On the Cover: An image from the research of Associate Professor of Biomedical Engineering Irene Georgakoudi and postdoc Kyle Quinn. The pair are investigating how to non-invasively characterize properties of wounds in vivo. This technology has the potential to diagnose chronic wounds and evaluate therapeutic efficacy.
Message from the Dean

As I reflect on my past 10 years as dean, it is a pleasure to recognize the substantial growth of Tufts University School of Engineering (SOE) and its national visibility. The quality of our students and faculty has never been higher. I am delighted to report that this year marked the most selective and successful undergraduate admissions cycle in the school’s history. The SOE boasted another record-breaking applicant pool, up 15 percent over the previous year and up more than 75 percent since 2006. The incoming undergraduate class of 2017, with women making up a third of the student body, is broadly talented, with an astonishing mean composite SAT score of 2170. At the graduate level, we held our first doctoral hooding ceremony and graduated the largest Ph.D. cohort in the school’s history.

Over the past 10 years our faculty has grown in both size and stature. This academic year we welcomed a new cohort of seven remarkable individuals to the tenured/tenure track faculty, bringing the faculty size to more than 30 percent above 2003 levels. In the same time period, we have developed a robust Professor of the Practice (PoP) program, this year welcoming our first PoP in the CS department. It was an excellent year for our faculty, many of whom received accolades, including five who were honored with prestigious early career awards and four who were elevated to the status of fellow in their professional societies. We also named the school’s first holders of the John R. Beaver Professorship in Mechanical Engineering, the McDonnell Family Professorship in Engineering Education, and the Frank C. Doble Professorship, bringing our total of endowed professorships in the school to eight. Our alumni also have had a spectacular year; most notable examples are Richard Frenkiel, E63, honored with the National Academy of Engineering’s prestigious Draper Prize, and graduate alumna Gina McCarthy, nominated by President Obama and confirmed by the Senate to head the U.S. Environmental Protection Agency.

Growth in our research enterprise has been similarly strong over the past 10 years, with research expenditures increasing more than threefold. This fiscal year, research expenditures exceeded $15 million, with a continued increase in the number of active grants; this performance has been sustained despite the governmental sequestration of crucial research funds that began this past
March. In addition, for an impressive fifth consecutive year, the SOE leads all Tufts schools in technology transfer activity, accounting for more than half of all Tufts intellectual property disclosures in FY13.

Also of special note, this year marked the first ABET accreditation of our undergraduate major in Biomedical Engineering (now one of eight accredited programs in the SOE). We also invested in an enhancement of our first-year student experience with the launch of a new suite of engineering elective courses designed to support project-based learning and leadership skill development.

Details of these and other highlights are provided in the following pages.

Sincerely,

Linda M. Abriola
Dean of Engineering
FACULTY ACHIEVEMENTS

Academic year 2012–13 was a stellar year for our faculty. Among those who received national awards were: David Walt, the Robinson Professor of Chemistry in A&S and adjunct professor in BME, named a fellow of the American Academy of Arts and Sciences for his pioneering work in fiber-optic microarray technology; Dean Linda M. Abriola, named Drexel University’s 2013 Engineering Leader of the Year for her leadership in environmental engineering, her commitment to the National Academy of Engineering, and her contributions to engineering in an effort to better society; Professor Karen Panetta (ECE), recipient of the 2013 IEEE Award for Distinguished Ethical Practices for exemplary contributions and leadership in developing ethics and social responsibility in students; Professor Mark Kachanov (ME), awarded a Fulbright scholarship to lecture and conduct research in Brazil on improving oil extraction; and Maria Flytzani-Stephanopoulos, Robert and Marcy Haber Endowed Professor in Energy Sustainability (ChBE), honored with the 2013 Michigan Catalysis Society Giuseppe Parravano Memorial Award for Excellence in Catalysis Research for her insights into the activity of atomic-scale metals as catalysts for fuel conversion processes and green production of chemicals.

Three of our senior faculty members attained fellowship status in various professional societies: Research Professor Barbara Brodsky (BME) (American Association for the Advancement of Science); Associate Professor David Gute (CEE) (American College of Epidemiology); and Professor Steven Chapra (CEE), named one of five inaugural fellows of the Association of Environmental Engineering and Science Professors.

Our junior faculty members have also received many accolades. Prestigious early career awardees include: Qiaobing Xu (BME), named a Pew Scholar in Biomedical Sciences to continue his research in tissue engineering and nanomedicine; Tom Vandervelde (ECE), the John A. and Dorothy M. Adams Faculty Development Professor, recipient of the 2012 Intelligence Community Young Investigator’s Award for his work on monovalent-barrier photodiodes; Catherine Kuo (BME), recipient of an NSF CAREER award for her bioengineering research on how...
internal cell scaffolding regulates the mechanical properties of developing tissue; Babak Moaveni (CEE) recipient of an NSF CAREER award to develop new and improved methods for monitoring structural health; and Bree Aldridge (molecular biology and microbiology at Tufts University School of Medicine and adjunct in BME), awarded an Alfred P. Sloan Foundation Fellowship for her research on tuberculosis.

This year we also named three faculty members to new endowed professorships: Professor William Messner (chair, ME) to the John R. Beaver Professorship; R. Benjamin Shapiro (CS) to the McDonnell Family Foundation Professorship in Engineering Education; and Fiorenzo Omenetto (BME) to the Frank C. Doble Professorship.

Several of our faculty members were appointed to high-profile national committees. The Defense Advanced Research Projects Agency has named Professor Carla Brodley (CS) to the Information Science and Technology study group, which brings together 30 of the brightest U.S. scientists and engineers to identify new areas of development in computer and communication technologies and to recommend future research directions. ME Chair Bill Messner was appointed to the U.S. Air Force Scientific Advisory Board, which reports directly to the Secretary of the Air Force and the Chief of Staff of the Air Force and provides independent advice on matters of science and technology relating to the Air Force mission. Dean Linda Abriola was appointed to the National Research Council’s Committee for the Division on Engineering and Physical Sciences.
In November, Professor Diane Souvaine (CS) was named Tufts’ vice provost for research. A valued faculty member and former chair of the CS department, Souvaine also serves on the 24-person National Science Board, the group charged with governing the National Science Foundation and advising the President and Congress on science policy.

The year also marked the awarding of tenure and promotion to Assistant Professor Jason Rife (ME) and the promotion of Associate Professor Matthias Scheutz (CS) to professor. In addition, Professors Igor Sokolov and Bill Messner (ME) were granted tenure, completing their transition from Clarkson University and Carnegie Mellon University, respectively. Professor Nakho Sung (ChBE) was named professor emeritus and honored with the Seymour Simches Award for Distinguished Teaching and Advising. This award recognizes Professor Sung’s more than three decades of service to the university.

BME Professor Recognized by Pew Charitable Trusts

In 2012-13, Qiaobing Xu, assistant professor of biomedical engineering, was named a Pew Scholar in Biomedical Sciences by the Pew Charitable Trusts. The highly competitive program, whose past winners have included Nobel Prize winners and MacArthur Fellows, identifies talented researchers in medicine or biomedical sciences. Xu will receive $240,000 over four years to advance his research on nanotechnology for biomedical uses.

With the Pew award, Xu plans to repurpose tendon fibers in order to create tubular blood vessel grafts. “Grafts composed of this material could find many therapeutic applications, such as patches for rotator cuff repair, nerve regeneration, or as prosthetic blood vessels to treat vascular disease,” says Xu.

“The Pew Scholars program gives innovative scientists both the freedom to take calculated risks and the resources to pursue the most promising, but untried, avenues for scientific breakthroughs,” said Rebecca W. Rimel, president and CEO of Pew.
STUDENT ACHIEVEMENTS

Among our many student award winners this year were: **Kristen Ford**, E13, recipient of the 2013 Wendell Phillips Memorial Scholarship, who spoke with great passion at Tufts’ Baccalaureate Service about her journey as an engineer; CS senior **Ethan Peritz** and ME master’s student **Gabrielle String**, named 2013 recipients of the Tufts Presidential Award for Citizenship and Public Service; the Tufts Robotics Club, led by president **Quinn Wongkew**, E14, who competed in the 2013 Trinity College Firefighting Competition, taking home first place in the Olympiad Test, Senior Division; and **Robert Dimatteo**, E14, awarded an American Chemical Society SCI Scholar Industrial Internship at DuPont. Our students have also excelled as athletes: **Allyson Fournier**, E15, led the softball team to its first national championship and was honored by the Collegiate Women Sports Awards with the Honda Sports Award as NCAA Division III Athlete of the Year; **Scott Staniewicz**, E13, was named the 2013 NCAA Division III All-District baseball star; **Mitch Black**, E16, was named an NCAA All-American in track and field, and **Beau Wood**, E14, was named to the United States Intercollegiate Lacrosse Association’s All-America team.

A number of our graduate students garnered prestigious research awards: **Mark Brenckle** (BME) was awarded a National Defense Science and Engineering Graduate Fellowship; **Branko Zugic** (ChBE) won the Materion Graduate Student Award from the International Precious Metals Institute; **Dante DeMeo** (ECE)
won an award from the NSF Engineering Innovation Fellows Program for his work in sustainable energy and thermophotovoltaics; **Abbey Licht** (ECE) received an NSF Graduate Research Opportunities Worldwide (GROW) award to conduct research on nanostructure-based devices for mid-infrared applications; **Erin Davis**, EG13, received a best presentation award at the 2013 Human Factors and Ergonomics Society-New England Chapter conference, the fourth consecutive award for Tufts; and postdoctoral fellow **Anna Osherov** (ChBE) won a prestigious postdoctoral award for Advancing Women in Science from the Weizmann Institute of Science in Israel.

Many also received awards for their innovations. For example: engineering psychology student **Maria Parinova** took second place in the FAA Design Competition for her app Bulita Travel, allowing users to view FAA statistics on aircraft delays and cancellations; ECE seniors **Nick Ferrentino, Denise Nguyen, Mical Nobel**, and **Hassan Oukacha** and engineering psychology senior **Bianka Mejia** were the first-prize winners of the Stephen and Geraldine Ricci Interdisciplinary Prize for their project to develop an ophthalmological device to determine the correct treatment for glaucoma patients; and mechanical engineers **Brett Andler, Tyler Wilson**, and **Sam Woolf**, along with **Joo Yong Kang** (CS), earned third prize in Tufts’ $100K Business Plan Competition in the social entrepreneurship category for their color-changing, water-saving showerhead design.
ALUMNI RECOGNITION

Our alumni also garnered some impressive honors: Richard H. Frenkiel, E63, and his colleagues were awarded the Charles Stark Draper Prize—a $500,000 award given annually by the National Academy of Engineering (NAE)—“for their pioneering contributions to the world’s first cellular telephone networks, systems, and standards.” Frenkiel, an NAE member, is the recipient of the National Medal of Technology and Innovation (1994). President Obama named Gina McCarthy, AG81, to head the U.S. Environmental Protection Agency. McCarthy, who earned a joint M.S. degree in environmental health engineering and planning and policy, was most recently the EPA’s assistant administrator for the Office of Air and Radiation. David V. Rosowsky, E85, EG87, SOE Board of Advisors member and former dean of the School of Engineering at Rensselaer Polytechnic Institute, was appointed provost and senior vice president at the University of Vermont. Prem Natarajan, EG96, EG12, was appointed the new executive director of the USC Viterbi School of Engineering’s Information Sciences Institute.

Professor Alva Couch (CS), AG88, received this year’s SOE Outstanding Service Graduate Alumni Award. Mark Martin, EG90, E13P, Board of Advisors member and Tufts Gordon Institute alumnus, received the SOE Outstanding Career Achievement Award. Tufts University Alumni Association presented Sampathkumar Veeraraghavan, EG10, with the Tufts Young Alumni Distinguished Achievement Award in recognition of his outstanding leadership and pioneering technological contributions to address global issues in education, health care, and disabilities for women and students below the poverty line in India.
It was another record year for SOE undergraduate admissions, with freshman applications up by 15 percent, breaking the 3,000 threshold for the first time (3,196 applicants). This represents the school’s seventh consecutive record-breaking applicant pool, with a total increase in applications of 79 percent since 2006. With an acceptance rate of 20 percent, the SOE Class of 2017 is the most selective in the school’s history. Consistent with last year’s statistics, need-based financial aid remained an important part of the school’s undergraduate admissions outcomes, with 41 percent of the admitted class receiving a Tufts grant; 60 percent of the students are from public high schools. Engineering also continues to focus efforts on the recruitment and enrollment of underrepresented students; Americans of color make up 27 percent of the incoming class and a third are women. Our students’ academic qualifications continue to meet our high expectations with 95 percent in the top 10 percent of their class, a mean class high school rank of 4 percent, SAT-Math scores of 758, and SAT-Critical Reasoning and Writing scores of 697 and 715, respectively.

This fall, our incoming undergraduates benefited from the pilot launch of a suite of new First Year Experience courses created with the generous support of Tufts alumnus Jordan Birger, E43. These one-credit courses aim to engage students in creative team projects, while motivating further study and building understanding of engineering principles and practice. The faculty of these courses also participated in a first-year experience seminar to exchange ideas and effective practices, and pre- and post-assessment surveys were administered during the semester to help evaluate and refine the courses.

Tufts Center for Engineering Education and Outreach programs, including its Student Teacher Outreach Mentorship Program (STOMP), helped Tufts earn a position on the 2013 President’s Higher Education Community Service Honor Roll. This award is the highest honor a college or university can receive for commitment to volunteering, service-learning, and civic engagement.

The Entrepreneurial Leadership Program welcomed James Barlow, former head of outreach for the National Collegiate Inventors and Innovators Alliance (NCIIA), to Tufts Gordon Institute (TGI) as its new director. Interest
in this program remains strong, with more than 500 undergraduates participating in its classes, and 59 students completing the minor. Thirty-nine percent of students completing the minor were female. As a result of increased awareness and a change to the entry process, this year’s business plan competition garnered a record number of entries—a 70 percent increase from the previous year.

The number of SOE graduate applications held steady this year at 1,136 (slightly up from 1,110 in fall 2011). The quality of our fellowship applicant pool remains strong with yields on fellowship offers remaining at about 30 percent. In the fall, we will welcome seven new Provost’s and Dean’s Fellows, as well as two Stern Fellows. The Stern fellowships are made possible through the generosity of James A. Stern, E72, A07P, outgoing chair of Tufts Board of Trustees. Our entering doctoral cohort in 2012 held steady at roughly 50 incoming doctoral students. This May, we hosted our first doctoral hooding ceremony, graduating 28 and hooding 21 candidates—the largest doctoral cohort in the school’s history.

This academic year, we launched two new interdisciplinary doctoral programs: one in soft-material robotics, supported by a $1.1M NSF Integrative Graduate Education and Research Traineeship (IGERT) grant award to Professors Barry Trimmer (Biology), co-principal investigator David Kaplan (BME), and other engineering faculty; and an interdisciplinary doctoral program in computer science and cognitive science, headed by Professor Matthias Scheutz (CS). Scheutz, along with colleagues in the Departments of Child Development and Psychology, hosted a highly successful program kickoff conference entitled “Language and Representation” this past fall. The latter doctoral program has grown rapidly, with 22 doctoral students matriculating in fall 2013.

![Undergraduate Applications Chart]
## Fall 2012 Enrollment

<table>
<thead>
<tr>
<th>Engineering Program</th>
<th>BS²</th>
<th>ME</th>
<th>MS</th>
<th>PhD</th>
<th>BS⁴</th>
<th>ME</th>
<th>MS</th>
<th>PhD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioengineering</td>
<td></td>
<td>15</td>
<td>11</td>
<td></td>
<td></td>
<td>6</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Biomedical Engineering</td>
<td>61</td>
<td>6</td>
<td>28</td>
<td>34</td>
<td>14</td>
<td>6</td>
<td>14</td>
<td>6</td>
</tr>
<tr>
<td>Biotechnology Engineering</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemical Engineering*</td>
<td>160</td>
<td>6</td>
<td>8</td>
<td>21</td>
<td>40</td>
<td>5</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Civil Engineering*</td>
<td>92</td>
<td>16</td>
<td>51</td>
<td>33</td>
<td>27</td>
<td>11</td>
<td>14</td>
<td>7</td>
</tr>
<tr>
<td>Computer Engineering*</td>
<td>29</td>
<td></td>
<td></td>
<td>3</td>
<td>5</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Computer Science* (within EE dept.)</td>
<td>92</td>
<td></td>
<td>29</td>
<td>10</td>
<td>19</td>
<td></td>
<td>14</td>
<td>3</td>
</tr>
<tr>
<td>Computer Science (within A&amp;S)</td>
<td>72</td>
<td></td>
<td></td>
<td></td>
<td>31</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical Engineering*</td>
<td>71</td>
<td></td>
<td>24</td>
<td>86</td>
<td>15</td>
<td></td>
<td>12</td>
<td>7</td>
</tr>
<tr>
<td>Engineering Management</td>
<td></td>
<td></td>
<td>158</td>
<td></td>
<td></td>
<td></td>
<td>66</td>
<td></td>
</tr>
<tr>
<td>Engineering Physics</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering Psychology/Human Factors</td>
<td>12</td>
<td></td>
<td>6</td>
<td></td>
<td>2</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Engineering Science</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Engineering*</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mechanical Engineering*</td>
<td>215</td>
<td>10</td>
<td>47</td>
<td>12</td>
<td>41</td>
<td>4</td>
<td>21</td>
<td>2</td>
</tr>
<tr>
<td>Engineering**</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Major Declared</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>863</td>
<td>53</td>
<td>362</td>
<td>197</td>
<td>217</td>
<td>33</td>
<td>153</td>
<td>28</td>
</tr>
</tbody>
</table>

*Engineering degree programs accredited by the Engineering Accreditation Commission (EAC) or the Computing Accreditation Commission (CAC) of the Accreditation Board for Engineering and Technology (ABET).

**Includes Civil Engineering degrees in Architectural Studies and Environmental Health

1 August 2012 to May 2013
2 Enrollment of first majors as of March 12, 2013
3 Computer Engineering degrees under Electrical Engineering
4 In May 2013 (3) students completed their five-year BS/MS degrees
UPDATE ON ABET ACCREDITATION

This academic year, the school successfully completed the ABET accreditation process for eight undergraduate engineering degree programs, including the B.S. in biomedical engineering, which received its first accreditation.

INTERDISCIPLINARY RESEARCH AND EDUCATION

The school continues to enjoy significant growth and momentum in research productivity. Total annual research expenditures exceeded $15M—a major achievement in the light of federal budget sequestration. Faculty submitted 286 proposals and had 231 active grants, with more than 100 new and supplemental awards. These encouraging trends reflect active involvement of an increasing number of engineering faculty members in research; three quarters of SOE faculty are now funded by external grants (compared to 40 percent in FY03).

Research Dollars
(in millions)

<table>
<thead>
<tr>
<th>Year</th>
<th>Expenditures</th>
<th>Indirect Cost Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FY05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FY06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FY07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FY08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FY09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FY10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FY11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FY12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FY13</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
This year, in the second round solicitation of provost-funded collaborative teaching and research grants, SOE faculty members led or took part in an impressive number of successful proposals, garnering two Tufts Innovates! and nine Tufts Collaborates! Awards, one-quarter and one-half of the total funded proposals, respectively. Four faculty members were also recipients of awards from the AS&E Faculty Research Awards Committee (FRAC): **Mark Cronin-Golomb** (BME) (grants-in-aid award); **Usman Khan** (ECE) (faculty research fund award); **Qiaobing Xu** (BME) (summer fellowship); and **Matthias Scheutz** (CS) (senior semester leave).

The sections below highlight other significant achievements in interdisciplinary research and education, organized by strategic area.

**Engineering for Human Health**

Under Associate Dean for Research **Elena Naumova**’s leadership, the SOE hosted Tufts World Health Day on April 8, 2013, featuring cutting-edge engineering research on information and sensor technologies in the areas of: smart sensors, disaster management, visual analytics, and new devices. Following this successful event, the school has secured its first WHO internship and has outlined a plan for future research collaborations.

Frank C. Doble Professor **Fiorenzo Omenetto** (BME) was awarded a highly competitive $1M grant through the Integrated NSF Support Promoting Interdisciplinary Research and Education (INSPIRE) program. INSPIRE was established to address some of the most complicated and pressing scientific problems that lie at the intersections of traditional disciplines. Working with colleagues at Northwestern and the University of Illinois at Urbana-Champaign, Omenetto has developed and demonstrated a new class of bio-compatible silk-silicon electronic devices, dubbed “transient electronics,” which promise a next generation of medical implants that will never need surgical removal, as well as environmental monitors and consumer electronics that can become compost rather than trash.

Stern Family Professor and Chair **David Kaplan** (BME) continued his studies into the versatility of the silk platform with a grant through the Congressionally Directed Medical Research Programs. Kaplan will prepare bioengineered silk-based polymers to deliver the anticonvulsant, adenosine (ADO), to the epileptic brain.
Assistant Professor **Lauren Black** (BME) received a grant from the National Institutes of Health (NIH) to study a rare but severe congenital heart defect that is fatal if untreated. Though many studies have investigated the effects of genetic mutations on cardiac development, Black will look at the biomechanical cues that can lead to normal or pathological heart development. Associate Professor **David Gute** (CEE) and colleagues at Tufts University School of Medicine received a prestigious R-34 grant from NIH’s National Institute of Allergy and Infectious Diseases (NIAID) to continue research on the prevention of schistosomiasis in Ghana; this award allows them and their Ghanaian partners to compete for a multiyear clinical trial NIH award to assess the efficacy of scaling up infrastructure improvements aimed at controlling the focal prevalence of schistosomiasis.

**Engineering for Sustainability**

The Strategic Environmental Research and Development Program (SERDP) awarded Dean **Linda M. Abriola** and her Tufts collaborators the 2012 SERDP Project-of-the-Year Award in environmental restoration for their project to develop innovative tools that, for the first time, can provide key information about a contaminant source zone’s structure and characteristics. Research Assistant Professor **Natalie Cápiro** and Professor and Chair **Kurt Pennell** (co-PI) (CEE) were awarded an NSF grant to evaluate a new method for remediating chlorinated solvents by promoting the growth of chlorinated solvent-degrading bacteria. Pennell and colleagues from Tufts and Washington University were awarded an NSF grant to understand the effects of surface coating aging on the fate and transport of nanomaterials (iron and manganese oxides) in sands and natural soils.

Assistant Professor **Matthew Panzer** (ChBE) received two grants to continue research on ionic liquid-based solid electrolyte materials, or ionogels. The U.S. Army awarded Panzer a grant to demonstrate the viability of building flexible, lightweight ionogel supercapacitors for safe and reliable energy storage to be incorporated into fabric substrates such as uniforms and equipment. Panzer also won an NSF grant to study thin-film supercapacitors for energy storage and delivery capabilities.
Engineering the Human-Technology Interface

Associate Professor **Matthias Scheutz** (CS) received a prestigious $7.5M Multidisciplinary University Research Initiative (MURI) grant from the Office of Naval Research to develop fully autonomous robots. Scheutz, along with collaborators at Brown University, Rensselaer Polytechnic Institute, Georgetown University, and Yale University, will explore the development of robots with “moral competence”—or the ability to make decisions, take actions, and justify their actions in situations that contain a moral dilemma.

Associate Professor **Laurie Baise** and Research Assistant Professor **Eric Thompson** received an NSF grant to develop a model to better improve disaster response and reduce loss after a hazardous event such as an earthquake. Baise’s model will use global datasets, such as digital elevation, in place of regional geospatial data that can be time- and cost-intensive to collect. The global applicability of the model will enable liquefaction effects to be included in future rapid response maps, loss estimates, and scenario simulations for future events anywhere in the world. CS researchers Assistant Professor **Remco Chang**, Professor **Rob Jacob**, and former visiting scholar **Caroline Ziemkiewicz** were awarded an NSF grant to study the use of noninvasive brain imaging, called functional near-infrared spectroscopy (fNIRS), to better understand human-computer interaction and evaluate complex, interactive visual analytics systems.

Professor Emeritus **Joe Noonan** (ECE) and Research Assistant Professor **Brian Tracey** (ECE) have entered the next phase of their work on Multilingual Automatic Document Classification, Analysis, and Translation—or MADCAT. With collaborators at Raytheon BBN Technologies, they seek to improve image-processing techniques to enhance the quality of degraded text and images to more efficiently parse document data. Assistant Professor **Shuchin Aeron** (ECE) received an NSF award in support of his work on the study of high-dimensional signals and systems. This multidisciplinary effort, which includes other ECE faculty as well as faculty from Tufts’ Department of Mathematics, will develop novel and efficient methods for representing and processing data in applications ranging from medical imaging and video to satellite remote sensing and geophysical exploration.
Technology Transfer

The Tufts Office of Technology Licensing and Industrial Collaboration (OTL&IC) reported 63 invention disclosures from across the university in FY13; of these, the School of Engineering leads all Tufts schools, accounting for 49 percent (31). This is the fifth consecutive year that engineering has led all other schools in disclosures across the university.
Ken Fan, E01

Active Citizen Can’t Sit Still for Long

An avid cyclist, sprint triathlete, and adventure travel enthusiast, Ken Fan, E01, is also a very active citizen. A Tufts Alumni Council member and former co-leader of the Asian American Alumni Association, Fan thrives on helping organizations build good foundations.

A great example: Addgene, a non-profit organization that helps scientists share plasmids, which are DNA samples used to study gene function. Researchers around the world use Addgene’s plasmids to study diseases such as cancer, diabetes, and Parkinson’s. Fan started Addgene with his sister and brother-in-law back in 2004, after a stint in investment banking and a very productive gap year in which he backpacked through much of Asia and Europe.

Partly through that experience and his experiences at Tufts, he built a network that has since helped his Cambridge, Massachusetts, biotech organization go global.

“The Tufts experience doesn’t end when you get your diploma,” he says. Fan is living proof as he stays connected through volunteer events and has helped to form the new Tufts Alumni Nonprofit Network. He also hopes to help organize events that bridge graduate and undergraduate alumni communities.
Faculty Recruitment

Over the past several years, the school has made substantial strides in increasing faculty critical mass and diversity. At the start of Linda Abriola’s appointment as dean in AY03–04, the SOE had 54 tenured/tenure-track (T/TT) faculty members, of whom 8 were women and 9 were ethnic minorities. In AY12–13, we welcomed 7 new T/TT faculty to campus, bringing the size of the T/TT faculty to 79, of whom 18 are women and 17 are ethnic minorities. In addition to those highlighted in last year’s annual report, we welcomed Professor Igor Sokolov (Ph.D., Mendeleev Institute of Metrology [Russian NIST]) to the Department of Mechanical Engineering from Clarkson University, where he was a full professor in the physics department and served as director of the Nanoengineering and Biotechnology Laboratories Center. Professor Sokolov’s current research focuses on nanomechanics of soft material, cells and biomolecules, atomic force microscopy, nanophotonics, and the early detection of cancer based on altered nanomechanical properties. The Department of Computer Science named Noah Mendelsohn as its first professor of the practice. Mendelsohn, who retired from IBM in 2010 and holds the honorary title of IBM Distinguished Engineer Emeritus, is chair of the World Wide Web Consortium’s Technical Architecture Group (TAG), the senior steering committee responsible for the architectural integrity of the World Wide Web.
This academic year, we hired three new tenure-track faculty, each of whom will bolster our research and teaching programs in strategic areas. 

**Nihkil Nair** (Ph.D., University of Illinois Urbana-Champaign) will join ChBE this fall as an assistant professor from a postdoctoral fellowship at the Harvard Medical School. His research interests are in developing biological processes to address problems in sustainable energy and chemical production through synthetic biology and metabolic engineering. At the end of AY13–14, ChBE will also welcome Associate Professor **Emmanuel (Manolis) Tzanakakis** (Ph.D., University of Minnesota) from his position as an associate professor in the Department of Chemical and Biological Engineering at the State University of New York at Buffalo. Tzanakakis’s research is in stem cells, developing mathematical and computational models of genetic networks and cell differentiation, as well as investigating tissue engineering and bioprocessing. This fall, ME will welcome Assistant Professor **Jeffrey Guasto** (Ph.D., Brown University) from a postdoctoral fellowship at MIT where he investigated the effects of hydrodynamic forces on sperm cell swimming and microscale transport phenomena in fluids.

---

**Engineering Frontiers by Design**

Bill Messner is an expert on control systems—things like thermostats and cruise controls that perform functions automatically. But his latest project is one that could someday help doctors treat human illness.

The Department of Mechanical Engineering chair has been working on control systems for instruments that probe cells and tissues. By investigating how biological systems control themselves, he has already helped devise a new control mechanism for studying how tissues respond to chemical stimuli. This, he says, could eventually help researchers develop therapies to repair damaged tissues or treat cancer.

Messner’s work is supported by the John R. Beaver Professorship of Engineering, created thanks to the generosity of the late John Beaver, E51.

“Mechanical engineering is an incredibly diverse field, with activity in biomedical devices, energy, and robotics, among others,” says Professor Robert Hannemann. “Underlying many of the products in these areas is control system design—Bill Messner’s area of specialization, and a perfect complement to the research of the faculty.”

Beaver’s gift facilitates Messner’s current research and leadership of the department, but will also continue to support Tufts engineering faculty for years to come.
Building Bridges

About his gift

When Peter H. Kamin discovered that most of the incoming freshmen accepted into the Bridge to Engineering Success at Tufts (BEST) program were first-generation immigrants, he knew he wanted to direct his giving there.

As the owner of a private equity investment firm, 3K Limited Partnership, Kamin looks for companies who value their human capital as their most critical resource.

Likewise in BEST, Kamin has found a Tufts program that focuses targeted resources on students who have promising futures but need help to make a smooth transition from high school to college and beyond.

“I have a great deal of respect for an individual who started at the bottom but had the energy and the creativity to become a self-advocate and eventually become someone who could lead others,” Kamin says.

“But that classic immigrant success story is hard to do today because unless you have the professional credentials a good education offers, no one will take you seriously.”

His gift of $700,000 underwrites the operating expenses of the BEST program for five fiscal years.

How his gift helps

BEST is a summer bridge program for aspiring engineering students from diverse backgrounds who would benefit from extra academic preparation. The aim is to attract and retain members of populations underrepresented at the School of Engineering, with a focus on first-generation college-goers with high financial need.

BEST scholars spend six weeks at Tufts the summer before their first semester taking intensive writing, physics, and math classes as well as learning academic and college-life survival skills. Workshops and lectures introduce them to the range of careers in engineering.

Six of the eight students in the first group of BEST scholars made Dean’s List in their first year.

“BEST is especially attractive to me because by giving these students a small assist, you can help them gain a foothold in a profession that matches their energy and enthusiasm in just a single generation,” Kamin says.

“To have gotten as far as these students have, given their life circumstances, is commendable. My hope is that a Tufts education will help them bring their ideas, creativity, and ingenuity to the largest possible group of people and we will all benefit. Their sheer enthusiasm and passion can be quite infectious.”

Peter Kamin, A84
THANKS TO OUR SUPPORTERS

We are grateful to all of the alumni, friends and organizations who have supported the School of Engineering. By all quantifiable metrics, the SOE is in a better position today than at any time in its history. Strategic investments in faculty, staff, and infrastructure are now bearing fruit, and the quality of its students and faculty has never been higher. Through your support, you ensure that the school’s tradition of preparing outstanding engineers continues, critical to the solution of complex problems facing society. You nurture our education and research target areas in human health, sustainability, and the human/technology interface. You foster the creation, translation, and transfer of ideas and innovations and strengthen our entrepreneurial ecosystem at Tufts.

Dean’s Inner Circle

Honoring Leaders in Giving.
Supporting the Engineering Leaders of Tomorrow.

In 2007, Dean Linda M. Abriola instituted the Engineering Dean’s Inner Circle to recognize and celebrate the outstanding contributions of our most dedicated supporters. The Inner Circle honors those alumni who make current-use annual gifts that match or exceed $100 times the number of years since their graduation. It also recognizes the many generous friends and parents who donate $1,500 or more.

Outside the dean’s office in Anderson Hall, a recognition wall proudly displays the names of our Dean’s Inner Circle members. The dean commissions a unique coin each year as a keepsake. This year, the Dean’s Inner Circle includes 118 members. They contributed more than $1 million during fiscal year 2013.

It’s critical that we recognize the many dedicated alumni and friends who consistently support the School of Engineering, growing with us as we take the school to the next level. The support of our Dean’s Inner Circle helps us sustain the momentum we have gained in recent years with excellent new faculty members and exciting new interdisciplinary research. Not only does this program highlight the significance of giving, but it’s important to me, as dean, to celebrate the individuals who truly are our inner circle of friends.

—Dean Linda M. Abriola
The Dean’s Inner Circle coins are numbered, with the top contributor receiving the coin numbered 1. The names appear here in that same distribution order.

---

**Dean’s Inner Circle**

Joseph E. Neubauer, E63, J90P, and Jeanette Neubauer, J90P

James A. Stern, E72, A07P, and Jane Y. Stern, A07P

Jordan Birger, E43

Susan C. Madaus, E14P, and Martin D. Madaus, Ph.D., E14P

Fahd A. Alireza, E80

Ellen J. Kullman, E78, A12P, and Michael E. Kullman, A12P


Lance E. Johnson, E69, J95P, and Susan Johnson, J95P

Peter H. Rothschild, E77

Charles F. Auster, A73

Elizabeth V. Brannan, J69, and Fredric S. Berger, A69

Andrew J. Frommer, E79

Robin S. Liss, A06

Robert H. Bedoukian, E70, A02P, and Gail Anne Bedoukian, A02P

Matthew D. Sabel, A97

Ivan X. Baquerizo, E89

Robert B. Coutts, E72, and Ingrid C. Coutts, J74

Erica L. Drazen, E68, and Jeffrey M. Drazen, A68

Craig J. Goldberg, E76

Robert J. Haber, E79, EG80

Kimberly A. Hartman, J85, and Alan P. Hartman

Marilyn Jacobowitz, M.D., E85


Jon A. Levy, E83

Yih-An Liu, EG70

John E. Roberts, E81, EG83, and Lisa J. Roberts, J82

Gregory A. White, E78

Peter L. Wittich, E83, and Denise Wittich

Roger E. Dugas, P.E., E51

Charles W. Neckyfarow, E71, EG75


Colin H. Cooper, E83

Edwin S. Rapoport‡

James J. Rapoport

Roxanne Zak, E12P, and Michael Zak, E12P

Robert P. Leis, P.E., E78

Richard J. Kulpinski, E59

John G. Leckie Jr., E59

George D. Hawthorne, E69

Stephen B. Jaffe, Ph.D., E64, A97P, and Wilhelmina Jaffe, A97P

Gregory H. Altman, Ph.D., A97, EG02, and Rebecca J. Gasior


Ward S. Caswell, E88

Barbara E. Clarke, J88

Sanford Cooper, M.D., E76, A06P, E09P, AG13P, and Carol B. Anekstein, M.D., A06P, E09P, AG13P

Jonathan G. Curtis, E69, EG72, AG05P

James B. Flaws, E71, and Marcia D. Weber, J71

Mark P. Kesslen, E86, and Phyllis R. Perskie-Kesslen, J86

Steven R. Koltsi, A76, FG78, E12P

Richard E. Leach, E67


Elizabeth C. Lyman

Anthony E. Mann, E84

Kevin J. Oye, E79

Carolyn T. Paterson, E15P, and Alan H. Paterson, E15P

Louis G. Pelosi, E85, and Susan P. Pelosi, J86

‡deceased
Christopher A. Silva, A84
Philip C. Strassburger, A82, E82
Robert K. Vahradian, E83
Martha M. Wyckoff, E77
Daniel N. Eckhouse, E88, and
Catherine W. Popper, J87
Francis P. Grillo, E84
Robert A. Levine, M.D., E77, A12P, and
Rebecca E. Kadish, M.D., A12P
Cornelius P. Cronin Jr., E76
Lisa G. Mann, E84, and John R. Mann III
George I. Morton, E73
Paul J. Pike, E77, A12P, and
Linda Pike, A12P
Omar K. Abboud, E82, E14P, and
Catherine D. Abboud, E14P
MaryAlice L. Cowan, M.D., E16P, and
William S. Cowan, E16P
Scott J. Sullivan, M.D., E85
Anthony D. Cortese, Sc.D., E68, EG72, and
Donna M. DiGioia, M.D., M89
Sandra Levine, A93P, A95P, and
Stephen H. Levine, A93P, A95P
Bruce L. Ketchen
Constantin von Wentzel, E94, A96, E96, and
Shoma Aditya, J94
Punita Bigler, E16P, and
Robert A. Bigler, E16P
Christine O. Dunn, F94, J95
Kevin A. Eng, E15P
Kathryn K. O’Brien, E10P, and
Douglas E. O’Brien, E10P
Jeffrey M. Stibel, A95
Elizabeth L. Taylor, E13P, and
Anthony H. Jackson, M.D., E13P
Nicholas H. Katis, EG02
Mark S. Louchheim
Susanne D. Taylor, E14P, and
Neill Taylor, E14P
Jessica E. Thomson, E16P, and
Peter D. Thomson, E16P
Karen Fritz, A01P, A03P, and
Robert J. Fritz, A01P, A03P
John J. Fisher, E98
Lenore J. Cowen
Joshua W. Kapelman, A12
Cynthia D. LuBien, Ph.D.
Laurie E. Sims, E13P, and
Charlie R. Sims, E13P
Omer Trajman, E00
Tracy K. Wang, J86
Jonathan A. Gregorowicz, E09
Marie C. Tupaj, Ph.D., E01, EG12, and
Andrew W. Tupaj, E01, EG03
Anyu B. Kogan, E04
Ellen S. Steiner, J78
Jay M. Solomon, A07
Scott D. McArthur, E12
Gregory M. Hering, E10
Stephen P. Jantzen, E08
Kyle G. Maxwell, E08
Kyle A. Pearson, E08
Mark A. Pellegrini, E08, EG09
Hunter D. Kopald, E10
Ross M. Trethewey, E07, EG10
Sterling T. Wall, E10
Michael E. Carolan, E06, EG08, and
Sarah S. Wong, M.D., A06, M11
Benson E. Christalin, E09, EG11
Amanda R. Garces, A11
Premkumar Natarajan, Ph.D., EG96, EG12
Matthew S. Toia, E06, EG11
William J. Salisbury, E12
Edward E. Aftandilian, Ph.D., EG12
Erie S. Coonahan, E12
Daniel Ebin, E10, EG12
Hannah C. Henderson, E12
Sean M. Siebert, E12
Phillip S. Tang, E12
Weiyi Zheng, E12

A full list of our Packard Society and Dean’s Inner Circle donors can be found outside the dean’s office in Anderson Hall. A list of endowed funds can also be found inside the Burden Lounge in Anderson Hall.
Packard Society

The Packard Society, named for Silvanus Packard, an early benefactor of Tufts, recognizes alumni, parents, and friends who play leadership roles in supporting the university by donating $1,000 or more annually to the Tufts Fund for Arts, Sciences & Engineering. Through their vision and generosity, Packard Society members are an inspiration to others.

Contributions from members of the Packard Society account for 79 percent of gifts to the Tufts Fund each year. Members of the Packard Society are invited to special events, recognized in university publications, and receive special communications from university leadership.

We hope you will consider joining these loyal donors who choose to make a leadership contribution to Tufts.

Thanks to Packard Society gifts:

- Tufts has increased the amount of financial aid it offers by more than 60 percent in the past five years, enabling the university to admit the most qualified students regardless of their ability to afford the cost of a private education.
- The university is able to compete successfully among leading academic institutions to recruit top-notch faculty.
- Students and faculty have partnered to conduct and publish the results of high-caliber research.

Omar K. Abboud, E82, E14P, and Catherine D. Abboud, E14P
Edward E. Aftandilian, Ph.D., EG12
Fahd A. Aireza, E80
Gregory H. Altman, Ph.D., A97, EG02, and Rebecca J. Gasior
William J. Anderson Jr., E69
Lawrence E. Apolzon, E78
Karen F. Aronoff, E82
Charles F. Auster, A73
Frank J. Babel, E63, and Linda A. Babel
Ivan X. Baquerizo, E89
Andrew Beattie, E05, and Jonathan E. Kruesi, A05
Robert H. Bedoukian, E70, A02P, and Gail Anne Bedoukian, A02P
Steven H. Berl, E80, and Anita M. Bloch, J81
Punita Bigler, E16P, and Robert A. Bigler, E16P
Jordan Birger, B.S., E43
Richard D. Blaser, P.E., E76, EG77, A04P, and Clare I. Blaser, A04P
Robert N. Block, E76, and Catherine Block
Elizabeth V. Brannan, J.D., J69, and Fredric S. Berger, A69
James D. Breen Jr., E95, and Christina E. Breen, J94
Alan E. Brickett, P.E., E54
David A. Bryant, E66, E98P, V99P
John J. Calnan, E87
John C. Cannistraro, E83
Michael E. Carolan, E06, EG08, and Sarah S. Wong, M.D., A06, M11
Kenneth L. Carr, B.S., E53
Scott M. Carson, E96, and Mary F. Carson, M.D., J96, M00
Clifford D. Caseley, M.S., E66
Ward S. Caswell, E88
Paul J. Cavicchi, E74
Stebbins B. Chandor Jr., E82, and Pamela P. Chandor
Wilbur D. Cheever, P.E., E58
Charles M. Chernick, E66
Benson E. Christalin, E09, EG11
Barbara E. Clarke, J88
Edward M. Colbert, E53, E79P
Everett T. Combes, E57
Erin S. Coonahan, E12
Colin H. Cooper, E83
Sanford Cooper, M.D., E76, A06P, E09P, AG13P, and Carol B. Anekstein, M.D., A06P, E09P, AG13P
Jeffrey D. Cornfeld, E82, EG85
Anthony D. Cortese, Sc.D., E68, EG72, and Donna M. DiGioia, M.D., M89
Robert B. Coutts, E72, and Ingrid C. Coutts, J74
MaryAlice L. Cowan, M.D., E16P, and William S. Cowan, E16P
Lenore J. Cowen
Douglas R. Craib Jr., E68, EG73, and Carlene M. Craib, J68, AG94
Cornelius P. Cronin Jr., E76
Jonathan G. Curtis, E69, EG72, AG05P
Marjorie R. Devereaux, E72, EG75, E03P, A07P, and David W. Hall, A72, E03P, A07P
Jeannie H. Diefenderfer, E84
Loretta J. Dodwell, E80, and David G. Dodwell, M.D., E80
Abraham Dranetz, E44, J84P, and Marianna Dranetz, J84P
Erica L. Drazen, E68, and Jeffrey M. Drazen, A68
Samuel L. Duboc, E84
Roger E. Dugas, P.E., E51
Deborah B. Dunie, E85
Christine O. Dunn, F94, J95
Daniel Ebin, E10, EG12
Daniel N. Eckhouse, E88, and Catherine W. Popper, J87
Kevin A. Eng, E15P
Michael J. Epstein, E84
Christopher S. Exton, E71, A02P, AG07P, and Barbara L. Exton, J71, A02P, AG07P
Howard J. Faigel, E80, E16P, and Margaret J. Leshen, J79, EG81, E16P
Kenneth C. Fan, E01, F07
Gregor N. Ferguson, E75
Henry L. Fischer, P.E., E52
John J. Fisher, E98
Audrey Fitzgerald, EG93, A15P, and William A. Fitzgerald III, A15P
James B. Flaws, E71, and Marcia D. Weber, J71
Nancy M. Fontneau, M.D., EG78
Andrew J. Frommer, E79
Amanda R. Garces, A11
Robyn L. Gittleman, AG69, A85P, and Sol Gittleman, A85P
William K. Glynn, E80, and Margot A. Biggin
Craig J. Goldberg, E76
Steven A. Goldstein, Ph.D., E76, and Nancy E. Goldstein, J76
Matthew J. Goode, A78, E78
Michael D. Green, J.D., E72, A02P, and Carol B. Green, A02P
Jonathan A. Gregorowicz, E09
Francis P. Grillo, E84
Robert J. Haber, E79, EG80
Nubar Hagopian, E54
Mark D. Halperin, E72
Carol S. Harris, E77, E07P, M13P, and Robert L. Kann, A76, E07P, M13P
Michael S. Harrison, E74
Kimberly A. Hartman, J85, and Alan P. Hartman
George D. Hawthorne, E69
Hannah C. Henderson, E12
Gregory M. Hering, E10
Joseph C. Hill, Ph.D., EG85
Ralan L. Hill, E00
William A. Hilley IV, E94, and Michele S. Hilley, J95
Russell A. Holden, E46, J70P, J85P
James J. Horan Jr., E77, and Tara J. Sullivan, M.A., J79
Margaret A. Hunter, E06, and Dennis E. Snopkowski, A06
Jewel C. Jackson, J50
Marilyn Jacobowitz, M.D., E85
Edward S. Jacobs, E74, and Elizabeth S. Jacobs, J76
Stephen B. Jaffe, Ph.D., E64, A97P, and Wilhelmina Jaffe, A97P
Stephen P. Jantzen, E08
Leland H. Jenkins, E66, E01P, and Leonora Jenkins, E01P
Rebecca L. Jenkins, E01
Norman E. Jepsky, E54
Gary A. Johnson, E76
Lance E. Johnson, E69, J95P, and Susan Johnson, J95P
Joshua W. Kapelman, A12
Arnold J. Kaplan, E69
Nicholas H. Katis, EG02
Elias Katz, E76, A14P, and Mara Sherwood-Katz, A14P
David S. Katzman, E09
Alan W. Kaufman, E60
John E. Kavanagh III, E66
Hugh L. Kearney Jr., E66, EG68, and Diane M. Kearney, AG70
George F. Kennard, E46, and Marjorie E. Kennard, J46
Mark P. Kesslen, E86, and Phyllis R. Perskie-Kesslen, J86
Bruce L. Ketchen
Jack H. Klaubert, E57, and Judith Klaubert
Louis Kleiman, E45
James H. Klein, E86
Dwight J. Klepacki, E81
Anya B. Kogan, E04
John H. Kolb, E95, E99, EG99
Steven R. Kolta, A76, FG78, E12P
Hunter D. Kopald, E10
Michael W. Kranzdorf, E83
Ellen J. Kullman, E78, A12P, and Michael E. Kullman, A12P
Richard J. Kulpinski, E59
James F. Kurkowski, E84
Jonah M. Laufer, E83, EG86
Richard E. Leach, B.S., E67
John G. Leckie Jr., E59
Alvin W. Lee, E91
Robert P. Leis, P.E., E78
Edward Levin, E52
Robert A. Levine, M.D., E77, A12P, and Rebecca E. Kadish, M.D., A12P
Jon A. Levy, E83
Joseph D. Lipman, E88, EG89
Robin S. Liss, A06
Yih-An Liu, EG70
John M. Looney, E64
Mark S. Louchheim
Cynthia D. LuBien, Ph.D.
Kathleen A. Luvisi, E84
Elizabeth C. Lyman
Matt S. Lyman, E96, EG99
Stephen J. Lynch, E89
William C. Lyons, E71
Deborah J. Machlin, E81, and
Robert N. Machlin, E79
Susan C. Madaus, E14P, and
Martin D. Madaus, Ph.D., E14P
John P. Manley, E42, A71P
Anthony E. Mann, E84
Lisa G. Mann, E84, and John R. Mann III
David Margaretos Jr., E75
Christophe P. Mauge, Ph.D., EG90, EG93,
and Stephanie M. Mauge, J91, F93
Zoe E. Mavridis, J.D., J74, E06P
Kyle G. Maxwell, E08
Scott D. McArthur, E12
Pamela W. McNamara, E81, and
George C. McNamara, E79
Stephen E. Memishian, E67
Ioannis N. Miaoulis, Ph.D., E83,
AG86, EG87, E12P, E15P, and
Beth K. Miaoulis, J84, E12P, E15P
Daniel A. Michaeli, E93, and Laura
Michaeli, M.D., J92, M96
Peter L. Miller Jr., E70, E96P, A98P, and
Susan C. Miller, Esq., J.D., J70, AG73,
E96P, A98P
George I. Morton, E73
Anh Dao T. Tran-Moseman, E93, EG93,
and James A. Moseman, EG91
Scott F. Moynihan, E89, EG92
Matthew J. Murphy, E89
Premkumar Natarajan, Ph.D.,
EG96, EG12
Charles W. Neckyfarow, E71, EG75
Joseph E. Neubauer, E63, J90P, and
Jeanette Neubauer, J90P
Thin N. Ng, Ph.D., EG67, E86P, and
Charlotte N. Ng, EG66
Hege R. Nolop, A11P, A13P, and
Terry A. Nuzzolo, E84, EG86, E15P,
and Charles A. Nuzzolo Jr., M.S.,
E82, E15P
Kathryn K. O’Brien, E10P, and
Douglas E. O’Brien, E10P
Mark A. Orenstein, E66
Kevin J. Oye, E79
Carolyn T. Paterson, E15P, and
Alan H. Paterson, E15P
Kyle A. Pearson, E08
Creighton H. Peet, E61, A08P, and
Dana A. Weiss, A08P
Mark A. Pellegrini, E08, EG09
Louis G. Pelosi, E85, and
Susan P. Pelosi, J86
Lori Peterson, E77
Nicholas K. Pianim, E88, and
Erika H. Pianim, J89
Paul J. Pike, E77, A12P, and
Linda Pike, A12P
James C. Polk, E57
Adam B. Pollock, E91
Richard E. Poppele, E58, J87P, and
Meredith B. Poppele, J58, J87P
Edwin S. Rapoport
James J. Rapoport
Stephen J. Ricci, E67, E88P, J88P, and
Geraldine R. Ricci, E88P, J88P
Donald K. Richardson, M.S., E52
John E. Roberts, E81, EG83, and
Lisa J. Roberts, J82
Michelle M. Roberts, P.E., E02, and
Thomas J. Mulcahy, E04
Charles F. Robinson, P.E., E68
Peter H. Rothschild, E77
John A. Roush, E88
Matthew D. Sabel, A97
Richard M. Sakakeeny, E70, E98P, E04P,
EG06P, and Karen Sakakeeny, E98P,
E04P, EG06P
William J. Salisbury, E12
Benjamin F. Sands Jr., B.S., E54, and
Judith L. Sands
Keith P. Savel, E80
Meghan M. Scanlon, E95
Mark H. Schneider, E76, A15P, and
Amy P. Schneider, Ph.D., J78, A15P
Tanya Schuler Sharman, E91
Edward G. Seferian Jr., M.D., E84
Richard F. Segalini, E66, and Linda Segalini, J67
Sean M. Siebert, E12
Christopher A. Silva, A84
Anthony R. Silvestri Jr., D.M.D., E69, J97P, and Eileen Silvestri, J97P
Laurie E. Sims, E13P, and Charlie R. Sims, E13P
Jay m. Solomon, A07
Lucius D. Stark, E64
Ellen S. Steiner, J78
James A. Stern, E72, A07P, and Jane Y. Stern, A07P
Jeffrey M. Stibel, A95
Philip C. Strassburger, A82, E82
Robert Stricker, B.S., E69
Robert A. Sturm, E71
Gerard F. Sullivan, E68
Scott J. Sullivan, M.D., E85
Robert E. Surtees, E55
Edward P. Swyer, E71
Carol L. Symmons, E98, and Brian C. Symmons, A98
Phillip S. Tang, E12
Elizabeth L. Taylor, E13P, and Anthony H. Jackson, M.D., E13P
Susanne D. Taylor, E14P, and Neill Taylor, E14P
Jessica E. Thomson, E16P, and Peter D. Thomson, E16P
Eric J. Thorgerson, E60, J86P
Matthew S. Toia, E06, EG11
William T. Tolley, E79, and Christine M. Tolley, J79
Neil W. Townsend, Esq., E87, and Elizabeth A. Townsend, J90
James S. Trainor Jr., E97
Omer Trajman, E00
Ross M. Trethewey, E07, EG10
Marie C. Tupaj, Ph.D., E01, EG12, and Andrew W. Tupaj, E01, EG03
Robert K. Vahradian, E83
Carol A. Volpe, J71, and Louis J. Volpe Jr., B.A., A71
Constantin von Wentzel, E94, A96, E96, and Shoma Aditya, J94
Sterling T. Wall, E10
Tracy K. Wang, J86
Yan Wang, E96
JoAnn E. Ward, E80
Carol A. Warfield, M.D., E73, J73, M77
Robert A. Weisenseel, Ph.D., E92, and Kathryn L. Leach, J88
Thomas G. Weld, E84, and Nina K. Weld, J84
Walter C. Welsh, Ph.D., E69, E01P, A02P, and Elizabeth Welsh, E01P, A02P
Geoffrey H. Westrich, M.D., E86, M90, and Ellen Westrich, Ph.D., AG91
Peter J. Wetzel, E61
Christopher G. White, E84
Gregory A. White, E78
William L. White, E60
Shelley W. Whiting, E91
Sarah A. Widing, E01, EG04, and Jay L. Duffner, E01
Neil H. Wilson, E50
John J. Wise, E53, and Rosemary Wise, AG60
Peter L. Wittich, E83, and Denise Wittich
Jeffrey M. Witzburg, E72, and Linda K. Witzburg, J74
Howard E. Wolff, E45, E47, and Nancy Wolff, J46
Jerome Wong, E85
Linda R. Wooldridge, J74, EG75, E12P, and James A. Wooldridge, E12P
Martha M. Wyckoff, E77
Earle Yaffa, E61, and Elizabeth Yaffa, J85P
Hon H. Yee, M.D., E72, M77
Stanley L. Zaist, E74
Roxanne Zak, E12P, and Michael Zak, E12P
Frederick P. Zarrilli, E80
Weiyi Zheng, E12
Fred Berger, A69

Solutions around the Globe... Help on the Hill

For Fredric Berger, P.E., A69, formative moments frequently happen at the dinner table. When Berger’s father, former Tufts trustee Louis “Doc” Berger, Ph.D., E36, H65, A69P, built his engineering firm internationally as well as domestically, “he would often bring people from all over the world home with him for dinner,” says Berger. That early multicultural exposure drove Berger to work in the family business in more than 100 countries.

Berger’s career began with a three-week pavement testing assignment that turned into a three-year adventure in Nigeria. “I had the opportunity to learn on the job: finance, economics, engineering, transportation planning, agriculture, urban planning,” Berger says. “The more countries I worked in, the more it reinforced my belief that engineers, to be useful in the twenty-first century, need to have international experience and a global perspective.”

Now, when he comes to the Hill for the School of Engineering’s Board of Advisors meetings, Berger sets up dinners in Davis Square with a mix of engineering and non-engineering students. “I like to hear their stories and find out what is really happening on campus,” he says.

Sustainable Solutions

Berger’s desire to stimulate cross-disciplinary cooperation is matched in the Engineers Without Borders initiative, a cooperative effort between the School of Engineering and the Institute for Global Leadership, for which Berger also serves as an advisor. The program brings undergraduates from all academic backgrounds together to solve challenges in the developing world.

Now chair of the Louis Berger Group Inc. and director of its parent company, Berger Group Holdings, Berger has worked on major infrastructure projects around the world. He is a founding trustee of the American University of Afghanistan, the only coeducational, independent, private university in Afghanistan, and is an advisory board member of the University of California, San Diego’s School of International Relations and Pacific Studies. He was also recently appointed to the International Advisory Council of the United States Institute of Peace.

In that same spirit of global citizenship, Berger’s wife, Elizabeth “Betty” Brannan, J69—also a child of a Tufts engineer (Francis Brannan, E38)—has been a columnist and correspondent for Panama’s leading daily paper, La Prensa, since 1990. In 2009, one of her many influential columns proposed creating a museum in Panama that would promote better understanding of citizen rights and freedoms in a democracy, as well as documenting what occurred during the military dictatorship that ruled Panama from 1968 to 1989. The idea was picked up and Panama’s Museum of Freedom and Human Rights is preparing to break ground in early 2014.

Leaders in their fields, the Bergers are heading the charge to support university-wide learning with their generous support of the School of Engineering, the Institute for Global Leadership, and Engineers Without Borders at Tufts. Says Berger, “The conjunction of these programs allows students to understand that no matter how brilliant their designs, it is rarely a sustainable solution absent context sensitivity.”
When Greg White established a scholarship fund at Tufts in 2006, he named it after engineering professor emeritus and former university administrator Allan H. Clemow, E65.

Clemow, who retired as director of admissions after a 40-year tenure at Tufts, was “very influential,” White says. But, “to limit my praise to Clem would be terribly unfair.”

Other faculty members, such as Linwood Brown and Lewis Edgers, E66, A92P, J97P (who still teaches at Tufts), also helped White during his undergraduate years studying civil engineering, the field in which both his father and grandfather worked. “They cared,” White recalls. “The school was small and intimate, so you could ask questions. You were never just a number. The faculty wanted to help you succeed.”

When White learned that the current Financial Aid Initiative would double his contribution if he gave $100,000, he increased his pledge to the Clemow Scholarship by that amount.

“I will always be appreciative of Tufts,” he says. “It helped me get a jumpstart on my life and my career. So if my family and I can help someone else, I feel it’s my obligation and our pleasure.”

Although White liked his professors and was both challenged by and interested in the curriculum, by his senior year, he had decided not to pursue a career in civil engineering. Instead he applied to the Wharton School of the University of Pennsylvania, where he earned his M.B.A. and met his future wife. Yet he found himself continuing to apply what he had learned at Tufts. The focus of his business degree was finance and real estate, for which civil engineering was a good preparation. Also, the approaches to solving problems that engineering taught him have remained relevant throughout his career.

“I’ve lost 80 percent of the raw technical skills I once had, in mathematics and programming, but I’ve never lost how to think, how to be organized,” he says. “The education I received was invaluable.”

White is now managing director of Prima Capital Advisors, which manages more than $2.5 billion of investments for public and corporate pension funds. He lives in Scarsdale, New York, and serves on the Board of Advisors of Tufts School of Engineering and its Entrepreneurial Leadership Program, as well as offering financial support.

He says, “This is my way of saying I remember and thank you.”

“I remember, and thank you.”
Gifts and Pledges to Establish New Funds*

- Gregory H. Altman, Ph.D., A97, EG02, and Rebecca J. Gasior to establish the Altman Family Endowed Scholarship Fund
- Andrew J. Frommer, E79, to establish the Frommer Term Scholarship
- Ellen J. Kullman, E78, A12P, and Michael E. Kullman, A12P, to establish the Kullman Term Scholarship
- Jon A. Levy, E83, to establish the Jon A. Levy Endowed Scholarship
- Joseph E. Neubauer, E63, J90P, and Jeanette Neubauer, J90P, to establish the Neubauer Term Scholarship Fund
- James A. Stern, E72, A07P, and Jane Y. Stern, A07P, to establish the Stern Term Scholarship
- Kristy N. Tiampo, Ph.D., E83, and James J. Tiampo, A83, E83, to establish the Tiampo Family Endowed Scholarship Fund

New Estate or Planned Gifts*

- Elizabeth V. Brannan, J69, and Fredric S. Berger, A69, to support the School of Engineering, Engineers Without Borders, and the Institute for Global Leadership
- Edward M. Colbert, E53, E79P, to support the School of Engineering and the Tufts Athletics Program
- Estate of Dan McLean, E40, and Kathleen McLean to support the School of Engineering
- Fahd A. Alireza, E80, to the Fund for the School of Engineering
- Chuck Auster to the Entrepreneurial Leadership Program at Tufts University
- Ivan X. Baquerizo, E89, to the Fund for the School of Engineering
- Robert H. Bedoukian, E70, A02P, and Gail Anne Bedoukian, A02P, and Bedoukian Research to the Fund for the School of Engineering
- Jordan Birger, B.S., E43, to the Dean of Engineering
- Carolyn Birmingham, E57, and James Birmingham to support the Bridge to Engineering Success at Tufts (BEST) Program
- Kenneth Bloom, E85, A14P, and Debra Bloom, J85, A14P, to the Kenneth L. and Debra L. Bloom Endowed Scholarship Fund
- Elizabeth V. Brannan, J.D., J69, and Fredric S. Berger, A69, for Engineers Without Borders and to the Dean of Engineering Discretionary Fund
- Colin H. Cooper, E83, to the Fund for the Schools of Arts and Sciences and Engineering
- Jonathan G. Curtis, E69, EG72, AG05P, to the Fund for the School of Engineering and the Lawrence S. Bacow and Adele Fleet Bacow Sailing Pavilion and the Zeta Psi Class of 1969 Scholarship in Memory of Paul Montle
- Robert Coutts, E2, and Ingrid Coutts, J74, to the Fund for the School of Engineering

Gifts and Payments to Existing Funds*

- Kenneth L. and Debra L. Bloom Endowed Scholarship Fund
- Elizabeth V. Brannan, J.D., J69, and Fredric S. Berger, A69, for Engineers Without Borders and to the Dean of Engineering Discretionary Fund
- Kenneth L. and Debra L. Bloom Endowed Scholarship Fund
- Elizabeth V. Brannan, J.D., J69, and Fredric S. Berger, A69, for Engineers Without Borders and to the Dean of Engineering Discretionary Fund
- Colin H. Cooper, E83, to the Fund for the Schools of Arts and Sciences and Engineering
- Jonathan G. Curtis, E69, EG72, AG05P, to the Fund for the School of Engineering and the Lawrence S. Bacow and Adele Fleet Bacow Sailing Pavilion and the Zeta Psi Class of 1969 Scholarship in Memory of Paul Montle
- Robert Coutts, E2, and Ingrid Coutts, J74, to the Fund for the School of Engineering

* $10,000 and above
- Jeannie H. Diefenderfer, E84, to support Engineering Financial Aid and to the Jeannie H. Diefenderfer Endowed Scholarship Fund
- Abraham Dranetz, E44, J84P, and Marianna Dranetz, J84P, to the Abraham and Marianna Dranetz Endowed Scholarship Fund and to the Fund for the School of Engineering
- Erica L. Drazen, E68, and Jeffrey M. Drazen, A68, to the Fund for the School of Engineering
- Frederick J. Emmett Jr., P.E., E66, and Marcia L. Emmett to the Frederick J. Emmett Scholarship Fund for the College of Engineering
- James B. Flaws, E71, and Marcia Weber, A71, to the Fund for the Schools of Arts and Sciences and Engineering
- John H. Foster, E52, E82P, to the WSSS Program
- Craig J. Goldberg, E76, to the Fund for the School of Engineering
- Robert J. Haber, E79, EG80, to the Fund for the School of Engineering and to the Robert and Marcy Haber Endowed Professorship in Energy Sustainability
- Kim Hartman to the Entrepreneurial Leadership Program at Tufts University
- Marilyn Jacobowitz, M.D., E85, to the Fund for the School of Engineering
- Lance E. Johnson, E69, J95P, to the Fund for the School of Engineering
- Mark P. Kesslen, E86, and Phyllis R. Perskie-Kesslen, J86, to the Entrepreneurial Leadership Program at Tufts University
- Steven R. Koltai, A76, F78, E12P, to the Fund for the Schools of Arts and Sciences and Engineering
- Jon A. Levy, E83, to the Fund for the School of Engineering
- Robin Liss to the Entrepreneurial Leadership Program at Tufts University
- Yih-An Liu, EG70, to the Department of Chemical and Biological Engineering
- Susan C. Madaus, E14P, and Martin D. Madaus, Ph.D., E14P, to the Fund for the School of Engineering
- The James S. McDonnell Family Foundation to the Center for Engineering Education and Outreach
- John E. Roberts, E81, EG83, and Lisa J. Roberts, J82, to the Entrepreneurial Leadership Program at Tufts University
- Peter H. Rothschild, E77, to the Dean of Engineering Discretionary Fund
- Matt Sabel to the Entrepreneurial Leadership Program at Tufts University
- Kambiz Shahbazi, E82, to the Shahbazi Public Service Fund
• James A. Stern, E72, A07P, and Jane Y. Stern, A07P, and the Stern Family Philanthropic Foundation to the Stern Endowed Graduate Research Fellowship and to the Stern Family Endowed Scholarship Fund
• Robert Stricker, B.S., E69, to the Zeta Psi Class of 1969 Scholarship in Memory of Paul Montle and to the Fund for the School of Engineering
• Gregory A. White, E78, to the Allan H. Clemow Endowed Scholarship Fund and to the Entrepreneurial Leadership Program at Tufts University
• Peter L. Wittich, E83, and Denise Wittich to the Dean of Engineering Discretionary Fund
• Earle Yaffa to the Entrepreneurial Leadership Program at Tufts University

Corporate and Foundation Gifts*

• Charles Stark Draper Laboratories to the Draper Fellowships and to Micromechanical Punching of Polymer Membranes for Use
• Gift of Water to the Department of Civil and Environmental Engineering
• LEGO Education to the CEEO Elementary STEM Research
• March of Dimes to Regulation of Embryonic Tissue Differentiation by Matrix
• NCIIA to Changing the Classroom: Building Student-Led Learning
• Pew Charitable Trusts to the Pew Biomedical Scholars Program
• Steinway Musical Instruments, Inc., to the Music and Engineering Program
• The BioSolve Company to the Ramsburg Research Fund
• SparkFun to the Center for Engineering Education and Outreach

The Charles Tufts Society

The following members of the School of Engineering community belong to the Charles Tufts Society as they have included a gift for Tufts University in their estate plans.

Barbara L. Bacheler, J40
David J. Beecy, E56
Dr. Virginia S. Berg, E70
Jay M. Berkson, E46, A79P, and Charlotte “Chicki” Berkson, A79P
Steven H. Berl, E80, and Anita M. Bloch, J81
Albion P. Bjork, E58
Capt. Andrew Bodnaruk, E45
Martin B. Brandt, E44
Elizabeth V. Brannan, J69, and Fredric S. Berger, A69
Arnold E. Carlson, E46
Edward L. Cherenson, E46
Ming Y. Chow, E02, EG04
Richard J. Coar, E42
Robert A. Cocozella, E52
Edward M. Colbert, E53, E79P
Robert J. Cranshaw Jr., E50
Jonathan G. Curtis, E69, EG72, AG05P
Catharine M. de Lacy, EG82
Christopher R. Di Fronzo, E96, EG04, and Vada Seccareccia
Jeannie H. Diefenderfer, E84
Leonard A. DiLorenzo, U.S.N.R., E66, and Annmarie P. Garceau
Jerry A. Dinardo, J.D., E43
Marjorie A. Donohue

* $10,000 and above
Mark E. Dorros, E81, EG87
Abraham Dranetz, E44, J84P, and
Marianna Dranetz, J84P
Dania A. El Hassan, E08
Elaine A. Ellis
Robert W. Ellis, E46, and Dorothy F. Ellis
Frederick J. Emmett Jr., P.E., E66, and
Marcia L. Emmett
Keith A. Farnsworth, E72
Kenneth G. Fettig, E52
Henry L. Fischer, P.E., E52, and
Madeline E. Fischer
John J. Fitzsimmons, E52, A84P
Robert J. Haber, E79, EG80
Susan Smith Hager, E71, and
Rodney Hager
Eric J. Hamblet, E89, and
Elizabeth C. Hamblet, J90, AG91
Richard C. Hansen, E72, and
Kristin E. Yanker-Hansen, J73
William T. Harris III, E63
Harold A. Hawkes, B.S., A60, E62
Monte R. Haymon, E59, J83P, J85P, and
Jane E. Haymon, J60, J83P, J85P
Lonnia G. Horn, J67, and Charles H. Horn
Albert S. Hovannesian, E46
Margaret A. Hunter, E06, and
Dennis E. Snopkowski, A06
James C. Jones, Esq., J.D., E66, J90P, and
Janet W. Jones, J90P
Golsima Knox, E78, EG80
Ellen J. Kullman, E78, A12P, and
Michael E. Kullman, A12P
Richard J. Kulpinski, E59
Richard L. Lammerding, E58
Winnie M. Lane
Richard E. Leach, B.S., E67
Laurel Saville Lecky and John E. Lecky
Henry F. Ledgard, E64
Jon A. Levy, E83
Stuart Locke, E42, E68P
Kirk M. Loenvner, E79
George Mavridis, E61
Ioannis N. Miaoulis, Ph.D., E83, AG86,
EG87, E12P, E15P
Karen W. Middleton, Ph.D., E98
David B. Moffatt, P.E., E57, E83P, and
Patricia H. Moffatt, M.D., E83P
Ruth S. Ogilvie
James C. Polk, E57
David F. Pollard, B.S., E40
Richard E. Poppele, E58, J87P, and
Meredith B. Poppele, J58, J87P
David B. Porter, E47
Stuart M. Portnoy, M.D., E85
Douglas P. Rayner, E74, and Mark Miller
Bruce N. Reed, E47, J78P
Marc L. Resnick, Ph.D., E89
Stephen J. Ricci, E67, E88P, J88P, and
Geraldine R. Ricci, E88P, J88P
D. Kenneth Richardson, M.S., E52, and
Charlotte Anne Richardson
Christopher M. Roughton, E05
Mrs. Barbara F. Rubin
Sumner W. Rupprecht, E58
Eleanor Samuels, E84P
Werner H. Schmidt, E36
Jeffrey W. Schwarz, E78, and
Kim E. Schwarz, J78
Richard D. Siegel, Ph.D., E64, EG66, and
Barbara S. Siegel
Robert M. Simonetti, E56
Guy A. Simonian, E76, and
Darlene C. Simonian
Dorothy L. Smith
Robert B. Stanfield, Sc.D., E53
Robert A. Steeves, P.E., E72
Peter J. Wetzel, E61
Christopher G. White, E84
Edward A. White, E47
Louis H. Winnard, E46
Stephen T. Witkowski
Paul Ingraham Wren Jr., E57, and
Vizma A. Wren
Judith A. Young, B.S., E60, and
C. Fredric Young, E59
ADVANCEMENT AND OUTREACH

The SOE raised $4.6 million this year for endowment, capital, and current use. More than 3,000 alumni and friends made gifts to the Tufts Fund for Engineering totaling more than $1.5 million, an increase of 8.7 percent from the prior year. Among the highlights, Fred S. Berger, A69, and Elizabeth V. Brannan, J69, supported university-wide learning with international impact through gifts for the School of Engineering, Engineers Without Borders, and the Institute for Global Leadership. A family foundation endowed social entrepreneurship at Tufts, underwriting the social track of the Tufts $100K Business Plan Competition. Tufts University has set an ambitious goal to raise $25 million in financial aid; leading the way with new gifts or pledges were: Gregory H. Altman, A97, EG02; Jeannie H. Diefenderfer, E84; Andrew J. Frommer, E79; Monte R. Haymon, E59, J83P, J85P, and Jane E. Haymon, J60. J83P, J85P; Ellen J. Kullman, E78, A12P; Jon A. Levy, E83; Joseph E. Neubauer, E63, J90P; Jack W. Schuler, E62, E91P; James A. Stern, E72, A07P; James J. Tiampo, A83, E83, and Kristy F. Tiampo, E83; and Gregory A. White, E78.

We also strengthened ties with the Charles Stark Draper Laboratories, securing funding for additional student fellow positions. With continued funding from Steinway Musical Instruments, Inc., we reoffered the successful “Music Apps for the iPad” course co-taught by Ming Chow (CS) and Paul Lehrman (Music). The Pew Charitable Trusts named Qiaobing Xu (BME) a Pew Scholar in Biomedical Sciences, with a grant to advance his work in nanomaterials for vascular grafts. The highly competitive award, whose past winners have included Nobel Prize laureates, identifies talented researchers in medicine or biomedical sciences.

The SOE alumni outreach program continued to bring events, cutting-edge research, and connections to alumni across many regions. In September, Dean Abriola hosted the seventh annual fall Boston-area engineering alumni reception at the USS Constitution Museum and Wind Turbine Testing Center (WTTC) in Charlestown. In early 2013, more than 50 alumni and guests joined Professor and Director of the Center for Engineering Education and Outreach (CEE0) Chris Rogers and new Director of Entrepreneurial Leadership James Barlow in California for a program that featured networking and structured discussions on the past, present, and future of innovation and entrepreneurship at Tufts. In March, the school sponsored an event at Steinway Musical...
Instruments, Inc., in New York for a factory tour and presentation on the music engineering program by Professor Chris Rogers and Lecturer Paul Lehrman (Music). On-campus events included the inaugural Ricci Lecture, established by Board of Advisors member Stephen J. Ricci, E67,E88P, J88P, and his wife, Geraldine. The November Lyon & Bendheim Alumni Lecture featured author, entrepreneur, public speaker, and founder of Squidoo, Seth Godin, E82. In December, the Dean Kim Knox Lecture on Ethics and Public Policy featured Matthias Scheutz (CS) on “The Virtues and Vices of Social Robots.” In February, David Greenwald, SK11, spoke about Relay Technology Management Inc., the company he co-founded. Greenwald, a geneticist, was the 2008 winner of the Tufts Business Plan Competition and a 2010 finalist at the $1,000,000 MassChallenge global business plan competition. Our eighth annual Engineering Career Networking night took place in February and included more than 40 alumni and 65 student participants. In April, Eric Giler, CEO of WiTricity, delivered the third Alan Shapiro Entrepreneurial Lecture.

This year nearly 750 engineering students and alumni sought individual consultations with the career advisors of the Tufts Career Center. Interviews for full-time jobs and internships for engineering students increased 22 percent from 148 to 181, with a notable rise in internship interviews from 27 to 96. Thirty-seven percent of the firms participating in recruiting events on- and off-campus were engineering and science firms. These events included a new Tufts consortium interview day event in New York City. Our Engineering, Technology, and Science Fair was full to capacity with 56 companies and 449 students, up 28 percent over last year’s record turnout. The Tufts Career Center’s website posted 817 entry-level jobs and listed 822 internships, an increase of more than 21 and 5 percent, respectively. Specialized résumé books—containing almost 300 résumés from student professional groups—were sent to employers who requested 111 copies in total. Graduating seniors reported job offers from top companies, including Amazon, athenahealth, Boston Children’s Hospital, Epic, Google, LinkedIn, Microsoft, MIT Lincoln Laboratory, Mitre, Sensata Technologies, Teradyne, Turner Construction, and many start-up companies.

The SOE was featured prominently in the news media this year with 15 unique press releases and more than 1,700 news impressions worldwide. Our bioengineering research in silk-based technologies was featured by the Wall Street Journal, the Boston Globe, Boston Business Journal (BBJ), BBC
News, EE Times, *MIT Technology Review*, the *Washington Post*, Fox News, and the *Economist, New Scientist* and the *Fiscal Times* also featured our research on the human/technology interface. Our research in engineering sustainability was featured in *Chemical & Engineering News* and highlighted on WGBH, NPR, and CNBC. The *Globe*, BBJ, and other local media outlets also covered student participation in our business plan competitions and activities and events at the CEEO.

**DIVERSITY**

This year, the Center for STEM Diversity (CSD) experienced a leadership transition as Dr. Travis Brown stepped down as director. In April, we were pleased to welcome Dr. **Darryl Williams** as the new center director and the new associate dean for recruitment, retention, and community engagement. Dr. Williams, a chemical engineer (Ph.D., University of Maryland), joined us from Washington, D.C., where he held a program director position at the National Science Foundation, focusing on engineering education.

A significant CSD achievement was to secure a gift from **Carolyn Birmingham**, E57, and **James Birmingham** to provide additional student mentoring support in the Bridge to Engineering Success at Tufts (BEST) program. This fall, we welcome our fourth cohort, nine new students, into the BEST program, which continues its success with the help of a generous gift from **Peter Kamin**, A84, A16P, that supports the direct costs of the BEST program for five years.

*John Durant (r), an associate professor in the Department of Civil and Environmental Engineering, introduces the Bridge to Engineering Success at Tufts (BEST) students to the Environmental Sustainability Laboratory and describes his research measuring air pollution content in areas near urban highways: “We put highways in the middle of cities, which is a public health concern because one-tenth of all Americans live within 200 meters of a highway.”*
Louie Zong, E13

The Sun Also Rises

Financial aid helped Louie Zong, E13, accomplish not one dream, but three. The soft-spoken student from near Utica, New York, majored in civil engineering, minored in studio art, and performed jazz piano.

“Tufts, and the financial aid I’ve received, have enabled me to experience all the facets of the things I enjoy,” he says.

Since childhood, he’s been fascinated with anything to do with transit systems. But upon coming to Tufts to pursue engineering, he also began to nurture his natural artistic gifts. Having never taken an art class before Tufts, he studied animation, children’s book illustration, and comic book art at the Museum of Fine Arts. Among his personal projects, he digitally illustrated a children’s book written by fellow students and has a webcomic/cartoon series called The Sun Also Rises. He also regularly published editorial cartoons and comic strips in The Tufts Daily.

Then there is piano. He played with the Tufts Jazz Orchestra (formerly the Big Band) and performed “Sinatra-type” music in small jazz groups.

Says Louie, engineering and jazz are close cousins. In both, “you’re thinking on your feet to solve a problem.”

Louie helped fund his education through part-time and summer jobs, working at a daycare center, and painting houses. But his scholarship is what made all the difference. He is incredibly grateful.

“It’s completely accurate to say that I would not have been at Tufts without this generous gift,” he says.
After graduation last spring, Grace Bambushew stepped off the Tufts campus and stepped onto an aircraft carrier.

After completing her degree in mechanical engineering, Grace began a prestigious Navy training program that combines academic study of nuclear engineering with preparation to be a military officer. The Nuclear Propulsion Officer Candidate Program is providing her with an education similar to that offered by a master’s degree program in nuclear engineering, while also helping her develop leadership skills aboard an aircraft carrier.

Or, as she puts it, “I’m going to have an engineering job as well as officer rank while traveling around the world.”

Grace’s dedication to the Navy seems especially fitting, given the scholarship that provided her with financial aid at Tufts. Carol L. Parrella, E85, created the Theodore L. and Ruth B. Parrella Endowed Scholarship Fund in her parents’ memory in 2007. When Grace met Carol Parrella, she was fascinated to learn that Parrella’s father served in the Navy and her mother served in the Marine Corps Women’s Reserve during World War II.

“I’m extremely grateful for the financial aid that was provided to me by the Parrella Scholarship,” Grace says. “It made a big difference for me during my time at Tufts.”

Getting to know great people was the best part of Grace’s undergraduate experience, she says. Students, professors, and mentors helped her decide to pursue mechanical engineering, after starting out in biomedical engineering, and gave her a strong sense of community.

“When I returned to my parents’ house during college, I found myself referring to Tufts as ‘home,’” she says. But it was Tufts that prepared her to exchange that home for yet another one: a nuclear-powered, seagoing airbase.
INFRASTRUCTURE DEVELOPMENT

Working with the Office of the Vice President for Facilities and Planning, the school has completed a space master plan that examines both traditional campus space (classroom, office, and labs) and nontraditional, leased space at Boston Avenue. Led by Executive Associate Dean Scott Sahagian and Director of University Space Management and Planning Lois Stanley, the process included in-depth interviews with department chairs, assessment of current and projected enrollments in undergraduate and graduate programs, and evaluation of current research lab conditions for future use. This instrument has been extremely helpful as the SOE leadership team identifies key areas for strategic development.

With the completion of the Steve Tisch Sports and Fitness Center, the athletics department has vacated space in Halligan Hall, allowing us to start the renovation of the street-facing half of the building. Combining school resources with deferred maintenance, this $4.5 million project, completed this fall, includes an elevator for handicapped accessibility, new bathrooms, offices, collaboration space, and classrooms for the ECE and CS departments, as well as a new main office for CS. Other projects this year included renovations at 4 Colby Street, where two labs in ChBE were upgraded to accommodate new faculty research. The 4 Colby Street location continues to be a highly productive hub for sponsored research, requiring that we constantly upgrade the labs to keep pace with the cutting-edge research being performed in those spaces. We also resumed discussions about plans for development of an interdisciplinary science/engineering building. In addition, we secured new leased space to support the Center for Silk Technologies under the direction of Professors David Kaplan and Fiorenzo Omenetto.

Active collaborative projects between Arts and Sciences and Engineering include the redesign and refurbishment of Cohen Auditorium, one of the largest spaces on campus for student and faculty engagement. This space had not been updated in more than 20 years, and the new design will ensure handicapped accessibility, better teaching platforms for large classes, and improved quality of seating. This year Tisch Library underwent a major facility review to identify the services and support that will be required for the next generation of faculty and students. As we move forward, we are considering a learning commons center model that would provide a range of activities from digital design to small- and large-group workspace. Adapting the library space to meet future needs will be the focus of resource allocations in the coming years.
Halligan Hall

When Halligan Hall was built, Woodrow Wilson was president, half of all American cars were Model Ts, and computers were people sitting at tabulating machines.

Times have changed.

Halligan is now buzzing with today’s cutting-edge technologies. As home to two departments that are rapidly growing in popularity—computer science, and electrical and computer engineering—the building is a hub of student activity, 24 hours a day. Here, young people learn how to develop the technologies that are central to the current economy.

Our students work on projects in teams, just as they will one day in the professional world. To do so, they seek out Halligan’s computer labs, classrooms, and hallways to test ideas and share insights with their classmates. On any given night, all computers are taken, and students are camped out in classrooms with their laptops.

We’re glad to see more students involved in these departments and excited that such collaborative learning is thriving here at Tufts. But Halligan Hall wasn’t designed for it.

We are currently renovating the building to support our outstanding faculty and students, create an appealing home base for two vital departments, and encourage collaborative learning among the next generation of engineering leaders.

To support the best education for our electrical and computer engineers and computer scientists, the School of Engineering needs learning environments that encourage and assist team-based problem solving.

This renovation features:
- An open interaction space to foster collaboration
- A spacious new seminar room near the building entrance
- A student and faculty lounge to make our students’ “second home” more inviting
- More natural light, filtered through solar tubes
- Enhanced systems throughout the facility

To learn how you can support the Halligan Hall renovation, please contact:

Cindy LuBien  
Senior Director of Engineering Development  
Tufts University  
80 George Street  
Medford, MA 02155  
617.627.4512  
cynthia.lubien@tufts.edu
SCHOOL OF ENGINEERING CONNECTIONS

Tufts University
School of Engineering
105 Anderson Hall
200 College Avenue
Medford, MA 02155
Phone: 617-627-3237
Fax: 617-627-3819

School of Engineering
Advancement Office
80 George Street, Suite 331
Medford, MA 02155
Phone: 617-627-4512
Fax: 617-627-5867

Learn about the School of Engineering:

engineering.tufts.edu

Find alumni news and resources:

engineering.tufts.edu/alumni and tuftsalumni.org

Connect for recruiting, education, and research:

engineering.tufts.edu/industry

Support future Jumbos:

giving.tufts.edu

Members of the BEST program with Dean Abriola, CSD director Darryl Williams, and program instructors.