The College’s 50th anniversary brought significant advances in rankings, enrollment, faculty accomplishments, and research awards. The College broke ground for the new Center for Integrated Life Sciences and Engineering (CILSE), launched the new Biological Design Center, deepened relationships with Corporate Partners, pioneered a new sophomore engineering design curriculum in the Engineering Product Innovation Center (EPIC) and added new high-profile career specializations in Data Analytics, Cybersecurity and Robotics for Master’s Degree students.

AT A GLANCE

• 1,536 undergraduates enrolled, of whom 31 percent are women
• 445 Master’s Degree candidates and 363 PhD candidates enrolled
• Degree programs in:
  - Biomedical Engineering
  - Computer Engineering
  - Electrical Engineering
  - Manufacturing Engineering
  - Materials Science & Engineering
  - Mechanical Engineering
  - Systems Engineering
• Undergraduate Concentrations:
  - Aerospace Engineering
  - Energy Technologies
  - Manufacturing Engineering
  - Nanotechnology
  - Technology Innovation
• Graduate Specializations:
  - Data Analytics
  - Cybersecurity
  - Robotics

20

Every College of Engineering graduate program ranks in the top 20 among private universities in the U.S.
Application Growth Over 10 Years

300% Application Growth Over 10 Years

Increase in Selectivity

34% Increase in Selectivity

A PRESTIGIOUS GLOBAL DESTINATION
Transforming society through engineering is the goal of every undergraduate at the College of Engineering. That clear mission drew well-qualified applicants from across the U.S. and around the world and contributed to a strong retention rate.

DID YOU KNOW?
92% Average freshman retention rate

STUDY ABROAD CELEBRATES 15 YEARS
Boston University was among the first to establish a study-abroad program specifically for engineering students. In 2014-15, the College launched a new program in Turkey, adding to existing programs in Germany, France, Spain, Ireland, Australia, New Zealand and Singapore.

Undergraduate applications have tripled over the last decade while selectivity has continually increased. Matriculations were up 12% over 2013.
GRADUATE PROGRAMS CONTINUE TO GROW

Graduate programs continued to enjoy strong and steady growth. Selective admissions, the opportunity to work with renowned faculty, and an array of degree programs — including PhD, MS, MEng and the unique Late Entry Accelerated Program (LEAP) for students whose bachelor’s degree is not in engineering — combined to create record-breaking growth in total enrollments.

SPECIALIZATIONS FOR HIGH-PROFILE CAREER PATHS

The College pioneered a unique way for Master’s Degree students to advance in rapidly growing economic sectors that have a critical need for trained engineers. Students can now complete an interdisciplinary Specialization in Data Analytics, Cybersecurity, or Robotics. Accessible from any Master’s Degree program, the Specialization is added to the student’s degree title on the transcript.

Top 10

Biomedical Engineering rose 4 spots to #9 in US News & World Report.

15

Number of places the College has risen in the US News & World Report graduate rankings since 2006. No engineering school in the Top 50 has risen faster. At 37th, BU is now ranked among the top 20% nationwide.
FACULTY HIGHLIGHTS

The College’s award-winning faculty is consistently recognized for excellence in research and teaching with competitive honors, awards, grants and fellowships.

- **John White** (BME), former Executive Director of the Brain Institute at the University of Utah, assumed chairmanship of the Biomedical Engineering Department.
- **Douglas Holmes** (ME, MSE) and **Cara Stepp** (SAR, BME) received the National Science Foundation’s Faculty Early Career Development (CAREER) award.
- **Xin Zhang** (ME, MSE) was named an American Society of Mechanical Engineers (ASME) fellow.
- The American Institute for Medical and Biological Engineering (AIMBE) elected **Muhammad Zaman** (BME, MSE) and **Elise Morgan** (ME, BME, MSE) to the College of Fellows.
- Boston University President and engineering professor **Robert A. Brown** was named a Fellow of the National Academy of Inventors (NAI) and received the National Academy of Engineering’s (NAE) Simon Ramo Founders Award for achievements that better society.
- **Popular Science** recognized Research Associate Professor **Pablo Ruiz** (ME) as one of 12 trailblazing energy technology innovators.
- Working with the City of Boston, **Christos Cassandras** (ECE, SE) and **Yannis Paschalidis** (ECE, SE, BME) led the development of the Street Bump iPhone app to upgrade management of local road repairs.
- The American Institute of Mining, Metallurgical and Petroleum Engineers (AIME) awarded **Uday Pal** (ME, MSE) the 2015 James Douglas Gold Medal Award.
- **Jonathan Klamkin** (ECE, MSE) received NASA’s Early Career Faculty Space Tech Research Grant for his work developing new and faster ways to send data using integrated laser transmitter technology.

IN MEMORIAM

Arthur T. Thompson, the first dean of Boston University College of Engineering, died on May 9th at the age of 96. He served with distinction from 1964 to 1974, laying the foundation for the College’s world-class claim.

The College’s faculty is comprised of highly successful and internationally recognized professors and researchers:

8 National Academy of Engineering or National Academy of Sciences members
4 National Academy of Inventors Charter Fellows
19 IEEE Fellows
29 AIMBE Fellows
39 NSF Career Award winners
2 National Science Foundation Engineering Research Centers
2 NIH PhD training grants
• Christopher Chen (BME), Douglas Densmore (EE, BME, Bioinformatics), Ahmad Khalil (BME) and Wilson Wong established the new Biological Design Center.

• Calin Belta (ME, ECE, SE) and Douglas Densmore (ECE, BME, Bioinformatics) were awarded a five-year, $4.5 million National Science Foundation (NSF) grant to lead a team that includes researchers at University of Pennsylvania, MIT, and SRI International in developing a systematic approach to directing cell behaviors.

• Muhammad Zaman (BME, MSE) and his research team were awarded a $2 million “transition-to-scale” grant to demonstrate the impact of its low-cost, portable medical detector by Savings Lives at Birth: a Grand Challenge for Development.

• Thomas Bifano (ME, MSE) received an award from the Massachusetts Life Sciences Center for biophotonics facilities improvements in support of innovation and economic development at the Photonics Business Innovation Center.

• Christopher Chen (BME) one of the world’s leading tissue engineering researchers, is leading a team of researchers to probe the mechanics of blood vessel formation.

• Mark Grinstaff (BME, Chemistry, MSE) has developed a sensitive imaging method that promises to enhance diagnosis of osteoarthritis and enable improved care through earlier detection and more targeted treatments.

• Yannis Paschalidis (ECE, SE, BME) and William Adams (BMC, MED) published their team’s findings about machine learning software’s success in predicting heart-related hospitalizations in the International Journal of Medical Informatics.

• Darren Roblyer (BME) advanced a noninvasive optical technique to monitor tumor development and optimize real-time drug selection. The novel approach has already shown promise in early stage breast cancer treatment monitoring.

• Christos Cassandra’s research into “smart traffic lights” was one of many efforts included in a new NSF-funded program called SCOPE (Smart-city Cloud-based Open Platform & Ecosystem), coordinated by the Hariri Institute for Computing and Computational Science & Engineering, and led by faculty investigators from computer science, electrical and computer engineering, earth and environment, strategy and innovation, and city planning and urban affairs.

• A photonic device developed by Selim Ünlü (ECE, BME, MSE), Bennett Goldberg (Physics, BME, ECE), John Connor (MED) and researchers from University of Texas Medical Branch for accurate on-site detection of Ebola and other hemorrhagic fever diseases was cited in Forbes as a potentially game-changing technology.

• Senior design team Ahmed Alfuwaires (EE), Sasha Rosca (CE), Mark Barrasso (CE), Patrick Crawford (CE) and Jesse Fordyce (EE) won 1st place and People’s Choice Award for their GrowBox mobile app-controlled hydroponic plant growing box, at the international cornell cup held at the Kennedy space center in Florida.

• Winston Chen (CE) and Quentin Li (CE), along with CAS students Nicolas Hinderling, Huy Le and Scott Woods were admitted to the preliminary round of the ASC15 Student Supercomputer Challenge, the world’s largest supercomputer contest held at the Kennedy Space Center in Florida.

• Bauer LeSavage (BME) received a Barry M. Goldwater Scholarship for his work on improving care of pediatric patients with congenital heart defects.

• MSE PhD students Shizhao Su, Yihong Jiang and Yiwen Gong, and MSE MEng student Xiao Han won the silver medal and a cash prize at the TECO Green Tech Contest in Taiwan for their project, “Innovative Green Technology for Cost-Effective Metals Production.”
RECORD LEVELS OF PHILANTHROPY

The College’s alumni and friends again broke all records for generosity, defying national trends in alumni giving.

The College’s Capital Campaign:
• Surpassed its $60 million goal by 15% with two years remaining.
• Donors stepped up to pledge and give $13 million in Campaign contributions.
• This was triple the average year before the Campaign.

At the same time, Annual Giving participation broke all records for the eighth consecutive year:
• Annual giving was up almost 10%, and up 55% from five years ago.
• The number of Leadership donors — those giving $1,000 or more — has increased by 69% over the past five years.
• The number of annual giving donors increased by more than 7 percent at a time when that number was dropping by more than 9% nationwide.

STEM HIGHLIGHTS

• AT&T Aspire awarded a $145,000 grant for the College to inaugurate a two-year STEM outreach program in a Boston urban school.
• Gretchen Fougere, Associate Dean for Outreach and Diversity, was named one of 29 100Kin10 Fellows and the College of Engineering was one of 12 partner organizations selected to take part in the first annual 100Kin10 Fellowship Program.
• Elise Morgan (ME, BME, MSE) was recognized as one of 100 Inspiring Women in STEM in the September issue of Insight into Diversity magazine.
• In its first four years, the College’s Technology Innovations Scholar Program has sent specially trained undergraduate students (Inspiration Ambassadors) into secondary schools, reaching more than 13,200 K-12 students in 119 schools in 26 states.

CENTER FOR INTEGRATED LIFE SCIENCES & ENGINEERING

In 2015, BU began construction of the new Center for Integrated Life Sciences & Engineering (CILSE), a $140 million, state-of-the-art, nine-story research facility that will bring together life scientists, engineers, and physicians from across the University. Research will be dedicated to systems neuroscience, cognitive neuroimaging, and biological design. With shared, flexible lab spaces, meeting rooms, and other common areas, it is designed to encourage the kind of collaborative, interdisciplinary research that will be the hallmark of 21st-century science and engineering.
AT A GLANCE

Students in 2014-2015
Undergraduate 1,536
Master’s 445
Doctoral 363

Degrees Granted in 2014-2015
Bachelor’s 504
Master’s 229
Doctoral 48

Faculty
Faculty 120
Tenured/Tenure-Track Faculty Positions 130
Research Faculty 15

Alumni
Living Alumni 14,834

Academic Degrees
Biomedical Engineering (BS, MEng, MS, PhD)
Computer Engineering (BS, MEng, MS, PhD)
Electrical Engineering (BS, MEng, MS, PhD)
Global Manufacturing (MS)
Manufacturing Engineering (MEng, MS)
Materials Science & Engineering (MEng, MS, PhD)
Mechanical Engineering (BS, MEng, MS, PhD)
Photonics (MEng, MS)
Systems Engineering (MEng, MS, PhD)

Undergraduate Concentrations
Aerospace Engineering
Energy Technologies
Manufacturing Engineering
Nanotechnology
Technology Innovation

Graduate Specializations
Data Analytics
Cybersecurity
Robotics

Dual Degrees
Doctor of Philosophy and Doctor of Medicine (MD/PhD)
MS in Manufacturing Engineering and MBA in Management Dual Degree Program (MS/MBA)
STEM Educator-Engineer Program Dual Degree Program (BS/MAT)

Other Programs
Cooperative Education Program
Graduate Cooperative Education Program
Intercollegiate Program in Bioinformatics
Late Entry Accelerated Program (MEng/MS)
Study Abroad for Engineering Students
Modular Medical Integrated Curriculum (MMEDIC)

Engineering Research Centers
Biological Design Center
BioMolecular Engineering Research Center
Center for Future Technologies in Cancer Care
Center for Information and Systems Engineering
Hearing Research Center
Smart Lighting Engineering Research Center

Interdisciplinary Research Centers
Center for Computational Neuroscience and Neural Technology
Center for Memory and Brain
Center for Nanoscience and Nanobiotechnology
Center for Remote Sensing
Center for Sensory Communication & Neuroengineering
Center for Space Physics
Center for Systems Neuroscience
Fraunhofer Center for Manufacturing Innovation
NSF Center for Excellence for Learning in Education, Science and Technology (CELEST)
Photonics Center
Rafik Hariri Institute for Computing and Computational Science & Engineering