On the Cover: Working in Professor Sameer Sonkusale’s Nanoscale Integrated Sensors and Circuits Lab, doctoral recipient Pooria Mostafalu published his research on “smart” thread that wirelessly collects real-time data when sutured into tissue.
Dean’s Message

As I reflect on my first year as dean, I’m pleased to highlight the significant growth of Tufts University School of Engineering. Tufts School of Engineering continues its upward trend increase in national visibility, selectivity, and size. This year, our selectivity in undergraduate recruitment was at a record-breaking low of 11.5%. The Class of 2020 boasts 37% women, when the national average for women enrolled in undergraduate engineering programs is 21.4%. U.S. News & World Report listed Tufts School of Engineering among the 10 engineering schools nationwide with the highest percentage of women enrolled at the master’s and doctoral level in both full-time and part-time programs during fall 2015. This year, we also graduated a record number of doctoral students and named our first recipient of the Linda M. Abriola Graduate Fellowship, which honors Dean Emerita Abriola and provides funding for our top doctoral candidates.

Our faculty received many accolades, including three junior faculty CAREER awards from the National Science Foundation (NSF) and one Presidential Early Career Award for Scientists and Engineers (PECASE), the highest U.S. honor bestowed upon junior faculty in science and engineering. Our professors were appointed to national positions such as science envoy for the U.S. Department of State and vice chair of the National Science Board, the body that advises the President and U.S. Congress on matters of science and policy.

Our research activity grew substantially, with FY16 externally-sponsored research expenditures increasing by more than 20%, and new facilities for unique semiconductor fabrication coming online. For a record eighth consecutive year, engineering leads all Tufts schools in technology transfer activity, this year producing more than half of all invention disclosures in FY16.

Faculty continued to excel in our three primary strategic research areas: human health, energy sustainability, and human-technology interface.

In our strategic research area of engineering for human health, Tufts engineers made a splash in national news with the invention of “smart” thread that collects diagnostic data when sutured into tissue. Our faculty grabbed headlines when they demonstrated how encapsulating and stabilizing blood samples in air-dried silk protein can have broad applications for clinical care
and research. An ultra-thin coating of biocompatible silk was also shown to extend the room-temperature shelf life of delicate fruits—a potential game changer in the food industry.

In the area of energy sustainability, our faculty demonstrated how a new generation of platinum-copper catalysts could help us cleanly and cheaply perform important chemical reactions. In the research area of human-technology interface, our faculty made the news for their program that measures how hard the brain is working and uses that information to help beginners learn to play Bach chorales on the piano. We also provided our first round of funding through our new Center for Applied Brain and Cognitive Sciences, a collaborative research partnership with the U.S. Army Natick Soldier Research, Development, and Engineering Center.

With the support of alumni and friends, we were able to raise 41% more funds than the previous year for endowment, capital, and current use. Donors to the Tufts Fund for Engineering lifted us 2% over our goal and 6% ahead of the prior year. The number of total donors increased by 9%, and new donors increased by 20%. Details of these and other highlights are provided in the following pages.

Sincerely,

Jianmin Qu
Karol Family Professor
Dean of Engineering
The 2015-2016 academic year was another productive one for our faculty.

**Diane Souvaine**, a professor in the Department of Computer Science (CS), was appointed vice chair of the National Science Board. Professor and Chair **Kathleen Fisher** (CS) was named vice chair of the DARPA Information Science and Technology study group, which identifies new areas of development and research directions in computer and communication technologies.

**Kristen Wendell**, assistant professor in the Department of Mechanical Engineering (ME) and research affiliate at the Center for Engineering Education and Outreach (CEEo), received the PECASE award based on her NSF CAREER Award research to introduce novice elementary school teachers to community-based engineering design as a strategy for teaching and learning in urban schools. She received the award at a White House ceremony in the spring. Three other junior faculty members also received prestigious NSF early career awards: Assistant Professors **Shuchin Aeron** in the Department of Electrical and Computer Engineering (ECE), **Ayse Asatekin** in the Department of Chemical and Biological Engineering (ChBE), and **Jeffrey Guasto** (ME).

Four professors were named Fellows of their professional societies. Professor and Chair **Kurt Pennell** in the Department of Civil and Environmental Engineering (CEE) was promoted to Fellow of the American Society of Civil Engineers (ASCE) for his “contributions to the development and advancement of in situ remediation technologies designed to treat contaminated soil and groundwater.” Professor **John Durant** (CEE) was also named ASCE Fellow for “investigating the fate and transport of environmental pollutants for the purpose of characterizing affected environments, predicting human exposures, and informing mitigation strategies.” Professor **Sergio Fantini** of the Department of Biomedical Engineering (BME) was elected to the American Institute for Medical and Biological Engineering (AIMBE) College of Fellows for “outstanding contributions to the development of quantitative techniques for diffuse optical spectroscopy and...”
imaging of biological tissue.” Associate Professor Irene Georgakoudi (BME) was named a 2016 Fellow of the Optical Society of America, for contributions to the use of endogenous markers for optical imaging of metabolic processes in normal and diseased tissue and for tissue engineering. She was also named a Senior Member of the international society for optics and photonics (SPIE).

University Professor Linda Abriola (CEE) was named one of five Science Envoys by the U.S. Department of State. As a Science Envoy, Abriola will engage internationally at the citizen and government levels to develop partnerships, improve collaboration, and forge mutually beneficial relationships between other nations and the United States, to stimulate increased scientific cooperation and foster economic prosperity. Abriola will focus on STEM education and engineering in the Middle East, North Africa, and South and Central Asia. She was also appointed director of the Tufts University Institute of the Environment, effective September 2016. Professor Soha Hassoun in the Department of Computer Science (CS) was selected as the recipient of the 2016 Marie R. Pistilli Women in Electronic Design Automation Achievement Award. The award was conferred at the 53rd Design Automation Conference (DAC) in recognition of her service to the Design Automation Conference “for her contribution to research, technology, and the education of engineers in such a wide variety of fields.”

Additionally, this year marked the completion of seven successful promotion/tenure cases. Lauren Black and Qiaobing Xu (BME) and Remco Chang (CS) were promoted to tenured associate professor. Mai Vu (ECE) was tenured at the rank of associate professor; Luis Dorfmann (CEE), Donna Slonim (CS), and Sameer Sonkusale (ECE) were promoted to full professor.
**SELECTED STUDENT ACHIEVEMENTS**

Khuyen G. Bui (CS) won the 2015 Global Peter Drucker Challenge in an essay contest focused on managing oneself in the digital age. Lily Buechler (ME) received an honorable mention in the Barry Goldwater Scholarship and Excellence in Education Program. Three CS students received honorable mentions from the Computing Research Association as outstanding undergraduate researchers. Our engineering student athletes continued their long winning streak both on and off the track. Four-time national 800-meter champion Mitchell Black (ME) was one of two student-athletes nationwide to receive the 2016 Walter Byers Postgraduate Scholarship recognizing outstanding academic achievement and potential for postgraduate success. He is the first recipient ever selected from the New England Small College Athletic Conference.

Our graduate students garnered notable research awards. Sarah Lightfoot Vidal, a BME doctoral student in the NSF IGERT Soft Material Robotics program, received a National Defense Science and Engineering Graduate fellowship. Doctoral student Jessica Stieglitz (ChBE) received an NSF Graduate Research Fellowship award for research in applying biomolecular engineering and chemical biology techniques for the discovery of new therapeutic molecules and biocatalysts. Postdoctoral student Peter Tseng (BME) received an NIH fellowship for research on bringing practical usability to dielectric antennas, bridging the gap between laboratory measurement and real-time, and providing real-world health monitoring applications. Graduate student

Khuyen G. Bui

Mitchell Black

Jessica Stieglitz

Peter Tseng
Meenal Datta (ChBE) received an NIH fellowship for her research on alleviating solid stress in granulomas via anti-fibrotic therapies to improve vascular perfusion and enhance oxygenation and drug delivery, resulting in improved immune response.

Our engineers are also inventors and entrepreneurs. Electrical engineer Emily Gill, computer scientist Maggie Chapman, and computer engineer Tara Watson collaborated with Professor of the Practice and Research Assistant Professor Brian Tracey (ECE) to help develop a low-cost telemedicine system to remotely monitor patients in Peru who have multi-drug resistant tuberculosis. They are submitting a provisional patent on the design of their “Cough Counter” and received high praise at the Mass Innovation Nights entrepreneurship event. At this year’s Tufts $100K New Ventures Competition, computer science majors Ian Luo and Abdisalan Mohamud and electrical engineering student Arlo Clarke were part of the team that took first place in the High-Tech/General track with their company Mimir Insights, which helps companies find the best customers for their scientific equipment and services.

Biomedical engineering student Shehryar Malik’s team Hujambo received the Stephen and Geraldine Ricci Interdisciplinary Prize for a low-cost, high-tech smartphone design. Mechanical engineering alumna Alexandra Zimmerman won first place in the Health and Life Sciences track as part of team BrainSpec, a software platform that uses magnetic resonance spectroscopy to help diagnose a wide range of neurological disorders, including brain tumor progression, Alzheimer’s disease, temporal lobe epilepsy, and traumatic brain injury.
Tufts Engineering undergraduate admissions again posted stellar numbers for the incoming class. This year, the pool of engineering applications reached a record high of 3,906, up 47% in the last five years. The engineering acceptance rate was 11.5% (as compared to 15% last year, and 25.9% in 2011). In addition, the quality of our accepted students continues to climb with a new record in mean SAT scores: 1486. The Class of 2020 is comprised of a record-breaking 37% women, 41% Americans of color, 13% foreign citizens, and 16% first-generation college students. The Class of 2020 includes students from 26 states and 24 countries; 66% are from public high schools. Need-based financial aid remains an important part of the school’s undergraduate admissions outcomes, with 47% of the admitted class receiving a Tufts grant, up from 43% from last year. This year, engineering hired Jennifer Stephan as the new Associate Dean for Undergraduate Advising, reporting to the Associate Dean for Undergraduate Education.

Under the direction of Associate Dean for Graduate Education Karen Panetta (ECE), engineering graduate programs have sustained their growth, with fellowship offer acceptances holding steady at approximately 33%. In the fall, we welcomed six new fellows funded through the Office of the Provost and the Engineering Dean’s Office. We also awarded a John and Dorothy M. Adams Interdisciplinary Graduate Fellowship and a Stern Fellowship, which was made possible through the generosity of James A. Stern, E72, A07P, former chair of Tufts Board of Trustees. This year also marked the awarding of the inaugural Linda M. Abriola Graduate Fellowship, which targets outstanding doctoral candidates. This fellowship was spearheaded by Steven Karol, A76, A04P, A13P, Trustee and chair of the school’s Board of Advisors, who, with his family, issued a “Chairman’s Challenge” to match gifts from the rest of the board. At Commencement, we hosted our fourth doctoral hooding ceremony, hooding 37 candidates, the largest cohort in the school’s history.
A number of efforts were undertaken this academic year to enhance our curricula. The Curriculum Task Force (CTF), chaired by Professor Jeff Hopwood (ECE), reviewed the progress of some engineering classes using the flipped classroom model. The CTF continues to discuss how to redesign the Tufts curricula to prepare 21st century engineers, including the flipped classroom and other non-traditional course delivery models. Explosive growth in the technical content of the engineering discipline requires a culling of core topics within the discipline. With input from the School of Engineering Board of Advisors, the CTF seeks to outline which fundamental concepts and skills define the profession of engineering, with the goal of creating curricula that provide students with greater flexibility in choosing minor courses of study.

In graduate education news, we will now offer students a one-year master of science degree program. MS students can stay for up to three additional semesters to complete research, resulting in a thesis. This fall, the CEEO began offering an online-only engineering education certificate program designed to help K-12 teachers respond to recent changes in science education standards. Mark Ranalli, Associate Dean and Executive Director of Tufts Gordon Institute, launched a new Saturday cohort of master of science in engineering management (MSEM) students, increasing first-year enrollment by 44%. Tufts Gordon Institute also introduced a new one-year MS program in innovation and management. The program is built on multiple capstone projects spread across all three semesters, where students directly exercise and apply skills in customer identification, value proposition development, business modeling, financial planning, market messaging, and positioning. Similar to the MS in Engineering Management program, students will gain powerful leadership skills to communicate, persuade, negotiate, and effectively lead. Former Board of Advisors member Kevin Oye, E79, was named program
director, and successfully recruited the first cohort of 17 students from top schools in the United States, Europe, China, and India.

In engineering education outreach efforts, the CEEO began a relationship with the Malden Public Schools’ Linden STEAM Academy to introduce their K-8 students to Novel Engineering, an integrated approach to using picture books, novels, or expository texts as a basis for engineering design challenges. CEEO Director Merredith Portsmore received a grant from the 100Kin10 Foundation, a nonprofit organization dedicated to improving and increasing the K-12 STEM teaching workforce. Tufts CEEO and Bank Street College of Education worked together to develop a prototype of a curriculum visualization tool to transform traditional engineering education lesson plans.
## Fall 2015 Enrollment Degrees Granted

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<tr>
<th>Engineering Program</th>
<th>BS(^2)</th>
<th>ME</th>
<th>MS</th>
<th>PhD</th>
<th>BS(^4)</th>
<th>ME</th>
<th>MS</th>
<th>PhD</th>
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<td>31</td>
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<td>11</td>
<td>9</td>
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<td>Biotechnology Engineering</td>
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<td>Engineering Science</td>
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<td>338</td>
<td>190</td>
<td>220</td>
<td>27</td>
<td>136</td>
<td>31</td>
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*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

**Includes 6 Computer Science Ph.D. students enrolled in the joint Ph.D. program in Computer Science and Cognitive Science in fall 2015

1 August 2015 to May 2016
2 Enrollment of first majors as of May 2016; School of Arts and Sciences enrollment in Computer Science and Human Factors enrollment as of June 2016
3 Computer Engineering degrees under Electrical Engineering
4 In May 2016, 5 students completed the BS/MS program

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### Selectivity in Undergraduate Admissions

![Graph showing selectivity in undergraduate admissions from 1996 to 2016](image)
Tufts Engineering’s research productivity continues to climb. Total annual externally-sponsored research expenditures exceeded $25.1 million, the highest in our school’s history and a 21% increase over the previous year. The faculty submitted 290 proposals, with 77 new and supplemental awards. This year, in the fifth round of provost-funded collaborative teaching and research grants, engineering faculty members had representation on nearly half of the funded proposals, garnering one Tufts Innovates and nine Tufts Collaborates awards. The Tufts Office of Technology Transfer and Industrial Collaboration reported that for the eighth consecutive year, Tufts Engineering has led all schools in invention disclosures, accounting for 53% of total university tech transfer activity. The following sections highlight other significant achievements in interdisciplinary research in our three primary strategic research areas: engineering for human health, environmental sustainability, and the human-technology interface.
Students design wearable devices, such as this glove to create a 4D experience of a boxing match for the wearer.
Engineering for Human Health

Stern Family Professor and Chair David Kaplan (BME), in collaboration with colleagues at Massachusetts General Hospital, received a $1.78 million R01 NIH grant to utilize in vitro 3D brain-like tissues to compare molecular mechanisms involved in traumatic brain injury and repair. Kaplan also received a $1.4 million NIH grant for a project to define the tissue architecture and cell signaling microenvironments required to promote the generation of appropriately patterned nephrons in culture using silk protein as a scaffolding biomaterial. Doble Family Professor Fiorenzo Omenetto (BME) was awarded $1.3 million from the Office of Naval Research (ONR) for the investigation of using silk-based materials to establish the fundamental underpinnings of a multifunctional platform for biocompatible energy sources. Associate Professor Manolis Tzanakakis (ChBE) received an NSF EArly-concept Grants for Exploratory Research (EAGER) grant for research involving stem cell biomanufacturing for therapies in regenerative medicine related to pancreatic cells and potentially improving the quality of life of diabetes patients. Assistant Professor Jeffrey Guasto (ME) received a five-year, $500,000 NSF early career award for his investigation of how the properties of viscous fluids affect the motion of swimming cells. The work will help researchers understand how physical processes affecting cell motility can regulate a host of diverse biological functions such as infection and reproduction.

Engineering for Sustainability

Associate Professor Marc Hodes (ME) was awarded a $1.5 million NSF grant for modeling the fluid composition, material microstructure, and strain interaction of a class of superinsulating and lightweight materials called aerogels. Assistant Professor Ayse Asatekin (ChBE) received a five-year, $500,000 NSF early career award to develop novel membranes with new capabilities for uses underserved by existing technologies, such as peptide
separations and textile wastewater treatment. Professor Laurie Baise (CEE) received a grant from the U.S. Geologic Survey to develop a mapping approach to assess intensity of natural hazards such as soil liquefaction, which occurs when an earthquake exerts stress on water-saturated soil. Louis Berger Professor Steven Chapra (CEE) received the ASCE 2016 Wesley W. Horner Award for the paper considered “the most valuable contribution to the environmental engineering profession” in the past year. Chapra also received this award in 2015, making him one of only two first-author recipients to ever receive the award in consecutive years.

**Engineering the Human-Technology Interface**

Assistant Professor Shuchin Aeron (ECE) received a five-year, $530,000 NSF award for his work advancing multidimensional data science via new algebraic models and algorithms, which can be applied to problems in a wide range of fields, including social networks, medical imaging, geophysical inversion, computer vision, big data management, and forecasting of complex events. As a result, the research involves collaboration with multiple groups at Tufts and beyond, including: the Department of Mathematics in the School of Arts and Sciences, the Department of Neuroscience in the School of Medicine, and the Tufts Interactive Learning and Collaboration Environment (InterLACE) program at Tufts CEEO; Brigham and Women’s Hospital; and AT&T. Professor Rob Jacob and doctoral recipient Beste Filiz Yuksel developed the BACH System—short for Brain Automated Chorales—to help beginners learn to play Bach chorales on the piano by measuring how hard their brains are working. It only offers a new line of music to learn when the brain isn’t working too hard, avoiding information overload. BACH estimates the brain’s workload using functional near-infrared spectroscopy (fNIRS), a technique that measures oxygen levels in the brain. Yuksel received a best paper award at CHI 2016 for this research.
FACULTY RECRUITMENT

This year, faculty recruitment has brought Tufts Engineering’s tenure track faculty to 86. Of those 86 faculty members, 19 are women and nearly one-fourth are ethnic minorities. This year, we recruited eight tenure-track faculty members, each of whom will bolster research and teaching programs in our strategic areas. New hires include:

**JP de Ruiter**  
*Bridge Professor, Computer Science and Psychology*  
JP de Ruiter has wide-ranging research interests that include cognitive science, robotics, human-machine interaction, and the evolution of language. He earned his PhD from Radboud University–Nijmegen.

**James Intriligator**  
*Professor of the Practice, Mechanical Engineering*  
James Intriligator earned his PhD from Harvard University. He joins Tufts with expertise in designing and running innovative extracurricular, interdisciplinary programs that build both students’ enterprise skills and local business connections. His research interests also include consumer psychology.

**Kevin Oye**  
*Professor of the Practice, Tufts Gordon Institute*  
Kevin Oye joins the Tufts faculty with 35 years of experience leading product development, corporate strategy, and merger and acquisition teams. Previously, he was the vice president of systems and technology at Sycamore Networks, Inc. He received his BS in Electrical Engineering from Tufts, and his MS in Electrical Engineering from Stanford University. *(Pictured on page 10.)*

**Amy Pickering**  
*Visiting Assistant Professor, Civil & Environmental Engineering*  
Amy Pickering earned her PhD from Stanford University. Her research studies the sustainability and child health impacts of water, hygiene, and sanitation interventions in low-income settings.
Laney Strange  
*Lecturer, Computer Science*

Laney Strange’s research interests lie in parallel and distributed computing, out-of-core algorithms, data mining, and search. She earned her PhD from Dartmouth College.

Helen Suh  
*Professor, Civil and Environmental Engineering*

Helen Suh earned her ScD from Harvard University. Her research focuses on several general areas within air pollution health effects, including assessment of the impact of lifestyle and neighborhoods on air pollutant exposures and human health.

Brian Timko  
*Assistant Professor, Biomedical Engineering*

Brian Timko’s research interests lie at the intersection of materials science, chemistry, and biology, with a major focus on nanotechnology and nanoscale interfaces between solid-state and biological systems. He earned his PhD from Harvard University.

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**Engineering Faculty Size and Composition**

<table>
<thead>
<tr>
<th>Year</th>
<th>Non-tenure-track—full-time</th>
<th>Tenured/tenure-track</th>
<th>Professor of the practice</th>
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<tr>
<td>2015–16</td>
<td>105</td>
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</tbody>
</table>

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Laney Strange  
Brian Timko  
Helen Suh
ADVANCEMENT AND OUTREACH

Development

We are grateful for the exceptional support provided by our alumni, friends, and other donors. With the help of Cynthia D. LuBien and the Tufts Engineering Advancement team, $8.5 million was raised for endowment, capital, and current use, toward a goal of $5.64 million. This is an increase of 41% over the prior year. Almost 3,300 donors made gifts to the Tufts Fund for Engineering, totaling more than $1.67 million. This was 2% over goal and 6% ahead of the prior year. The number of total donors increased by 9%, and new donors increased by 20%. New gifts and pledges added $4 million for endowment, including the N. Bruce and Lorry Hanes Endowed Fellowship Fund and the Neal Birnberg Scholarship Fund. The former was created to honor Professor N. Bruce Hanes (CEE), who passed away in 2014, by supporting an MS student researching public health and environmental engineering. Professor David Gute; Professor Emeritus Lin Brown; Vicki Hanes-Siarnacki; and Ellen Schuette from Advancement have yielded gifts and pledges totaling $188,000. With the university’s financial aid initiative (FAI) matching, the fund will be worth more than $376,000. Neal Cary Birnberg, E76, the child of Holocaust survivors, was the first person in his family to attend college. To honor his memory, his wife Jean Birnberg and family members took the lead in establishing a Neal Birnberg Scholarship Fund with the help of William Lavin from Advancement. To date, the group has raised $116,000. With FAI matching, the endowment of roughly $232,000 will benefit a deserving undergraduate engineering student who would otherwise not be able to attend the university.
Corporate and Foundation Relations

This year, Charles Stark Draper Laboratories continued their funding of our fellows program to support graduate education. Our first recipient, Peter Lewis, EG16, graduated this past May with his master’s degree and is now a full-time engineer with Draper. A new gift agreement between Tufts Engineering and PTC was signed for the creation of a workshop series and a new course on the “Internet of Things” to be taught collaboratively by Professor Soha Hassoun (CS) and Associate Professor Mark Hempstead (ECE). Tufts CEEO continued its partnership with LEGO Education through a new three-year contract to create a Discovery Lab for LEGO Education within the CEEO. The lab will help Tufts researchers provide increased advising to LEGO Education affiliates. In addition, the Tufts CEEO, in cooperation with the LEGO Foundation, the Capitol of Children, and the municipality of Billund, Denmark, partnered to pilot a project called Billund Builds Music, in which children ages 3 to 15 spent a week studying musical engineering, using recyclable and craft materials to create their own unique instruments.

Alumni Outreach

In the summer of 2015, Dean Jianmin Qu hosted outreach events for parents and alumni in Shanghai, China, organized by Ming Zhong, Director of Tufts Asia Relations and Development. With the help of Senior Associate Director Jonathan Kaplan in Alumni Relations, the dean was introduced to the Tufts local community at a reception held at Short Path Distillery, a new venture in Everett co-founded by Jackson B. Hewlett, E06, EG08. In November, for the 2015 Tufts $100K New Ventures Competition roadshow in the San Francisco Bay Area, William Lavin worked with TGI’s Entrepreneurial Leadership Studies Program to stage nine pitch sessions plus an evening event featuring Dean Qu. The dean traveled back to San Francisco in February to attend an alumni event hosted by Michele and Steve Kirsch, E18P, and Marieke and Jeffrey Rothschild, E18P. Mr. Rothschild was invited to campus in April to present the inaugural dean’s lecture, in which he spoke about his experience as the Vice President of Engineering for Facebook and his career as a serial entrepreneur. That same week, the dean gave a lecture on the future of engineering education as part of a reception celebrating his being named the Karol Family Professor, an endowed
chair created through the generosity of Michelle M. Karol, A04P, A13P, and her husband, Trustee and Engineering Board of Advisors member Steven E. Karol, A76, A04P, A13P. Later that month, the dean was introduced at a New York area alumni event that also featured New Ventures Competition winners at a reception hosted by Charles Bonello, A07, at Grand Central Tech.

For this year’s Lyon & Bendheim Lecture Series, we welcomed Emanuel Stern, A85, the managing principal at Tall Pines Capital, a New York City-based, privately-held real estate investment firm. In the spring, we hosted Omer Trajman, E00, CEO of Rocana, a company that recently raised $19 million to simplify and accelerate how large-scale companies run teams and track and fix data issues on the fly. In February, Jonathan Kaplan and Robin Kahan, Associate Director of Tufts Career Center, organized the annual Student-Alumni Networking Night, which drew a record number of students and alumni. This year also featured the fourth Stephen and Geraldine Ricci Interdisciplinary Prize Lecture, in which members from last year’s prize-winning team presented their project, Spotlight Parking, an on-demand valet service and mobile app.

**Engineering Career Services**

Robin Kahan and advisors in Tufts Career Center oversaw consultations for more than 925 engineering and CS students, as well as for more than 100 engineering alumni, a record 29% increase over the previous year. The Fall Career Fair hosted 181 companies (up from 156 last year), and the Spring Fair (which combined the Sci-Tech and Job and Intern Fairs) boasted 171 companies. Engineering companies accounted for 35% of all on-campus recruiting and career fairs. Students who went on to pursue higher education received acceptances at top graduate schools including Carnegie Mellon, Georgia Tech, Cornell, and Tufts; students who went on to industry or government employment received full-time offers with companies such as athenahealth, Google, Johnson Controls, Merck, NASA, and Simpson Gumpertz and Heger.
DIVERSITY

The Bridge to Engineering Success at Tufts (BEST) program continues its success with its third cohort of 10 students successfully graduating, three with honors, this past May, and its seventh cohort having arrived this past summer. Kristin Finch, Associate Director of the Center for STEM Diversity (CSD), has continued to expand and improve this program, with a generous gift from a Tufts alumnus supporting the direct costs of the program through the 2017 academic year. Recent BEST alumni Kevin Ligonde and Daniela Torres, both E16, have been named Draper Fellows to continue their mechanical engineering studies at Tufts. The Center for STEM Diversity also had another successful year overseeing the STEM Ambassadors outreach program, in conjunction with the Jonathan M. Tisch College of Civic Life, to change the conversation about underrepresented groups in science and engineering. Under Director Darryl Williams, the center hosted the annual GEM Grad Lab, in collaboration with members of the Massachusetts Consortium of STEM Programs, to help recruit new graduate students and prepare current ones for futures in industry or education. Associate Dean Karen Panetta, Williams, and Finch were awarded a $1 million NSF grant to recruit and retain a consistent cohort of low-income undergraduate engineering students to complete a fifth year at Tufts, leading to a master of science degree in engineering. The program’s core features are early outreach and recruiting of undergraduates; careful matchmaking and support of the student-research mentor relationship; skill-building workshops beginning in the senior year; optional undergraduate research experiences; and tuition scholarships.
I N F R A S T R U C T U R E  
D E V E L O P M E N T

FY16 was bursting with activity in facilities planning and construction, including the grand opening of the Collaborative Learning and Innovation Complex (CLIC). Construction on the Science and Engineering Complex (SEC) continued throughout the year, with the project on time and budget for its projected completion in the summer of 2017. Despite challenging economic conditions and ever-present space constraints, we continue to seek alternatives to provide research, administrative, and educational facilities to our faculty, staff, and students, such as renovated leased space at 200 Boston Avenue that houses the CEEO, the Center for Applied Brain and Cognitive Sciences, and the new multi-chamber molecular beam epitaxy (MBE) system lab. The MBE lab has been constructed as a result of $3 million in green energy grants for Associate Professor Tom Vandervelde’s (ECE) photonic material research to generate advanced semiconductors.

Our sincere thanks to Executive Associate Dean Scott Sahagian for more than 10 years of service to Tufts Engineering to help make these, and other collaborative learning and research spaces, possible. This spring, Sahagian moved to Tufts School of Arts and Sciences as their new Executive Administrative Dean.
NOTABLE GIFTS

• $1.05 million pledge from an anonymous donor for the Bridge to Engineering Success at Tufts (BEST) program, and a $500,000 pledge for a BEST endowed scholarship.

• $510,000 gift from the estate of Mary N. Little, whose father, Matthias Little, received his engineering degree from Tufts in 1879.

• $500,000 gift for an endowed scholarship from the parents of a member of the engineering Class of 2018 ($1 million split with A&S).

• $500,000 gift from a Class of 1991 member for an endowed scholarship.

• $399,981 grant from the LEGO Foundation for an interdisciplinary project to foster creativity in the classroom, involving the Tufts Departments of Mechanical Engineering, Child Study and Human Development, and Education.

• $250,000 gift from an engineering graduate from the Class of 1983 and his wife, supporting “Vinny’s One Stop Shop” and the Dean of Engineering Fund. The shop project, in honor of retired Mechanical Engineering Department employee Vincent Miraglia, focuses on collaboration, project-based learning, and the use of industry-standard manufacturing and instrumentation equipment.

• $200,000 from an alumni couple, Class of 1983, for their family endowed scholarship fund.

• $150,000 in pledges from an anonymous engineering alumnus from the Class of ’75 for the Tsutsumi Fellowship/Scholarship Fund and to establish the Tsutsumi Faculty Development Fund.

• $125,000 in pledges from a Tufts parent and Class of 1982 graduate for a family scholarship fund and to name a space in the Collaborative Learning and Innovation Complex ($250,000 in total, split with Arts and Sciences).

• $125,000 from an anonymous family foundation to fully endow the Tufts $100K New Ventures Competition Social Impact Track. This gift combined with previous contributions brings the total endowment to $500,000.

• $100,000 scholarship endowed by friends of Tufts in memory of grandparents Frederick C. and Annabelle V. Ward. Frederick Ward, an engineering graduate from the Class of 1928, was a nationally-recognized expert in radar electronics.

• $100,000 pledge from from a Tufts Engineering board member and Class of 1984 graduate, to help Dean Qu to achieve his vision.
SCHOOL OF ENGINEERING CONNECTIONS

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2016 doctoral recipients