute to the program’s success.”

There’s more to the story ...

Check out the Engineering School’s research publication, IMPACT, at www.seas.virginia.edu/impact

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Others are taking notice! See how we’re making the news at www.seas.virginia.edu/news
An Experience That Lasts a Lifetime
Students Use Engineering Skills to Benefit South African Communities

By Charlie Feigenoff

Over the past 200 years, the infrastructure created by engineers has done as much to improve the health and quality of life in people around the world as have advances in medicine. Simply put, clean water, reliable power, good roads and efficient communications save lives.

This past summer, four Engineering School students learned this lesson with an immediacy that can never be achieved in the classroom. They traveled to South Africa, where, together with faculty and students at the University of Venda (UNIVEN) and the Vhembe FET College (Techniven) and with members of local communities, they undertook simple engineering projects that have the potential to make small but definite contributions to local health and education.

Biomedical engineering majors Shokoufeh Dianat (’09) and Veronica Yeh (’09) joined Ritwik “Ricky” Sahu (’09), a systems engineering and economics major, to build two biodigesters that could produce methane for cooking. Maggie Kirkpatrick (’08), a mechanical engineer minoring in biomedical engineering, erected solar panels to generate electricity in a preschool. Each was advised by environmental sciences professor Robert Swap and funded by the University’s Institute of Practical Ethics and Center for Global Health, which receive support from the Engineering School.

“These projects really capture what engineering is all about — problem-solving within constraints,” says Engineering School Dean James H. Aylor. “The students had to design culturally appropriate projects that could be built from inexpensive local materials.”

The biodigester project is a case in point. Dianat, Yeh and Sahu familiarized themselves with the technical details of their project by building a prototype of the biodigester, which uses a thin mixture of cow dung and water, on Dean Aylor’s farm in Madison County, Va. Once in South Africa, however, the trio of students found that a critical factor in the project’s success was the human dimension. As Dianat says, “We spent a lot of our time there building relationships to ensure the sustainability of the project.”

The team installed biodigesters in two villages, Tshibvumo and Khakhanwa. They produce enough methane to enable a household to cook for an hour, replacing wood fires, which are associated with respiratory ailments.

Kirkpatrick and two other current and former U.Va. students worked with community members, faculty and students at UNIVEN and Techniven to design and install a solar panel in a preschool in Tshibvumo and wire it for electricity. She and her colleagues enlisted local support; drafted an electrical plan; and sourced the wiring, switches and other materials locally.

With just a few adjustments, the lights worked immediately. “As you can imagine, there was a lot of excitement,” she says. The panels power 12 lights, enabling village members to make better use of the building and reducing eyestrain on young scholars.

The impact of these efforts on the engineering students themselves was as dramatic as it was on the communities. As Yeh, a member of the biodigester team, notes, “You learn a lot from being outside your comfort zone.”

Dr. Richard Guerrant, director of the Center for Global Health, concurs. “When engineering students go to countries like South Africa, they realize just how precious their knowledge is. They come to understand that the skills they gain at U.Va. can be used to help others lead better, more productive lives. It’s a humbling, empowering, life-changing experience.”

From left: Shokoufeh Dianat (BME ’09) and Shadrack Ramabulana, of UNIVEN, present the idea of a biodigester to community members of Mulenzhe-Khakhanwa.
Engineering School professors make an impact on their students each and every day. Sometimes the experiences are unforgettable, as were those of Justin Steele (ChE ’04) with Mary Beck, a professor in applied mathematics. Mary Beck made a major difference in my college experience, and she did it well before I was a first-year student. In fact, I credit her with providing the fundamental math concepts I needed to survive in the Engineering School. I was a good student and was accepted into the Rodman Scholars program, but I had never taken a class in calculus while I was in high school. So I enrolled in the Center for Diversity in Engineering’s Summer Bridge Program, an intensive six-week summer program designed to assist incoming first-year minority students in making a smooth transition from high school to college, and spent most of the summer before my first year at SEAS in Professor Beck’s office catching up on my math skills.

Professor Beck was so generous with her time and so patient. I remember many Socrates moments with five or six of us students huddled in her office listening attentively to her as she drew on the board. My comfort about my future as an Engineering School student grew right along with my understanding of the concepts she explained to us, and by the end of the summer I was ready to get into the swing of things.

I took Professor Beck’s Introduction to Calculus class that first year, and, I have to say, it was the most challenging class of my undergraduate years. But I learned critical decision-making and problem-solving skills in that course that I still use today.

After graduation I worked as a management consultant for Bain & Company and then for the Bridgespan Group, a Bain & Company spin-off that provides management consulting to nonprofit organizations. In consulting, you bring a lot of data to a problem, and it is essential to be able to create and understand business models. They aren’t as complicated as the calculus problems I faced in Professor Beck’s class, but the concepts are the same.

Professor Beck taught us what we needed to know, and that was great. But the best part of it was that her office door was always open, and she made us feel welcome here. For that I will be forever grateful.

—Justin R. Steele (ChE ’04)
Graduate student, Harvard School of Business

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1960s

George I. Coulbourn (Nuc ’65, ’68), retired from the Boeing Company and now works as a year-round volunteer in the Carbon River backcountry of Mount Rainier National Park in Ashford, Wash.

William H. Joyner Jr. (Engr Sci ’68) was installed in January as archdeacon in the Episcopal Diocese of North Carolina.

William A. Wulf (CS ’68), 1997–2007 president of the of the National Academy of Engineering, University Professor and Engineering School AT&T Professor of Computer Science, was elected to the American Philosophical Society in April.

1970s

Stephen T. Jacobs (CE ’75) is Asia-Pacific regional manager for Halliburton Oil & Gas Asset Management in Kuala Lumpur, Malaysia.

Jill S. Tietjen (Applied Math ’76) presented “Breaking the Mold: Women Scientists and Engineers” at Virginia Tech in March. She is a consulting electrical engineer and president and CEO of Technically Speaking Inc.

1980s

Kevin M. Donegan (Aero ’80) served as commanding officer aboard the aircraft carrier U.S.S. Carl Vinson. He is special assistant to the commander of the Naval Air Force, U.S. Atlantic Fleet, in Norfolk, Va., and is the director of the strategy and policy division in the Office of the Chief of Naval Operations in Washington, D.C.

David J. Clement (Aero ’81) is a partner with the Louisville, Ky., law firm of Stoll Keenon Ogden, practicing primarily in the areas of patents and intellectual property.

James D. Davidson Jr. (CE ’81) was named senior associate of structural engineering at Dewberry in Fairfax, Va.

Roger M. Millar (CE ’82) is director of the Missoula City-County Office of Planning and Grants, where he administers city and county programs for Missoula County in western Montana.

Andrew B. Chapman (ME ’83) is plant manager of the Hercules Inc. chemical manufacturing plant in Franklin, Va. He resides in Chesapeake, Va., with his wife, Terri, and their four children.

Richard K. Wood II (CE ’83) is the commanding officer of VAW-126, a U.S. Navy E-2C Hawkeye squadron located in Norfolk, Va. He and his wife, Betsy, reside in Virginia Beach with their three children.

Zachary S. Stern (EE ’84) received his law degree from George Washington University Law School in May. He practices patent law with Oblon, Spivak in Alexandria, Va. He and his wife, Micki Eller Stern (SE ’83, ’84), have three children.

Carolyn Painter Deforge (SE ’85) is an aircraft systems engineer and investigator for the National Transportation Safety Board in Washington, D.C. She and her husband, Col. Robert Deforge, USMC, reside in Alexandria, Va., with their son, Zachary.

Lisa P. Hammer (Engr Sci ’86) and her husband, Todd, live in Atlanta with their three children. The couple owns the online company, bestdressedchild.com, a children’s boutique specializing in apparel and gifts.

Carroll D. Davis (MSE ’87), section head of analytical chemistry for the Alcoa Technical Center in Pennsylvania, received the 2006 H. V. Churchill Award from Committee E01 on Analytical Chemistry for Metals, Ores and Related Materials.

Timothy G. Leonard (Aero ’88), of Pratt & Whitney Rocketdyne, was awarded a 2007 Rotary National Award for Space Achievement. He was recognized for outstanding technical excellence in development and demonstration of engine throttle technology in support of space exploration for both upper-stage and lunar-lander applications.

Timothy C. Conway (EE ’89) is senior vice president and managing director of federal solutions in the government solutions group of Affiliated Computer Services.

Patrick G. (“Pat”) Forrester (Aero, Mech ’89) is preparing to fly on Space Shuttle Atlantis as part of the STS-117 crew.

Evan R. Wilkoff (SE ’89) and Kimberly Ashwell Wilkoff relocated with their two children to Charlotte, N.C. He rejoined Wachovia Capital Markets and now runs its equipment finance structured product group.

Alumnus Recognized as ‘Rising Star’

U.Va. systems engineering graduate Jennifer Murrill (‘03, ’07) was recognized as a “Rising Star” by Women in Technology, the premier organization dedicated to contributing to the success of professional women in the D.C. community, for her work in information technology at Northrop Grumman Corporation and for her role in the technology community.

An operations researcher and cost analyst for Northrop Grumman Information Technology Sector’s intelligence group, Murrill is involved in independent cost estimates and methods development for space systems in the intelligence community. In addition, she serves as a mentor to elementary and middle school children, is co-chair of the U.Va. Jefferson Scholars Northern Virginia Regional Selection Committee and, since 2004, has served as a guest speaker for a third-year U.Va. systems engineering course.

Murrill attributes her success to the education she received at SEAS. “The Engineering School gave me a lot of ‘tools’ to put in my toolbox,” she says. “My systems engineering professors taught me to look at the big picture, which is critical in working with large-scale programs, and how to use the critical-thinking process and problem-solving approaches to think like an engineer.”
Class in Beijing, Lunch in Paris
SEAS Alumni Create a Virtual World of Academic Possibilities

What if you could take a course at China’s Peking University and meet a few of your friends at La Sorbonne in Paris for a quick bite before your next class at U.Va.? Sound crazy? Not to Engineering School and Rodman Scholars alumni Clement Song (CS, Cpe ’04), Keen Browne (CS ’03) and Phil Horton (CS ’04, SE ’06), who have founded ECitySky.

Currently based in Beijing, the company is working to build a 3-D virtual educational world for students — a project they refer to as Project Eden. The goal? To recreate all of the major universities across the globe in this virtual world where students can socialize, collaborate, learn and have fun.

“We believe education should have no boundaries, so we are creating an environment where it truly doesn’t,” says Song.

The response from Chinese universities has been positive; the country’s top institutions will be first to join this virtual world, and Song hopes many more, including his alma mater, will follow.

“We hope to revolutionize the way in which education is conceived,” Song says. “Project Eden will provide a medium through which universities can showcase their facilities, attract prospective students, administer e-learning programs, and connect with current students and alumni around the world.”

The beta software for Project Eden is slated for completion in the first half of 2008.
Mark E. Keeton (ChE ’99) and Anne Cherry Keeton welcomed their first child, James Edward, in April. The family resides in Dayton, Ohio, where Mr. Keeton is a chemical engineer with NCR Corp.

Jason N. Rudolph (CS ’99) published his first book, “Getting Started with Grails” (InfoQ, 2007), which introduces Grails, a next-generation framework for rapidly developing Web applications. His wife, Michelle Kraft Rudolph, contributed her artistic touch to the book, and Steve Rollins (CS ’99) served as one of the book’s four technical reviewers. The couple lives in Raleigh, N.C.


Meredith A. Spiker (ME ’03) completed her doctorate in mechanical engineering at Georgia Tech University and is employed by Pratt & Whitney. Stephanie Kokan is a structural engineer. The family resides in Madison, Ala.

Brian C. Zajick (CS ’00) is a captain in the U.S. Air Force Reserve, serving as an area liaison officer. He and his wife, Monica, are contractors with Northrop Grumman. They moved from Royal Air Force Croughton, England, to Ramstein Air Base, Germany, in August.

Ashley J. Hinds (SE ’01) and R. Matthew Lemons were married in May. The couple resides in Ridgecrest, Calif., where they are both employed at China Lake Naval Air Warfare Center.

Megan Smith Kamon (CE ’01) and Jacob J. Kamon (CE ’01) had their first child, Matthew John, in April.

Geoffrey A. Zelley (ChE ’01) joined the law firm of Connolly Bove Lodge and Hutz as an associate in the intellectual property group in the Wilmington, Del., office.

Carter A. Shuffler (ME ’02) and Daniela Montalvo were married in April. The couple resides in Alexandria, Va.

Caren E. Petrie (ChE ’03, BME ’08) and Max Aronin (SE ’02) were married in September 2006. The couple resides in Charlottesville, Va., where he is an IT consultant with Booz Allen Hamilton and she is working toward a doctorate in biomedical engineering at U.Va.

Jonathan C. Kelley (EE ’04) and Margaret P. Jessen were married in July 2006. The couple resides in Lake Forest, Ill.

Leigh D. Thelen (ME ’03) received her law degree from William & Mary in May. She specializes in intellectual property.

Thomas L. Walls Jr. (SE ’03) and Sarah J. Amelon (ME ’04) were married in September. He is a senior consultant with Booz Allen Hamilton, and she is a mechanical engineer with Jacobs Engineering. The couple resides in Suffolk, Va.

Lindsay R. Tabas (SE ’05) received her master’s degree from the School of Information at the University of California at Berkeley in May.

Lauro J. Martinez (SE ’07) has joined the faculty at Universidad Anahuac in Mexico City and is working to establish a research center in supply chain management to start servicing firms established in the Gulf of Mexico.
In Memoriam

The University of Virginia Engineering School mourns the passing of our alumni, faculty and friends.

1930s

William T. Ross (ME ’34) of Charlottesville, Va., died in January 2007. Survivors include a son, William T. Ross Jr. (Med ’64).

Ralph W. Feil (Engr Sci ’39) of Charlottesville, Va., died in March 2007. At U.Va., he was a member of the Honor Committee and the Raven Society. He is survived by his wife, Neville W. Feil (Educ ’38).

1940s

Jeremiah L. Thomas Jr. (ChE ’41) of Richmond, Va., died in May 2007. He spent his 40-year professional career as a chemical engineer with DuPont.

Philip R. Lauriat (Engr ’45) of Derwood, Md., died in March 2007.

Joseph B. Sadler (ME ’48) of Virginia Beach, Va., died in July 2007. He served with the U.S. Army Corps of Engineers during World War II. He also served in the Korean War. He is survived by his wife of 60 years, Virginia B. Sadler (Grad ’47).


Harry Monroe Jr. (ME ’49) of Newport News, Va., died in June 2007. He was an engineer at the Newport News Shipyard for 42 years and an avid sailor.

1950s

George R. Holladay (Engr ’50) of Rapidan, Va., died in December 2006.

Robert F. Morse (ME ’50) of Richmond, Va., died in May 2007. He served in the U.S. Navy during World War II and retired from the Virginia Department of Economic Development, where he worked for more than 20 years.

Robert A. Buckingham (CE ’51) of Chattanooga, Tenn., died in December 2006. He served in the U.S. Navy during World War II and was a member of the American Legion.

Abbie M. Fox Jr. (CE ’51) of Vero Beach, Fla., died in June 2007. He served in the U.S. Army during World War II and earned the Purple Heart, Silver Star and Good Conduct medals. He owned Fox-Sadler, a general contracting firm.

Thomas B. Perini (Engr ’54) of North Falmouth, Mass., died in March 2007. After serving in the U.S. Army during the Korean War, he joined his family’s company, Perini Construction Corp.

Nicholas P. Chopey (ChE ’55) of Elizabeth, N.J., died in February 2007. He was editor in chief of Chemical Engineering magazine in New York City, where he worked for 46 years.

John A. Moore (Aero ’55) of Newport News, Va., died in November 2006. After serving in World War II, he worked as an aeronautical engineer and research scientist at NACA and NASA for more than 30 years.


Harry Monroe Jr. (ME ’49) of Newport News, Va., died in June 2007. He was an engineer at the Newport News Shipyard for 42 years and an avid sailor.

1960s

John C. Howard (ChE ’56) of Waynesboro, Va., died in February 2007. At U.Va., he was a member of Theta Delta Chi fraternity. Mr. Howard worked at DuPont as a chemical engineer.

Norman S. Silby (Aero ’56) of Newport News, Va., died in April 2007. He was a research staff member at NACA and remained there as an engineer when it became NASA, until his retirement.

James E. Marsh (EE ’61) of Sewaren, N.J., died in March 2007. He was an electrical engineer with Siemens Corporation in Iselin, N.J. He is survived by his brother, Malcolm R. Marsh Jr. (EE ’56), and his nephew James O. Marsh (EE ’89).

1970s

Eduardo V. Andreyev (EE ’70) of Elkton, Va., died in April 2007. He worked for Dunham-Bush, the Frick Company, Carrier and, most recently, for Hamilton-Standard. He was a member of the Army National Guard in Virginia and the U.S. Army Reserves and retired with the rank of lieutenant colonel.

Ronald Wayne Simmons (EE ’76) of Charlottesville, Va., died in February 2007. He worked for the U.Va. Department of Psychology and was an instrument maker. Mr. Simmons invented the Simmons Roller and for years was the main supplier of aluminum double-tank backmount plates.

1980s

Barry V. Gibbens (ME ’81) of Yorktown, Va., died in December 2006. He was employed with NASA for 25 years.

Patricia A. Vail (SE ’83) of Lexington, Mass., died in February 2007. She worked for Reader’s Digest, Alpha Tech, Polaroid and Digimarc in the systems engineering and management fields.

Todd S. Tisdale (CE ’86) of Wellington, Fla., died in May 2007. He worked for the South Florida Water Management District as a water resource engineer and later became the lead engineer for the Lake Okeechobee district.

1990s

Loretta M. Ruppe Parsons (CE ’90) of Cabin John, Md., died in May 2007. She was an environmental engineer with the Agency for International Development’s global climate change team and was the leading engineer for interagency climate science activities. In addition to serving as a Peace Corps volunteer in Nepal, she organized the National Science Foundation’s first Women in Engineering Leadership Conference. She was a U.S. delegate to negotiations on the United Nations Framework Convention on Climate Change.

2000s

Lilian Minja (CE ’05) died in January 2007 in Dar es Salaam, Tanzania.
Faculty & Friends

Vera Granlund, professor emerita of applied mathematics, died in April. She enjoyed 19 years at U.Va.’s Engineering School, was elected to the Raven Society and retired as professor emerita in 1997. Even after retirement, she continued to tutor students at the University.

Kenneth R. Lawless, professor emeritus in the Materials Science and Engineering Department, died in August.

Lawless joined the Engineering School as a professor in 1952 and remained there for the next 40 years. During his long tenure, he was instrumental in founding the Department of Materials Science and Engineering and worked to lead the department to national and international prominence during the 10 years he served as chair.

Internationally recognized in the fields of electron microscopy and oxidation, Lawless garnered many professional honors, including appointment as Fellow and subsequent election as president of the Virginia Academy of Sciences and as treasurer of the Microscopy Society of America. He was also a member of Phi Beta Kappa and the Raven Society.

“Ken was the perfect blend of educator, academic researcher and scholar,” says Professor Richard P. Gangloff, current chair of the Materials Science and Engineering Department. “His love of learning and enthusiastic interest in teaching attracted faculty and students alike. A brilliant scientist with an infectious interest in the natural world, he won great respect in his area of research.”

A man of varied interests, Lawless was widely known as an ornithologist, field botanist and nature photographer. He was a member of the Virginia Native Plant Society, presented lectures at the National Arboretum and the Nature Conservancy and conducted nature walks throughout Central Virginia. He was also a music lover and talented singer, performing locally with the University Singers, the Oratorio Society and the Chancel Choir at First United Methodist Church.

Walter D. Pilkey, the Morse Professor of Mechanical Engineering in the Department of Mechanical and Aerospace Engineering, died in August. A leader in the field of computational mechanics, he was the founding director of the Automobile Safety Laboratory, now the Center for Applied Biomechanics.

“Walt had an innate ability to see the potential in both people and projects,” says Jeff R. Crandall, current center director. “His vision, drive and perseverance were key to taking the Auto Safety Lab from inception to the world-class lab it is today. He was my teacher, my mentor and my role model, and I am honored to have had the opportunity to learn from him and to follow in his footsteps.”

During his long and illustrious career, Pilkey was editor in chief of five engineering journals, several of which he initiated. He edited or authored 30 books and published hundreds of professional papers. His research areas included structural mechanics and shock and vibration system optimization, which led to studies related to crash safety for cars, planes and trains, as well as studies of airbags, helmets and seats to mitigate injuries.

An enthusiastic teacher and respected academician, and avid mountain climber, skier, hiker, swimmer and runner, Pilkey found enjoyment in the everyday. “When he found out he was sick, he just continued his routine,” Crandall recalls. “Most of us can envision any number of changes we would make in our lives if we knew our time was limited. In contrast, Walt didn’t see the need to change a thing — he already had his perfect life.”

John A. Wert, a member of the faculty in the Department of Materials Science and Engineering from 1989 to 1999, died in July. He was employed by the Riso National Laboratory in Roskilde, Denmark, and was an avid gardener, furniture maker, cook and hiker.

The Engineering School acknowledges the loss that occurred in the tragedy at Virginia Tech on April 16, 2007. We mourn those who were slain, including our friends:

Kevin Granata was a faculty member in Virginia Tech’s Department of Engineering Science and Mechanics and an adjunct faculty member in the U.Va. Orthopaedic Surgery Department.

Prior to joining the Virginia Tech faculty, he was a member of the U.Va. Orthopaedic Surgery Department with a joint appointment as a U.Va. Engineering School faculty member in the Biomedical Engineering Department. During his time at U.Va. — from May 1997 to January 2003 — he taught courses and mentored BME students in biomechanics and gait analysis. He authored dozens of academic papers, conducted scores of experiments, and lectured and presented his research around the world.

G.V. Loganathan was a professor in the Department of Civil and Environmental Engineering at Virginia Tech. He also served as a member of the Virginia Tech faculty senate and was an adviser to approximately 75 undergraduate students.

He had been at Virginia Tech since 1982 and was the recipient of several awards, including the Outstanding Faculty Award, the Dean’s Award for Excellence in Teaching and the Faculty Achievement Award for Excellence in Civil Engineering Education. He was also the associate editor of the Journal of Hydrologic Engineering.

He was the father of Uma M. Loganathan (BME ’07).
In January, I was asked to speak at the University of Virginia’s Harambee II, a celebration that honors first-year and transfer students for the completion of their first semester at U.Va. As I prepared my address, I began to reflect on my own experience as the first African-American to receive an undergraduate degree at the then otherwise all-white University of Virginia.

There were three of us who arrived on Grounds in September 1955. At the time of our arrival, the majority of the student body and faculty greeted us with quiet resignation or indifference. The outright hostility we had anticipated never materialized. Instead, we were largely ignored. So, we became our own support network, providing emotional and academic support for each other.

In 1955, U.Va. was still an all-male institution, and social life centered mainly around fraternity row. Because the fraternal organizations were not yet ready to accept the concept of integrated membership, we turned to the Charlottesville, Va., African-American community as our social outlet. We found a warm reception in this community; by contrast, the larger white community was not so accommodating. Separate but equal was still the prevailing social norm in 1950s Virginia, and although the campus environment was not segregated, the surrounding community maintained its Jim Crow policies.

It was not long before we discovered that our major challenge at U.Va. was not going to be racism, but rather academics. The separate but unequal education we had received in high school had not prepared us for the rigors of the U.Va. Engineering School curriculum. At the end of the first year, we were all doing fairly poorly, and in the second year, it got worse. At one point, I was on academic probation, but I decided failure was not going to be an option for me and that I would do whatever it took to be successful. Eventually the two other black students with whom I had entered the University, and several who came after them, left to pursue degrees at other schools.

Although disappointed by the departure of my friends, I decided that I was going to stay. My perseverance paid off, and I graduated with a bachelor’s degree in electrical engineering in 1959.

It has been said that if hard times don’t kill you they make you stronger. I certainly found that to be true of my experience at U.Va. I developed extraordinary survival skills and an unwavering determination during my time at the University — qualities that have served me well throughout my professional and personal life. After graduation, I accepted a job as an engineer at the Naval Weapons Center in Corona, Calif. As I continued my career with the Navy, I progressed through the engineering ranks, and prior to my retirement I served as department manager of the Missile and Launching Systems Department in the Naval Surface Weapons Systems Engineering Station, supervising more than 300 engineers, technicians and support personnel. Although my primary career was always in engineering, I acquired a master’s degree in psychology and a doctorate in education and worked as an instructor at Oxnard College and Ventura College in California for 14 years.

I look at U.Va. today and I see a very different institution from what I experienced. The diversity visible on campus today would have been unimaginable to me in 1955. I see enthusiastic, bright young students of color excelling in ways we could only dream of, and yet I note with pride that the same sense of community that sustained us during those early years is still present within their ranks. I see a support structure provided by programs such as the Office of African-American Affairs, the Center for Diversity in Engineering and the Peer Adviser Program, and I cannot help but wonder how many of those African-American students who left during the early years might have become U.Va. graduates with programs such as these to sustain them. Yet, it is not about us whose time has passed, it is about the students of today and the impact they will have on the future of this country and the world. I am confident that our future is in good hands.
2006–2007: A Banner Year for SEAS

Dear Friends of SEAS,

The 2006–2007 Annual Fund for Engineering concluded with record achievement, thanks to the generous support of more than 3,500 SEAS alumni, students, parents, faculty, staff and friends. More than $1.5 million in unrestricted gifts was raised — an impressive 23-percent increase over the previous year! This is an important contribution to the overall philanthropic achievement of nearly $10 million raised last year for SEAS.

We extend our most sincere appreciation to the 326 Thornton Society donors who contributed leadership gifts of at least $2,500, or $1,000 for Young Thornton Society members. Thornton Society membership has reached a record level, and our goal is to continue to increase the number of leadership donors to SEAS. Through the generosity of an anonymous donor, the SEAS Annual Fund Challenge, which brought in 775 new or increased donors to the School, raised a total challenge amount of $150,000! Thank you to all first-time SEAS donors and donors who increased their gifts to SEAS to trigger challenge funds.

Your generosity directly benefits students and faculty. It fuels our momentum and ensures excellence at SEAS. Because of your contributions, this year the School has been able to create additional student gathering spaces, enhance alumni activities and provide additional support for offerings such as the engineering business minor and the Science and Technology Policy Internship Program, undergraduate research and study-abroad opportunities.

We thank you and invite you to participate again next year as we strive to meet and exceed our $1.7 million goal for the 2007–2008 Annual Fund for Engineering. Let’s have another banner year for SEAS!

With much gratitude and warmest regards,

Andra P. DuPont (ME ’75, ’76)
President, SEAS Trustees
2006–2007 THORNTON SOCIETY

Named after William Mynn Thornton, the first dean of engineering at the University of Virginia, the Thornton Society honors leadership donors who contributed $2,500 or more to the School of Engineering and Applied Science between July 1, 2006, and June 30, 2007.

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& A. Thomas Young (‘61)

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Holly W. Enderlin & Richard Enderlin Jr. (‘63)
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Betty L. Fall & Lynn Frazier Fall (‘39)
Edward Fang (‘91)
Linda L. Farrell & Emmett L. Farrell (‘80)
Stradford Grey Folks Sr. (‘54)
Katherine Pwan Forgong (‘83)
Anne G. Foster & Terd M. Foster (‘63)
William L. Friar Jr. (‘74)
Jerrie S. Frye & John P. Frye Jr. (‘68)
Robert E. Gadomski & Marlene McDonough & Stephen Gamble
Thayer W. Garrett & Michael N. Garrett (‘79)
Kendra Charles-Garrett & William S. Garrett Jr. (‘69)
Palmer Peebles Garson & Douglas D. Garson (‘78)
David S. Gee (‘76)
Mary Ann Gahdhan
Nita Sharma Ghosh & Anup Kumar Ghosh (‘93, ‘96)
Mary Golden & Terence J. Golden (‘82, ‘83)
Ronald A. Goode (‘63)
Catherine T. Goodrum & William J. Goodrum
Teresa Parrish Green & Kevin J. Green (‘80)
Susan S. Griffin & Alfred C. Griffin Jr.
Sonia E. Haines & Yacov Y. Haines
Patricia Hughes Haines (‘82) & Timothy D. Haines
Grace H. Hall & William F. Hall III (‘75)
William Gerald Hamm (‘54)
Deborah Glenn Harrison & William J. Harrison Jr. (‘75)
Ellen H. Hewitt & Charles B. Hewitt (‘51)
Sharon Albert Hicks & Jack B. Hicks (‘79, ‘80)
Frederick G. Hillis (‘44)
Mary Cook Hodge & Jack S. Hodge (‘57)
Robert W. Horowitz & Nancy W. Horowitz
& Jack Moore Horn (‘59)
Seryl Horowitz & Barry M. Horowitz
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Huntley (‘87, ‘89, ‘66)
Richard O. Huntton (‘60)
Lauren M. Huyett & William L. Huyett Jr. (‘77)
Ira James III (‘80)
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Connie B. Jung & John B. Jung Jr. (‘80)
Charles E. Kahler (‘74)
T. Patrick Kelly (‘79)
Todd Alan Kennedy (‘96)
Kathryn Kein Kereho & W. Braden Kereho (‘77)
David A. Kettler (‘67, ‘70, ‘71)
Rebecca Johnson Kirk (‘80) & Robert E. Kirk (‘80)
W. J. Kitchin Jr. (‘66, ‘68)
Anne L. Krisel & T. Michael Krisel (‘62)
John R. Knox (‘88)
Leslie C. Kohn & David Kohn III (‘79)
Doris Kuhlmann-Wilsdorf
Ellen F. Lane & Richard G. Lane (‘70)
Elise Lanford & Stanard F. Lanford Jr. (‘55)
Richard D. Lawrence Jr. (‘82)
Malcolm E. Leader (‘77, ‘79)
Royce P. Lee & Preston P. Lee (‘47)
Eleanor Linville
Terry Jaspersen Lockhart & H. Eugene Lockhart (‘72)
John B. Magee Jr. (‘60)
Barbara Stone Mait & Russell B. Mait (‘78)
R. Steven Martin (‘78)
Margaret Way Mattix (‘79)
Joe Harris McGee (‘66, ‘70)
Charles E. McMurdo (‘29)
Sara B. Millar & Roger M. Millar Sr. (‘58)
Carolyn A. Miner & Robert L. Mitchell (‘63, ‘88)
Laura Montgomery (‘76)
Carol T. Mula & John B. Mula (‘86)
Deborah Audia Okita & William Blair Okita (‘83, ‘86)
Jeanne Orphan & Victor J. Orphan (‘62)
Raya Lea Papp (‘96)
Christopher K. Payne
D’Rey E. Phillips Jr. (‘72)
James B. Philipps (‘50)
Sherry Phillips & Robert E. Phillips (‘79)
Winfred Marshall Phillips (‘66, ‘68)
William R. Pully (‘52)
Ann Wesley Ramsey & Richard L. Ramsey (‘76)

† Deceased  |  * Contributor for five or more years, consecutively
John J. Reid Jr.
Nancy Rich
& John F. Rich ('69)
Karen B. Roarty-Dansfeld ('79)
Gregory B. Roberts ('67)
Theresa Mayberry Rolls
& Jay A. Rolls ('83)
Michael Brent Russell ('87)
Helen J. Ryan
& James E. Ryan Jr. ('68)
Eileen C. Sanchez
& Eduardo Sanchez
Mary Scholmann Schmanske ('84)
Jeffrey R. Serra ('78)
Sandra C. Shope
& Andrew G. Shope ('70)
Dianne S. Skinner
& Robert E. Skinner Jr. ('69)
Marcus E. Smith
Ellen H. Smith
& Robert K. Smith ('68)
Robert Z. Smith Jr.
& Betty L. Fall*
Lynn Frazier Fall
George K. Brown
$2,500–$9,999
Class Participation 55.6%
1941

Arthur H. Tuthill
Joseph S. Cragwall Jr.
& Robert K. Smith ('68)

Lynda K. Sperry ('82)
& William C. Wiberg
Jeanne E. Stahl ('79)
& Daniel W. Elliot
Kristine M. Stankovic
& John A. Stankovic
Deborah Sturke
Beth F. J. Stephenson
& Scott G. Stephenson ('79)
Catherine F. Summers ('83, '85)
Granasekaran Swaminathan ('89, '95)
Debbie Dolan Sweeney
& Brian G. Sweeney ('86)
John H. Sweitzer ('60)
Thomas M. Taylor ('82)
Kathryn Cordell Thornton
& Stephen T. Thornton
Robert B. Tinker ('92)
Holly J. Tramba
& Todd S. Tramba
Linda Brown Tumperi
& Eric D. Tumperi ('83)
James H. Turner
Carolyn S. Urt
& William P. Urt ('79, '80)
Martin J. Votaw ('40)
Lawrence Temple
Washington Jr.† ('49)
Mary W. Watson
& Walter Watson II ('50)
George G. Weinmann ('97)
Jacqueline Wood Welch
& John Francis Welch ('85)
Barbara Nadolny White ('81)
& R. Dudley White ('76, '77)
Carolyn Nunley Wilkinson
& Howard Preston
Wilkinson Jr. ('70)
Marlyn Johnson Williams
& Cranston Williams Jr. ('50)
B. Byrd Wilson ('55)
Beverley G. Wooldridge
& Edward J. Wooldridge ('68)
Anita K. Jones
& William A. Wulf ('68)

GIFTS FROM UNDERGRADUATE ALUMNI

### 1929

**Class Participation 100%**

$2,500–$9,999
Charles E. McMurdo*

### 1934

**Class Participation 100%**

$1–$999
James S. Carson*

### 1937

**Class Participation 50%**

$1–$999
Joseph M. Cogwill*
Louis S. Ehrich Jr.*

### 1939

**Class Participation 44.4%**

$2,500–$9,999
George K. Brown
Lynn Frazier Fall
& Betty L. Fall*

$1–$999
Thomas C. Muse*
Donald R. Webb*

### 1940

**Class Participation 40%**

$2,500–$9,999
Joseph S. Cragwall Jr.*

$1–$999
Arthur H. Tuthill

### 1941

**Class Participation 55.6%**

$2,500–$9,999
James V. Bitner*

$1–$999
T.B.H. Anderson Jr.*
Judge E. Mackall Childs*
Julien J. Mason*
Carl W. Peters
& Margaret E. Peters
Charles S. Stringfellow

### 1942

**Class Participation 36.8%**

$1,000–$2,499
Charles W. Ashby
& Dorothy T. Ashby*
Henry Lee Kinnier*
W. Randolph Payne*

$1–$999
Sylvester H. O’Grince
David Wilson Schumaker *
Thomas D. Sloan*
William Henry Tucker*

### 1943

**Class Participation 18.8%**

$1,000–$2,499
Harold J. Littleton*

$1–$999
J.F. Manneschmidt
Eugene S. Miller Jr.

### 1944

**Class Participation 45.5%**

$2,500–$9,999
Frederick G. Hilbish

$1–$999
Irwin Brodell
Lloyd F. Miller
& Ruth E. Miller*
Emerson W. Smith
& Elizabeth C. Smith
Ralph F. Thompson Jr.

### 1945

**Class Participation 17.6%**

$1,000–$2,499
George W. Coleman

$1–$999
Ralph E. O’Dette
Thomas H. Hitcher

### 1946

**Class Participation 24.4%**

$2,500–$9,999
John H. Coleman*
Martin J. Votaw

$1–$999
Edward N. Cheppa
John H. Cloworthy
Anthony C. Demos
Sig Harpman*
Charles W. Mohr*
Thomas J. Nichols III
Thomas P. Peyton III
C. Donald Quarforth*
William G. Secen
Carl J. Wright Jr.

### 1947

**Class Participation 40.7%**

$2,500–$9,999
Preston P. Lee
& Royce P. Lee*

$1,000–$2,499
Avery Catlin
& Edith Reed Catlin
Warren B. French Jr.
& Patricia T. French*
Briscoe B. Guy*
Jonathan W. Old Jr.*

$1–$999
R. Gray Carrington*
Emeritus Omer
Allan Gianniny Jr.
Thomas P. Hughes
Grason T. Nickell
& Delma H. Nickell
Oscar W. Underwood III
& Margaret H. Underwood
Harrison Waite III

### 1948

**Class Participation 30.4%**

$2,500–$9,999
John H. Coleman*
Martin J. Votaw

$1–$999
Edward N. Cheppa
John H. Cloworthy
Anthony C. Demos
Sig Harpman*
Charles W. Mohr*
Thomas J. Nichols III
Thomas P. Peyton III
C. Donald Quarforth*
William G. Secen
Carl J. Wright Jr.

### 1949

**Class Participation 25%**

$100,000 and Above
E. Morgan Massey*

$10,000–$99,999
Edward T. Fogg and
Nancy B. Fogg*

$2,500–$9,999
Lawrence Temple
Washington Jr.†

$1,000–$2,499
John L. Ray
& Jane Ray

$1–$999
Harry A. Batty
James R. Bolton
Michael D. Cannon
John R. Foote
Donald Eugene Hood
Robert B. Feild
Edward Morgan III*
Harry Eugene Pywell
Troy Alvin Smith*

Young Thornton
Undergraduate Classes of 1997–2007

$1,000–$2,499
Clifford D. Bateman ('98)
Sarah Evelyn Betzwieser ('04)
Eric R. Bristow ('99)
Emily Steed Ewell ('07)
Brian Bates Farmer ('02)
Mark A. Hanson ('03)
Rebecca Marie Hogan ('00)
Jonathan Brian King ('97)
Hamid Reza Moinamin ('97)
Jessica Mac Moss ('04)
Gary Spencer Ramsey ('94)
Katherine S. Simon ('97)
Jason Michael Thompson ('02)
George G. Weinmann ('97)
1950
Class Participation 38%
$10,000–$99,999
Donald J. Heim
& Jeannette P. Heim*
Robert Thomson
$2,500–$9,999
Eugene Inman Deas
Robert M. Detamore*
James R. Phillips*
Walter Watson II*
Cranston Williams Jr.
& Marilyn Johnson Williams*
$1,000–$2,499
William B. Blakey Jr.*
Henry P. Voznick
$1–$999
Lester Randolph Amiss
& Virginia Cummings Amiss* John H. Bartenstein
Harry L. Beazell Jr.*
Channing B. Brown Jr.*
Samuel Fry Chase Jr.
Norman P. DeLon* Robert R. Fair
& Camilla S. Fair*
Gilbert R. Friedman
Fulvio Antonio Iachetta
& Lynette E. Iachetta
John M. Kerr Jr.
Coleman Kuhn
Ian O. MacConochie
Ephraim H. Phillippe III
L. Byland Rash Jr.
Charles G. Saunders Jr.
& Page Long Saunders
C. William Stanley

1951
Class Participation 18.6%
$100,000 and Above
Frank S. Goodman
& Carol Lanier Goodman
Brenton S. Halsey
& Lindsay G. Halsey*
$2,500–$9,999
Charles B. Hewitt*
Thomas J. Hudak Sr.*
$1–$999
Robert Adams Brown Jr.*
Dahney H. Craighill Jr.*
Wiley E. Cross Jr.*
William H. Furlong Jr.
T. Hugh Nelson
& Ann S. Nelson
Clayton D. Spangenberg*

1952
Class Participation 31.4%
$10,000–$99,999
Edward L. Paul
& Lois E. Paul
$2,500–$9,999
Harry H. Daugherty
& Nancy McLeod Daugherty*
William R. Pully*

1953
Class Participation 37.9%
$2,500–$9,999
E.R.M. Coker
& Louisa Hunt Coker*
$1–$999
Grayson Wood Alexander
Willis H. Carrier II
Charles W. Conklin Jr.
Leo F. Goeller Jr.
George B. James*
Harry L. Kirk
Echol S. Marshall Jr.*
William W. Parrott
Ogle R. Singleton*
Lee E. Sutton III
James E. Wood Jr.

1954
Class Participation 36.4%
$2,500–$9,999
Burman W. Barton
Stradford Grey Folkes Sr.
William Gerald Hamm*
$1–$999
James M. Davis
Robert L. Dean
& Marilyn J. Dean*
Robert B. Harris
Michael J. Hoherchak
H. Wilson Jones
Granville S. Kennedy Jr.
Thomas H. Simmonds Jr.*
Robert L. Stickle
J. Ronald Williams
Eddie L. Yoder

1955
Class Participation 36.7%
$2,500–$9,999
F. Hudnall Christopher Jr.*
Stanard F. Lanford Jr.
& Elise Lanford*
B. Byrd Wilson*
$1–$999
Richard O. Beall*
Arlen F. Carter
Sidney C. Dixon
Ralph H. Harrison Jr.
C. Whitney Markley
& JoAnne Marley
Norman H. McNair Jr.
Randolph H. Moulton
Paul Sposito
Kenneth Lee Turner
Roberdeau W. Wallenborn

1956
Class Participation 18.2%
$1,000–$2,499
James M. Ballentine Jr.*
$1–$999
Jaime P. Alexander
Joseph M. Eller
Theodore S. Garnett Jr.
Wallace H. Gilliam
& Lisa B. Gilliam
A. Hart Grundy Jr.*
Edward Hatchadoorian
Rodolph L. Johnson
Bernard W. McCray Jr.*
Edward Franklin Mitchell*

1957
Class Participation 32.3%
$2,500–$9,999
Kenneth W. Bateman
& Jane R. Batemen
James R.V. Daniel III*
Raymond L. DeKozan*
Jack S. Hodge
& Mary Scott Cook Hodge*
$1,000–$2,499
Robert E. Anewalt
Arthur E. Foster
John M. Gurley*
George Tolos Jr.*

1958
Class Participation 29.4%
$100,000 and Above
E. Lee Showalter
& Janet C. Showalter*
$2,500–$9,999
Roger M. Millar Sr.
& Joan H. Yowell*
Jesse M. Yowell Jr.
Stafford E. Thornton
& Suzanne Taylor*
George W.B. Taylor
& Melanie G. Moore*
Richard T. Mandeville Sr.*
Robert L. Overstreet Jr.*
Charles C. Rodeffer
Richard P. Shively*
Donald E. Sours
& Josephine M. Sours
James E.B. Stuart IV
Kenneth B. Trousdell Jr.*
Robert L. Ward
Thomas Wood III
John Adrian Zehnder III*

1959
Class Participation 25.6%
$100,000 and Above
J. Davis Hamlin
Robert A. Moore Jr.
& Melanie G. Moore*
$10,000–$99,999
James H. Lindsay*
$2,500–$9,999
Thomas E. Donoho*
Jack Moore Horn
& Nancy W. Horn*
$1,000–$2,499
Gordon T. Adams Sr.
W. Thomas Bundick
& Sandra M. Bundick* Thomas H. Clarke
William Graham Dove Jr.
Jerrold T. Greene
Timothy T. Herin Jr.
Edward John Leech III
Robert M. Luck
& Elizabeth Luck*
Larry D. Lynch
Alexander Mackay-Smith Jr.
George B. Mitchell*
William Wallace Morton Jr.*
Theodore E. Pearson*
R. Fenton Rodelbush
Robert L. Sackheim
Richard C. Smith
William M. Smith*
George W.B. Taylor
& Suzanne Taylor*
Stafford E. Thornton
Jesse M. Yowell Jr.
& Joan H. Yowell*

1960
Class Participation 22.2%
$2,500–$9,999
Philip P. Davis Jr.
& Flora E. Davis
Richard O. Hunton*
John B. Magee Jr.
John H. Sweitzer

$1,000–$2,499
Frank T. Ellett
& Lucy R. Ellett*
$1–$999
J. Robert Bounds*
Frank Zachary Brill Jr.*
John A. Carroll Jr.*
James Edwin Drewry

† Deceased   |  * Contributor for five or more years, consecutively
1961
Class Participation 27%
$2,500–$9,999
James G. Batson Jr.

$1,000–$2,499
Frederick David Blum* & Kenneth W. Dobyns* & Boyd F. Rohrback Jr.

$1–$999

$10,000–$99,999
1965
Class Participation 19.7%
$10,000–$99,999
Steven A. Jarvis & Virginia B. Benfield* & Howard C. Ligon & Frederick C. Nienaber & Donald L. Phipps & R. Leon Plaster & Algie M. Pulley Jr. & J. Terry Walton*

1963
Class Participation 26%
$2,500–$9,999

$1–$999

$10,000–$99,999
1966
Class Participation 18.3%
$2,500–$9,999

$1–$999
$1,000–$2,499

$10,000–$99,999
1967
Class Participation 24.7%
Linwood A. Lacy Jr. & Constance C. Lacy* & Robert M. Bennett* & David A. Kettler & Gregory B. Roberts & Dennis C. DeWitt* & Douglas G. Ege*

$1–$999
$1,000–$2,499

1968
Class Participation 27.3%
$10,000–$99,999
### 1969

**Class Participation 23.7%**

| $1,000–$9,999 | Ralph L. Roberson* |
| $2,500–$9,999 | John R. Crossan & Monique M. Crossan*  
& William S. Garrett Jr.  
& Kendra Charles-Garrett  
& Kirk M. Hudson  
& Sandra P. Hudson  
& Robert E. Skinner Jr.  
& Dianne S. Skinner* |
| $1–$999 | John D. Coffey & Nancy Rich  
& Van G. Shields Jr.  
& Virginia Crowley Shields  
& John J. Stanaway Jr.* |

- **Class Participation**: 19.2%
- **Year**: 1970

### 1970

**Class Participation 25.7%**

| $10,000–$99,999 | Charles D. Barrell & Jane Inskrip Barrell*  
& Kenneth E. Jones Jr. |
| $1–$999 | David E. Bartkus  
& Robert W. Camper*  
& William Alfred Carpenter  
& Barbara H. Carpenter  
& George F. Conway Jr.*  
& Michael H. Corbin & Rebecca P. Corbin*  
& Eugene R. Facey  
& V. Taylor Ford Jr.  
& Ned W. Fredrickson  
& Keith H. Greene Jr.*  
& Barry L. Grossman  
& Gail Lione  
& William Charles Hamilton II  
& Robert A. Hancock  
& Doris L. Hancock  
& Lloyd J. Hutchins  
& Ellen Peterson Hutchins*  
& L. Glenn Kraige & Dale J. Kraige*  
& Naguib Mankarouos Mikhail  
& Edgar Lane Pickler III*  
& Dennis E. Roberts*  
& Larry A. Ronk*  
& Charles A. White III* |

- **Class Participation**: 27%
- **Year**: 1971

### 1971

**Class Participation 27.5%**

| $10,000–$99,999 | Roy E. Perkins* |
| $1–$999 | David M. Kunsman*  
& Donald W. Lovett  
& Candee G. Lovett*  
& George C. Philpott Jr.*  
& Willard F. Potter Jr.* |
| $1–$999 | James P. Adams*  
& Richard L. Baird Jr.  
& Richard L. Baker  
& Sandra Baker Jr.  
& Daniel Batta Jr.*  
& Bruce A. Boger*  
& W. Stephen Bucher  
& Colleen S. Bucher*  
& Lawrence D. Bush Jr.  
& William R. Fox*  
& J. Anderson Frix Jr.  
& Linda Willsen Frix*  
& Thomas H. Gauss  
& J. William Haltiwanger Jr.*  
& Robert A. Isakson*  
& Matthew Kolodny  
& Gary D. Lee*  
& William T. Lough  
& Suzanne Lough*  
& Thomas Lee MacCubbin*  
& Paul Stephen Marshall*  
& Paul F. Michaels*  
& Richard Dana Opp III*  
& Braxton L. Peele Jr.*  
& James E. Ralston  
& Ruth W. Ralston*  
& Marshall C. Randolph*  
& E. Wayne Saunders  
& Thomas Arthur Scott Jr.*  
& David M. Shelton Jr.  
& Barry R. Shenton*  
& Joseph E. Sholander  
& Michael B. Tessier  
& Catherine P. Tessier*  
& Chuck Udel*  
& Gary T. Van Natten  
& Robert M. Ware & Martha K. Ware  
& Richard L. Weber  
& John Lawrence Winkelmann*  
& John F. Winter II*  
& Mark Fredrick Witcher  
& Thomas R. Wyant III*  
& Stephen J. Zoukis |

- **Class Participation**: 23.7%
- **Year**: 1972

### 1972

**Class Participation 13.4%**

| $2,500–$9,999 | H. Eugene Lockhart  
& Terry J. Lockhart  
& D'Arcy E. Phillips Jr.* |
| $1–$999 | Dale E. Dawson* |
| $1–$999 | Edgar A. Blau Jr.*  
& Rodney B. Campbell  
& Robert G. Copper II  
& H. Leslie Crane Jr.*  
& Keith W. Curtis  
& Laurie Smith Curtis  
& Donald E. Dawson  
& Kathleen N. Dawson  
& Michael D. Detamore*  
& David J. Firth*  
& G. Steve Gardner  
& Michael R. Garrett  
& Andrew H. Hook  
& Maureen E. Hook*  
& Philemon W. Johnson*  
& Robert J. LaBaugh*  
& Warren D. Leach Jr.  
& Michael F. Massimini  
& Joseph A. McGrady  
& Joseph R. Paljug  
& Gary C. Parker  
& George E. Sinkinson III  
& Phillip E. Taylor Jr.  
& Regan E. Voit*  
& James L. Wamsley III* |

- **Class Participation**: 19.2%
- **Year**: 1973

### 1973

**Class Participation 18.1%**

| $100,000 and Above | Dan T. Montgomery* |
| $10,000–$99,999 | Douglas C. Miller  
& Catherine C. Miller* |
| $1–$999 | Terrance M. Anderson  
& Denise D. Anderson  
& Gregory Hudson*  
& William E. Lyddane  
& Reen H. Lyddane*  
& James W. Nicholson* |
| $1–$999 | Fred Buchler*  
& William M. Davidge IV* |

- **Class Participation**: 19.2%
- **Year**: 1974

### 1974

**Class Participation 15.6%**

| $10,000–$99,999 | Wee T. Yee |
| $2,500–$9,999 | Neil A. Currie  
& William L. Friar Jr.*  
& Charles E. Kahler* |
| $1–$999 | Gregory V. Johnson*  
& Jonathan R. Jones  
& Thomas B. Van Poole III |

- **Class Participation**: 19.2%
- **Year**: 1975

### 1975

**Class Participation 20.8%**

| $100,000 and Above | Paul G. Rice  
& Gina J. Rice |
| $10,000–$99,999 | Andrea P. Du Pont*  
& Victor Anthony Perry III* |

- **Class Participation**: 19.2%
- **Year**: 1976

† Deceased  | * Contributor for five or more years, consecutively
Todd D. Wood

1994
Class Participation 7.3%
$1–$999

Ricardo A. Belmar
& Susan Belmar
George William Braun & Elizabeth Braun
Erica Michaels Brown & Edward T. Brown*
William Owen Carlson
Christopher Paul Demory
Tina Olinger Fulton & Bruce S. Fulton*
Jennifer Anne Higgins & Horace R. Higgins III
Alvaro Enrique Incer
James D. Jennings
Kenneth J. Kirschner & Elizabeth A. Lester
Kristina Kriebel
David Scott Maxwell*
Robert P. Mozaleski & Laura Mozaleski*
John Gray Park
Andrea MacEwen Phelan Simone L. Pollard
Stuart Lindsay Schofield
Heather McElIan Swartz
Franco Fanning Tao Bang H. Thanh
Paul Joseph Varisco Jr.

1995
Class Participation 8.8%
$10,000–$99,999
James Tayy-jie Fang*

$1,000–$2,499
Peter James Buck
William Wesley Dungan

$1–$999
Timmon Wong Ark
David Andrew Buck
Tabitha Hess Crowder & Bruce Dale Crowder
Bruce L. Green*
Karen Levandoski Grosset*
David Michael Hancock & Christi Marie Hancock
Vernon Washington Heishman Jr. & Michelle R. Heishman
Leighton James Heller III & Tammy Moldeo Heller
Ann G. Huddleston & C. Scott Huddleston*
Christopher Brian Keith
Ashley S. Kohnen
Joseph Edward Lenzi
John G. Meade & Claire M. S. Meade*
Jennie Powell Monette*
Kyle J. Moore
Andrew R. Parker
Mark Allen Phillips
Eric Gordon Reimers

1996
Class Participation 11%
$2,500–$9,999
Todd Alan Kennedy*
Raya Lea Papp*

$1,000–$2,499
Heather Wishart Shriner & Kevin B. Shriner*

$1–$999
Eric C. Anderson
John Carl Anderson & Mibo D. Anderson
Joshua Russell Arbaugh & Tracy Arbaugh
Ryan M. Barker & Katherine Pointkowski Barker
Eileen Clarkson Brown
Roy Michael Brown
Edward Warner Brusso Jr.
Charles Aldine Cosgrove III & Catherine H. Kim
Christopher Edward Dayton & Kristen Leigh Dayton
Peter Eugene Gallagher
Stephen Gordon Gay
Ryan Alan Gesser & Alison Gesser*
Mark Bennet Gillespie*
Erene Hammond
Matthew Haven Henry
Anthony Mark Hiatt
Cyrus D. Jilla*
Roger Neal Kahle Jr. & Kirsten Kahle
Phillip Pyongjin Kim
Carol Turner Klaisen
Jennifer Lee Koehler
Haakon Bjornar Larsen
Erik D. Laurila*
Timothy James Lord
William Henry Mattfeld II
Tuan Huu Nguyen
Reed Nelson Palmer
Thyra Yaeko Parcell
Katie Pogoraro
Mark Patrick Rice
Jill T. Rosenthal-Bankston
Adam Charles Von Ancken
& Cherealie Von Ancken
& Roger S. Weisenberg*
Thomas Scott Wood*

1997
Class Participation 11.9%
$1,000–$2,499
George G. Weinmann*
Jonathan Brian King
Hamid Reza Moinamin*
Katherine S. Simon

$1–$999
Adam Thomas Bane
Brandon Edward Baurz
Robert Michael Biggs
Brian P. Chekal*
Tung Dao
Jeffrey Michael Davis
Gregory Alan Dodson & Krista L. Dodson
Bradford R. Donohue & Nicola K. Donohue
Karen M. El-Alaily & Veronica R. Nolan*
John H. Faulk & Suzanne C. Faulk
Melinda M. Gallo
Maria Lynmary Gonzalez
Aaron Ghamal Hughes
Kevin V. Lebda
Jason Nehemiah Linkswiler
Raphael Andre Martorello & Megan G. Martorello
Kristen L. Mirebell
Gerald Nguyen
Casey L. Nolan & Caroline Cardon Nolan
Cassie C. Pickett
& Byron L. Pickett
Jason Todd Rapalski
Glenn Ray Reynolds
Andrew P. Ritenour
Kevin William Steeprow
James Michael Thomas
Stephen Wesley Thomas
Christina M. Thomasson
Christopher Tom
Consuela Yvonne Toye Wilson
Karen M. Tracey*
Annie M. Turner
Douglas Benson Wilson

1998
Class Participation 6.5%
$1,000–$2,499
Clifford D. Bateman

$1–$999
Andrew Edward Boehm
Zachary D. Connelly*
Jonathan Shaw Crepeau
Kristin S. Deason
Kenneth H. Ditzel
Rebecca A. Halstead
Steven J. Hallen
& Karen Mozealous Hermack
Peter Carl Johnson
& Emily Michelle Johnson
Ashley Anderson Kangas*
Charles S. Kwalwasser*
Jill Louise Pickard*
Daniel J. Schuttinga
David Sellers
Tce Sudhir Shah
Christopher Howard Solly
Heidi Elizabeth Travers
Nicholas Adrian Wasko & Adrienne E. Wasko
Christopher Michael Weil
Robert Curtis Wolf & Jennifer M. Wolf

1999
Class Participation 9.2%
$1,000–$2,499
Eric Ryan Bristow

$1–$999
Donna E. Adams
Ben Franklin Aylor
Gary J. Belan II
Nicholas Andrew Bever
Michael Ian Boretti & Kristen E. Boretti
Hubert Gar-Shui Cheung*
Eric J. Cline*
Dustin J. Collins
Michael Andrew Copenhafer
Brian Thomas Davis*
Thomas Dominick Del Vecchio & Faith Del Vecchio
Jason Paul Forsyth & Erin Sonn Forsyth
Mark Emerson Foster
Matthew A. Heller
Caroline J. Hill
Gregory John Kitzerow & Meghan H. Kitzerow
Michael C. Lau
Brandon K. Lucado*
Wendy Walton Matthews & Michael M. Matthews
Jason Daniel Minter
Nathan D. Neckel
Cameron James Lord Nelson
Bradford Carter Pautz
Adriane B. Randolph & Royal Randolph III
Jason N. Rudolph & Michelle R. Rudolph
William E. Schaff Jr.
Karen Poole Schmidt
Sara Seyhan
Andrew B. Slutter
Scott A. Stafford
Emily Suzanne Stropp
Nicole Angela Younts

2000
Class Participation 7.2%
$1,000–$2,499
Rebecca Marie Hogan

$1–$999
Chris Braly & Holly Whittaker Braly
Shaun Jermaine Burroughs
Nelson Ernesto Cavour
Brian D. Cornell*
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‘Tommy Jr.,’ the Self-Driving Robotic Car

Team Jefferson, made up of Engineering School students, faculty and alumni, was among 36 teams worldwide to compete for a $2 million top prize in the world’s only driverless car race, held on November 3, 2007.

The final round of the Urban Challenge required robotic vehicles to autonomously traverse 60 miles of challenging urban traffic conditions — stopping at an intersection, merging with traffic, parallel parking, avoiding debris or obstacles in the road, and obeying traffic laws such as rights-of-way — all the while avoiding collisions with the other entries.

Team members and U.Va. electrical engineering graduate Paul Perrone (EE ’95) and his Crozet, Va.-based company, Perrone Robotics, outfitted Tommy Jr. with advanced software that amalgamates several data streams supplied by the car’s Global Positioning System — a stereo vision system, multiple laser range finders and radar — so that the car could “see” up to 250 feet in all directions with precision of up to half an inch.

Congratulations, Team Jefferson!