

Dean, School of Engineering

The mission of the [MIT School of Engineering](#) is to educate the next generation of engineering leaders, to create new knowledge, and to serve society. We are dedicated to creating an environment that enables our faculty, students, and staff to advance knowledge and address today's most pressing challenges. With the Institute's values in mind, we spearhead projects that enhance life and learning, from attracting the most talented engineers to welcoming people from all backgrounds to campus, leading the next revolution in engineering education, and offering increasingly varied avenues that inspire students.

The largest of MIT's five schools, the School of Engineering comprises about 73% of undergraduate majors and 47% of graduate students. Just over a third of MIT's faculty are in the School, and they generate more than half of the sponsored research at the Institute.

Leadership

In 2018–2019, there were a number of leadership transitions and new appointments in the School.

- Hamsa Balakrishnan was named associate head of the Department of Aeronautics and Astronautics (effective July 1, 2018).
- Mark Bathe was named co-faculty lead of New Engineering Education Transformation (effective June 8, 2019).
- Angela Belcher, the James Mason Crafts Professor of Biological Engineering and Materials Science and Engineering at MIT, was named head of the Department of Biological Engineering (effective July 1, 2019).
- Olivier de Weck was named the faculty co-director of the Bernard M. Gordon–MIT Engineering Leadership Program (effective July 1, 2019).
- Eugene A. Fitzgerald, the Merton C. Flemings-SMA Professor of Materials Science and Engineering at MIT, was appointed chief executive officer and director of the Singapore-MIT Alliance for Research and Technology (effective February 6, 2019).
- Benoit Forget was named associate head of the Department of Nuclear Science and Engineering (effective July 9, 2019).
- Daniel Hastings, the Cecil and Ida Green Education Professor, was appointed head of the Department of Aeronautics and Astronautics (effective January 1, 2019).
- Rohit Karnik was named associate head for education of the Department of Mechanical Engineering (effective July 27, 2018).
- Pierre Lermusiaux was named associate head for operations of the Department of Mechanical Engineering (effective July 27, 2018).
- Jacquin C. Niles was named director of the MIT Center for Environmental Health Sciences (effective April 1, 2018).

- Noelle Selin was appointed director of the Technology and Policy Program (effective August 24, 2018).
- Evelyn Wang, the Gail E. Kendall Professor, was appointed head of the Department of Mechanical Engineering (effective July 1, 2018).
- Anne White was named head of the Department of Nuclear Science and Engineering (effective July 1, 2019).

Tenure

The School of Engineering continues to work diligently to maintain the excellence of its faculty. This year, the School announced that 17 members of its faculty were granted tenure:

- Antoine Allanore of the Department of Materials Science and Engineering develops more sustainable technologies and strategies for mining, metal extraction, and manufacturing, including novel methods of fertilizer production.
- Saurabh Amin of the Department of Civil and Environmental Engineering focuses on the design and implementation of network inspection and control algorithms for improving the resilience of large-scale critical infrastructures, such as transportation systems and water and energy distribution networks, to cyber-physical security attacks and natural events.
- Emilio Baglietto of the Department of Nuclear Science and Engineering uses computational modeling to characterize and predict the underlying heat-transfer processes in nuclear reactors, including turbulence modeling, unsteady flow phenomena, multiphase flow, and boiling.
- Paul Blainey, the Karl Van Tassel (1925) Career Development Professor in the Department of Biological Engineering, integrates microfluidic, optical, and molecular tools for application in biology and medicine across a range of scales.
- Kerri Cahoy, the Rockwell International Career Development Professor in the Department of Aeronautics and Astronautics, develops nanosatellites that demonstrate weather sensing using microwave radiometers and GPS (Global Positioning System) radio occultation receivers, high-data-rate laser communications with precision time transfer, and active optical imaging systems using MEMS deformable mirrors for exoplanet exploration applications.
- Juejun Hu of the Department of Materials Science and Engineering focuses on novel materials and devices to exploit interactions of light and matter, with applications in on-chip sensing and spectroscopy, flexible and polymer photonics, and optics for solar energy.
- Sertac Karaman, the Class of 1948 Career Development Professor in the Department of Aeronautics and Astronautics, studies robotics, control theory, and the application of probability theory, stochastic processes, and optimization for cyber-physical systems such as driverless cars and drones.
- R. Scott Kemp, the Class of 1943 Career Development Professor in the Department of Nuclear Science and Engineering, combines physics, politics, and history to identify options for addressing nuclear weapons and energy.

He investigates technical threats to nuclear deterrence stability and the information theory of treaty verification, and he is developing technical tools for reconstructing the histories of secret nuclear weapon programs.

- Aleksander Mądry of the Department of Electrical Engineering and Computer Science investigates topics ranging from developing new algorithms using continuous optimization, to combining theoretical and empirical insights, and building a more principled and thorough understanding of key machine learning tools. A major theme of his research is rethinking machine learning from the perspective of security and robustness.
- Frances Ross, the Ellen Swallow Richards Professor in the Department of Materials Science and Engineering, performs research on nanostructures using transmission electron microscopes that allow researchers to see, in real time, how structures form and develop in response to changes in temperature, environment, and other variables. Understanding crystal growth at the nanoscale is helpful in creating precisely controlled materials for applications in microelectronics and energy conversion and storage.
- Daniel Sanchez of the Department of Electrical Engineering and Computer Science works on computer architecture and computer systems, with an emphasis on large-scale multi-core processors, scalable and efficient memory hierarchies, architectures with quality-of-service guarantees, and scalable run times and schedulers.
- Themistoklis Sapsis, the Doherty Career Development Professor in the Department of Mechanical Engineering, develops analytical, computational, and data-driven methods for the probabilistic prediction and quantification of extreme events in high-dimensional nonlinear systems such as turbulent fluid flows and nonlinear mechanical systems.
- Julie Shah, the Boeing Career Development Professor in the Department of Aeronautics and Astronautics, develops innovative computational models and algorithms expanding the use of human cognitive models for artificial intelligence (AI). Her research has produced novel forms of human-machine teaming in manufacturing assembly lines, health-care applications, transportation, and defense.
- Hadley Sikes, the Esther and Harold E. Edgerton Career Development Professor in the Department of Chemical Engineering, employs biomolecular engineering and knowledge of reaction networks to detect epigenetic modifications that can guide cancer treatment, induce oxidant-specific perturbations in tumors for therapeutic benefit, and improve signaling reactions and assay formats used in medical diagnostics.
- William Tisdale, the ARCO Career Development Professor in the Department of Chemical Engineering, works on energy transport in nanomaterials, nonlinear spectroscopy, and spectroscopic imaging to better understand and control the mechanisms by which excitons, free charges, heat, and reactive chemical species are converted to more useful forms of energy. He leverages this understanding to guide materials design and process optimization.

- Virginia Vassilevska Williams, the Steven and Renee Finn Career Development Professor in the Department of Electrical Engineering and Computer Science, applies combinatorial and graph theoretic tools to develop efficient algorithms for matrix multiplication, shortest paths, and a variety of other fundamental problems. Her recent research has centered on proving tight relationships between seemingly different computational problems. She is also interested in computational social choice issues such as making elections computationally resistant to manipulation.
- Amos Winter, the Tata Career Development Professor in the Department of Mechanical Engineering, focuses on connections between mechanical design theory and user-centered product design to create simple, elegant technological solutions for applications in medical devices, water purification, agriculture, and other technologies used in highly constrained environments.

Awards and Honors

Every year, members of the MIT engineering community receive numerous honors in recognition of their research, scholarship, service, and overall excellence. The following is a sample of the honors and awards garnered by the School of Engineering in AY2019.

- Antoine Allanore of the Department of Materials Science and Engineering won the Elsevier Atlas Award; he also received a third place prize for best conference proceedings manuscript at the TMS (Minerals, Metals and Materials Society) Annual Meeting and Exhibition.
- Lallit Anand of the Department of Mechanical Engineering was elected to the National Academy of Engineering.
- Polina Anikeeva of the Department of Materials Science and Engineering was awarded the Vilcek Prize.
- Dimitri Antoniadis of the Department of Electrical Engineering and Computer Science was elected to the American Academy of Arts and Sciences.
- Martin Bazant of the Department of Chemical Engineering was named a fellow of the American Physical Society.
- Angela Belcher of the Department of Materials Science and Engineering and the Department of Biological Engineering was elected to the National Academy of Engineering.
- Sir Tim Berners-Lee of the Department of Electrical Engineering and Computer Science was named Person of the Year by the *Financial Times*.
- Sangeeta Bhatia of the Department of Electrical Engineering and Computer Science received the Othmer Gold Medal from the Science History Institute and an honorary doctor of science degree from the University of London.
- Michael Birnbaum of the Department of Biological Engineering was named a 2018 Pew-Stewart Scholar for Cancer Research.
- Lydia Bourouiba of the Department of Civil and Environmental Engineering won the Smith Family Foundation Odyssey Award.

- Ed Boyden of the Department of Biological Engineering was awarded the Rumford Prize.
- Richard Braatz of the Department of Chemical Engineering was named a fellow of the American Institute of Chemical Engineers and was elected to the National Academy of Engineering.
- Tamara Broderick of the Department of Electrical Engineering and Computer Science and the Computer Science and Artificial Intelligence Laboratory won the Army Research Office Young Investigator Program Award; she also was awarded a Sloan Research Fellowship, received a National Science Foundation (NSF) CAREER Award, and won the Notable Paper Award at the International Conference on Artificial Intelligence and Statistics.
- Fikile Brushett of the Department of Chemical Engineering won the Electrochemical Society's 2019 Supraniam Srinivasan Young Investigator Award; he was also named to the annual Talented Twelve list by *Chemical Engineering News*.
- Oral Buyukozturk of the Department of Civil and Environmental Engineering was presented the George W. Housner Medal for Structural Control and Monitoring.
- Arup Chakraborty of the Department of Chemical Engineering was awarded a Guggenheim Fellowship.
- Vincent W.S. Chan of the Department of Electrical Engineering and Computer Science received the Best Paper Award at the Institute of Electrical and Electronics Engineers (IEEE) International Conference on Communications.
- Anantha Chandrakasan of the Department of Electrical Engineering and Computer Science was elected to American Academy of Arts and Sciences.
- Gang Chen of the Department of Mechanical Engineering was named a 2018 fellow of the American Academy of Arts and Sciences.
- Kwanghun Chung of the Department of Chemical Engineering was presented a Presidential Early Career Award for Scientists and Engineers.
- Edward Crawley of the Department of Aeronautics and Astronautics was inducted as a foreign member into the Russian Academy of Science.
- Areg Danagoulian of the Department of Nuclear Science and Engineering was named to the Consortium of Monitoring, Technology, and Verification by the US Department of Energy's National Nuclear Security Administration.
- Constantinos Daskalakis of the Department of Electrical Engineering and Computer Science and the Computer Science and Artificial Intelligence Laboratory won the Simons Investigator Award in Theoretical Computer Science from the Simons Foundation, the Rolf Nevanlinna Prize from the International Mathematics Union, and the Grace Murray Hopper Award for Outstanding Computer Scientist from the Association of Computing Machinery.
- Jesús del Alamo of the Department of Electrical Engineering and Computer Science was named a fellow of the Materials Research Society.
- Domitilla Del Vecchio of the Department of Mechanical Engineering won the National Science Foundation Understanding the Rules of Life Award.

- Srin Devadas of the Department of Electrical Engineering and Computer Science and the Computer Science and Artificial Intelligence Laboratory won the IEEE Circuits and Systems Society Charles A. Desoer Technical Achievement Award.
- Mark Drela of the Department of Aeronautics and Astronautics received the American Institute of Aeronautics and Astronautics (AIAA) Reed Aeronautics Award.
- Elazer R. Edelman of the Institute for Medical Engineering and Science was honored with the Giulio Natta Medal in Chemical Engineering from the Milan Polytechnic Department of Chemistry, Materials and Chemical Engineering "Giulio Natta." He also won the 2018 Distinguished Scientist Award from the American College of Cardiology and the Excellence in Mentoring Award from the Corrigan Minehan Heart Center at Massachusetts General Hospital.
- Lynn W. Gelhar of the Department of Civil and Environmental Engineering won the Charles V. Theis Award.
- Karen K. Gleason of the Department of Chemical Engineering was honored with the John M. Prausnitz AIChE Institute Lecturer Award by the American Institute of Chemical Engineers.
- Shafi Goldwasser, Silvio Micali, and Ron Rivest of the Department of Electrical Engineering and Computer Science were honored with BBVA Foundation Frontiers of Knowledge Awards in the Information and Communication Technologies category.
- Stephen Graves of the Department of Mechanical Engineering was elected to the National Academy of Engineering.
- Martha Gray of the Department of Electrical Engineering and Computer Science and the Institute for Medical Engineering and Science won the Civil Servants Social Security and Services Institute Memorial Award.
- William Green of the Department of Chemical Engineering won the R.H. Wilhelm Award in Chemical Reaction Engineering from the American Institute of Chemical Engineers.
- Linda G. Griffith of the Department of Biological Engineering was named a fellow of the National Academy of Inventors.
- Paula Hammond of the Department of Chemical Engineering was honored with the Margaret H. Rousseau Pioneer Award for Lifetime Achievement by a Woman Chemical Engineer from the American Institute of Chemical Engineers; she also received the American Chemical Society Award in Applied Polymer Science.
- Ruonan Han of the Department of Electrical Engineering and Computer Science won the Intel Corporation Outstanding Researcher Award.
- Song Han of the Department of Electrical Engineering and Computer Science was named to the annual Innovators Under 35 list by *MIT Technology Review*.
- Charles Harvey of the Department of Civil and Environmental Engineering was awarded an American Geophysical Union Fellowship.
- Asegun Henry of the Department of Mechanical Engineering won the 2018 Bergles-Rohsenow Young Investigator Award in Heat Transfer.

- Neville Hogan of the Department of Mechanical Engineering won the 2018 IEEE Engineering in Medicine and Biology Society Academic Career Achievement Award.
- Qing Hu of the Department of Electrical Engineering and Computer Science and the Research Laboratory of Electronics won the Kenneth J. Button Prize at the International Conference on Infrared, Millimeter, and Terahertz Waves.
- Daniel Jackson of the Department of Electrical Engineering and Computer Science won the MIT Martin Luther King Jr. Leadership Award.
- Klavs Jensen of the Department of Chemical Engineering and the Department of Materials Science and Engineering was named the 2018 American Institute of Chemical Engineers Prausnitz AIChE Institute Lecturer. He was also honored with the Corning International Prize for Outstanding Work in Continuous Flow Reactors.
- David R. Karger of the Department of Electrical Engineering and Computer Science was elected to the American Academy of Arts and Sciences.
- Dina Katabi of the Department of Electrical Engineering and Computer Science received an honorary degree from The Catholic University of America and was named a Great Immigrant by the Carnegie Corporation of New York.
- Manolis Kellis of the Department of Electrical Engineering and Computer Science was honored as a speaker by the Mendel Lectures Committee.
- Jeehwan Kim of the Department of Mechanical Engineering won the Young Faculty Award from the Defense Advanced Research Projects Agency (DARPA).
- Jing Kong of the Department of Electrical Engineering and Computer Science was awarded a Thornton Family Faculty Research Innovation Fellowship.
- Heather Kulik of the Department of Chemical Engineering was awarded a CAREER Award from the National Science Foundation and won a *Journal of Physical Chemistry* and PHYS (Physical Chemistry) Division Lectureship Award from the American Chemical Society. In addition, she was presented the Marion Milligan Mason Award, the DARPA Young Faculty Award, and the Office of Naval Research Young Investigator Award.
- Robert Langer of the Department of Chemical Engineering won the Dreyfus Prize for Chemistry in Support of Human Health from the Camille and Henry Dreyfus Foundation. He also was included in the 2018 Medicine Maker Power List and was named a US Science Envoy.
- Charles Leiserson of the Department of Electrical Engineering and Computer Science won the Association for Computing Machinery SIGCOMM (Special Interest Group on Data Communications) Networking Systems Award.
- John Lienhard of the Department of Mechanical Engineering received the Edward F. Obert Award from the American Society of Mechanical Engineers.
- Barbara Liskov of the Department of Electrical Engineering and Computer Science won the IEEE Computer Society 2018 Computer Pioneer Award.

- Luqiao Liu of the Department of Electrical Engineering and Computer Science won the William L. McMillan Award and received a Young Investigator Research Program grant from the US Air Force Office of Scientific Research.
- Nancy Lynch of the Department of Electrical Engineering and Computer Science won the IEEE Technical Committee on Distributed Processing Outstanding Technical Achievement Award.
- Aleksander Madry of the Department of Electrical Engineering and Computer Science won the Presburger Award for Young Scientists from the European Association for Theoretical Computer Science.
- Karthish Manthiram of the Department of Chemical Engineering received a Petroleum Research Fund grant from the American Chemical Society.
- Benedetto Marelli of the Department of Civil and Environmental Engineering was presented a Presidential Early Career Award for Scientists and Engineers.
- Gareth McKinley of the Department of Mechanical Engineering was elected to the National Academy of Engineering.
- Muriel Médard of the Department of Electrical Engineering and Computer Science was named a fellow of the National Academy of Inventors.
- Rob Miller of the Department of Electrical Engineering and Computer Science won the Richard J. Caloggero Award.
- Robert T. Morris of the Department of Electrical Engineering and Computer Science was elected to the National Academy of Engineering.
- Stefanie Mueller of the Department of Electrical Engineering and Computer Science received an NSF CAREER Award.
- Heidi Nepf of the Department of Civil and Environmental Engineering was awarded an American Geophysical Union Fellowship and won the Hunter Rouse Hydraulic Engineering Award from the American Society of Civil Engineers.
- Dava J. Newman of the Department of Aeronautics and Astronautics was named a 2018 American Institute of Aeronautics and Astronautics Fellow. In addition, she won the AIAA Jeffries Aerospace Medicine and Life Sciences Research Award, received the 2018 Lowell Thomas Award, and was named co-chair of the Committee on Biological and Physical Sciences in Space by the National Academies of Sciences, Engineering, and Medicine.
- Kristala Prather of the Department of Chemical Engineering was elected as a fellow of the American Association for the Advancement of Science.
- L. Rafael Reif of the Department of Electrical Engineering and Computer Science was named a fellow of the National Academy of Inventors.
- Ronald Rivest of the Department of Electrical Engineering and Computer Science was inducted into the National Inventors Hall of Fame.
- Ellen Roche of the Department of Mechanical Engineering won the Child Health Research Award from the Charles H. Hood Foundation and received an NSF CAREER Award.

- Yuriy Román of the Department of Chemical Engineering was presented the Early Career in Catalysis Award by the American Chemical Society Catalysis Science and Technology Division and received the Rutherford Aris Award from the North American Symposium on Chemical Reaction Engineering.
- Jennifer Rupp of the Department of Materials Science and Engineering won a Displaying Futures Award.
- Daniela Rus of the Department of Electrical Engineering and Computer Science won the Pioneer in Robotics and Automation Award from the IEEE Robotics and Automation Society.
- Christopher Schuh of the Department of Materials Science and Engineering was elected to the National Academy of Engineering.
- Noelle Selin of the Institute for Data, Systems, and Society was awarded a Hans Fischer Senior Fellowship.
- Devavrat Shah of the Department of Electrical Engineering and Computer Science and the Institute for Data, Systems, and Society won a Frank Quick Faculty Research Innovation Award.
- Julie Shah of the Department of Aeronautics and Astronautics won the 2018 Robotics and Automation Society Early Career Award.
- Yang Shao-Horn of the Department of Mechanical Engineering and the Department of Materials Science and Engineering was elected to the National Academy of Engineering and received the Faraday Medal.
- Julian Shun of the Department of Electrical Engineering and Computer Science received an NSF CAREER Award.
- Hadley Sikes of the Department of Chemical Engineering was presented a Best of BIOT Award by the American Chemical Society Division of Biochemical Technology.
- Zachary Smith of the Department of Chemical Engineering received a Doctoral New Investigator Grant from the American Chemical Society.
- Suvrit Sra of the Department of Electrical Engineering and Computer Science received an NSF CAREER Award.
- Greg Stephanopoulos of the Department of Chemical Engineering was honored with the Gaden Award for Biotechnology and Bioengineering.
- Michael Strano of the Department of Chemical Engineering won the Andreas Acrivos Award for Professional Progress in Chemical Engineering from the American Institute of Chemical Engineers.
- Cem Tasan of the Department of Materials Science and Engineering won the Young Investigator Award.
- John Tsitsiklis of the Department of Electrical Engineering and Computer Science received an honorary doctorate from the Athens University of Economics and Business and won the IEEE Control Systems Award.
- Harry Tuller of the Department of Materials Science and Engineering received the Thomas Egleston Medal for Distinguished Engineering Achievement from Columbia University.

- Caroline Uhler of the Department of Electrical Engineering and Computer Science won the Simons Investigator Award in the Mathematical Modeling of Living Systems category from the Simons Foundation.
- David Wallace of the Department of Mechanical Engineering was honored with the Ben C. Sparks Medal.
- Dennis Whyte of the Department of Nuclear Science and Engineering won the Fusion Power Associates Leadership Award.
- Bilge Yildiz of the Department of Nuclear Science and Engineering and the Department of Materials Science and Engineering won the Ross Coffin Purdy Award.
- Laurence R. Young of the Department of Aeronautics and Astronautics and the Institute for Medical Engineering and Science was presented the 2018 AIAA de Florez Award for Flight Simulation.
- Xuanhe Zhao of the Department of Mechanical Engineering won the *Materials Today* Rising Star Award.

MIT Schwarzman College of Computing

On October 15, 2018, MIT announced a new \$1 billion commitment to address the global opportunities and challenges presented by the prevalence of computing and the rise of artificial intelligence. The initiative marks the single largest investment in computing and artificial intelligence by an American academic institution and will help position the United States to lead the world in preparing for the rapid evolution of computing and AI.

At the heart of this endeavor will be the new MIT Stephen A. Schwarzman College of Computing, made possible by a \$350 million foundational gift from Mr. Schwarzman, the chairman, CEO, and co-founder of leading global asset manager Blackstone.

Headquartered in a signature new building on MIT's campus, the new MIT Schwarzman College of Computing will be an interdisciplinary hub for work in computer science, AI, data science, and related fields. The college will:

- Reorient MIT to bring the power of computing and artificial intelligence to all fields of study at the Institute, allowing the future of computing and AI to be shaped by insights from all other disciplines
- Create 50 new faculty positions that will be located both within the college and jointly with other departments across the Institute—nearly doubling MIT's academic capability in computing and AI
- Give MIT's five schools a shared structure for collaborative education, research, and innovation in computing and AI
- Educate students in every discipline to responsibly use and develop AI and computing technologies to help make a better world
- Transform education and research in public policy and ethical considerations relevant to computing and AI

The MIT Schwarzman College of Computing represents the most significant structural change at MIT since the early 1950s, which saw the establishment of schools for management and for the humanities, arts, and social sciences. The college is slated to open in September 2019, with construction of a new building for the college scheduled to be completed in 2022. Dan Huttenlocher SM '84, PhD '88, was named the college's first dean in February 2019. It is proposed that the MIT Quest for Intelligence, the Computer Science and Artificial Intelligence Laboratory, and the MIT Institute for Data, Systems, and Society will report to the college, with the Department of Electrical Engineering and Computer Science jointly reporting to the college and the MIT School of Engineering.

Educational Activities

New Engineering Education Transformation

The New Engineering Education Transformation (NEET) program was launched in 2017 to reimagine engineering education at MIT. A cross-departmental endeavor with a focus on integrative, project-centric learning, NEET cultivates essential skills, knowledge, and qualities to address the formidable challenges posed by the 21st century. The program's offerings—known as “threads”—give students unprecedented opportunities to immerse themselves in projects that cross disciplinary boundaries while earning a degree in their chosen major. Students will simultaneously be awarded a NEET certificate in their chosen thread within the usual four years. NEET attracted 131 students in its first two years.

Built entirely around the machines, materials, and systems driving modern industry, NEET offers a carefully designed curricular structure that empowers MIT students. In each of the program's five threads, students choose a sequence of explicitly interdepartmental projects, while fundamentals continue to be learned in departmentally offered subjects. Students are coached in personal and interpersonal skills and are challenged to develop their ability to learn by themselves. Details on the threads are as follows:

- In the Advanced Materials Machines thread, students explore the novel materials, technologies, and processes that will define the future of fabrication and manufacturing.
- In the Autonomous Machines thread, students design, build, and deploy electromechanical systems, electronics, software, and autonomy algorithms for real-world robots.
- In the Digital Cities thread, students prepare to plan and build the cities of the future by immersing themselves in the emerging intersections of computer science and urban planning.
- In the Renewable Energy Machines thread, students receive training on energy production, conversion, storage, and transmission technologies that produce no CO₂ or greenhouse emissions or low levels of emissions.
- In the Living Machines thread, students bring “human-body-on-a-chip” technology and science into practice.

NEET is co-led by Ed Crawley, professor of aeronautics and astronautics, and Mark Bathe, associate professor of biological engineering.

Rising Stars/Women in Aerospace

Rising Stars/Women in Aerospace is a two-day workshop for women graduate students and postdoctoral researchers who are interested in pursuing academic careers. The program includes research presentations, panel discussions with MIT faculty, communications workshops, and networking events.

The program engages women across the Institute for Medical Engineering and Science and the Departments of Aeronautics and Astronautics, Biological Engineering, Civil and Environmental Engineering, Chemical Engineering, Electrical Engineering and Computer Science, Mechanical Engineering, and Nuclear Science and Engineering.

MIT Sandbox Innovation Fund Program

Now in its third year and accessible to all MIT graduate and undergraduate students, MIT Sandbox provides seed funding of up to \$25,000 for student-initiated entrepreneurship ideas, mentoring from within MIT and a broad network of committed partners, and tailored educational experiences. To date, the program has engaged about 2,000 participants and funded more than 1,000 ideas. It is estimated that, of the hundreds of teams funded by Sandbox, more than 100 are operating as impactful startup companies today.

Advanced Undergraduate Research Opportunities Program

In 2012, the Advanced Undergraduate Research Opportunities Program (SuperUROP) was launched in the Department of Electrical Engineering and Computer Science. SuperUROP is a specialized version of the Undergraduate Research Opportunities Program that involves a year-long opportunity for students to tackle challenging problems and conduct publication-worthy research. Students are paired with a faculty member or MIT researcher and take a two-semester course on research methodology and best practices. At the end of the program, their projects evolve into graduate theses, start-up plans, or industry positions.

In AY2019, SuperUROP engaged 127 students across the Departments of Aeronautics and Astronautics, Biological Engineering, Civil and Environmental Engineering, Chemical Engineering, and Electrical Engineering and Computer Science as well as from the School of Humanities, Arts, and Social Sciences.

Communications and Development

In AY2019, the School's communications and development offices focused on fostering stronger communications between the dean and alumni of its academic programs and increasing its development-related activities. Staff from both teams remained in close collaboration, with activities including the following:

- Support for the MIT Campaign for a Better World
- Presentations on key topics to fundraisers through the Campaign Academy and HackRD
- Support for the CEO Advisory Council, visiting committees, and the Dean's Advisory Council

- Engagement with alumni and friends through curated and customized campus visits

Highlights of the year included launch events for the Abdul Latif Jameel Clinic for Machine Learning in Health (J-Clinic), the MIT Stephen A. Schwarzman College of Computing, and other initiatives for which the dean was the lead organizer or chair at MIT.

The development officers based in academic departments led and/or supported a range of new programs, activities, and engagement opportunities for School alumni and friends. Their efforts were critically important to the success of the MIT Campaign for a Better World, which set a fiscal-year fundraising record of \$932.6 million.

Statistics for Academic Year 2019

Undergraduate Enrollment

- Total: 2,471
- Women: 1,134
- International students: 255

Graduate Enrollment

- Total: 3,267
- Women: 1,001
- International students: 1,374

Degrees Awarded

- Bachelor's degrees: 772
- Master's degrees: 776
- Doctoral degrees: 355

Faculty

- Full professors: 259
- Associate professors with tenure: 40
- Associate professors without tenure: 29
- Assistant professors: 57

Anantha P. Chandrakasan

Dean

Vannevar Bush Professor of Electrical Engineering and Computer Science