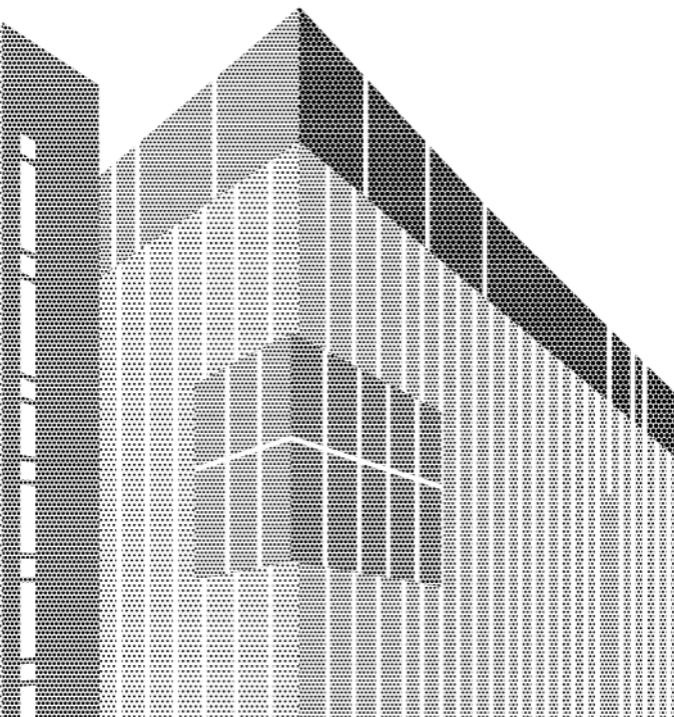


MIT  
**Facts**  
2019



# MIT Facts 2019

Massachusetts  
Institute of  
Technology

77 Massachusetts Avenue  
Cambridge, Massachusetts 02139-4307  
617.253.1000

[web.mit.edu](http://web.mit.edu)

January 2019

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An online version of *MIT Facts*, with links to additional information about the topics covered here, is available at [web.mit.edu/facts](http://web.mit.edu/facts).

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Center spread: Campus map by MIT Department of Facilities and Wing-Ip Ngan, with ship by Marius Ursache.

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# MIT at a Glance

## History



Incorporated by the Commonwealth of Massachusetts on April 10, 1861

## Motto



*Mens et manus—*  
“Mind and Hand”

## Campus



166 acres (0.67 km<sup>2</sup>) in Cambridge, Massachusetts  
18 student residences on campus  
26 acres (0.11 km<sup>2</sup>) of playing fields  
30+ gardens and green spaces  
60+ publicly sited works of art

## Employees



12,707, including faculty

## Faculty



Professors (all ranks): 1,056  
Other teaching staff: 911  
Student-faculty ratio: 3:1

## Selected Honors



(Current and Former MIT Community Members)

90 Nobel Laureates  
59 National Medal of Science winners  
29 National Medal of Technology and Innovation winners  
75 MacArthur Fellows

## Undergraduate Financial Aid 2017–2018



Students attending tuition-free: 31%

Students awarded need-based MIT scholarship: 59%

Average need-based MIT scholarship: \$51,752



## First-year Admission Class of 2022

Applicants: 21,706

Admits: 1,464 (6.7%)



## Students, 2018–2019

Total: 11,574

Undergraduates: 4,602

Women: 2,139 (46%)

Minorities: 2,250 (49%)

Graduate students: 6,972

Women: 2,463 (35%)

Minorities: 1,341 (19%)



## Undergraduate Costs, 2018–2019

Tuition and fees:

\$51,832

Housing and meals:

~\$15,510



## Undergraduate Majors and Minors

Major programs: 54

Minor programs: 58

Pirate certificate: 1



## International Students, 2018–2019

Undergraduate students: 506

Graduate students: 2,905

Exchange, visiting, special students: 678

## Mission

The mission of MIT is to advance knowledge and educate students in science, technology, and other areas of scholarship that will best serve the nation and the world in the 21st century.

The Institute is committed to generating, disseminating, and preserving knowledge, and to working with others to bring this knowledge to bear on the world's great challenges. MIT is dedicated to providing its students with an education that combines rigorous academic study and the excitement of discovery with the support and intellectual stimulation of a diverse campus community. We seek to develop in each member of the MIT community the ability and passion to work wisely, creatively, and effectively for the betterment of humankind.

## Leadership

### Origins

The Institute admitted its first students in 1865, four years after the approval of its founding charter, and admitted its first woman student shortly thereafter in 1871. MIT's opening marked the culmination of an extended effort by William Barton Rogers, a distinguished natural scientist, to establish a new kind of independent educational institution relevant to an increasingly industrialized America. Rogers stressed the pragmatic and practicable. He believed that professional competence is best fostered by coupling teaching and research and by focusing attention on real-world problems. Toward this end, he pioneered the development of the teaching laboratory.

Today MIT is a world-class educational institution. Teaching and research—with relevance to

the practical world and transforming society for the better as guiding principles—continue to be its primary purpose. MIT is independent, coeducational, and privately endowed.

## Presidents of the Institute



2012	L. Rafael Reif
2004	2012 Susan Hockfield
1990	2004 Charles Marsteller Vest
1980	1990 Paul Edward Gray
1971	1980 Jerome Bert Wiesner
1966	1971 Howard Wesley Johnson
1959	1966 Julius Adams Stratton
1948	1958 James Rhyne Killian, Jr.
1930	1948 Karl Taylor Compton
1923	1930 Samuel Wesley Stratton
1921	1922 Ernest Fox Nichols
1909	1920 Richard Cockburn Maclaurin
1900	1907 Henry Smith Pritchett
1897	1900 James Mason Crafts
1881	1897 Francis Amasa Walker
1879	1881 William Barton Rogers
1870	1878 John Daniel Runkle
1862	1870 William Barton Rogers



## Administrative Organization

The Institute's chief executive officer is the president. Senior academic and administrative officers include the provost, chancellor, executive vice president and treasurer, vice president and secretary of the Corporation, associate provosts, deans of the schools, vice chancellor, vice presidents, chancellor for academic advancement, director of libraries, Institute community and equity officer, and deputy executive vice president.

MIT's academic departments and institutes—each under the leadership of a head or director—are organized within five schools that encompass numerous degree-granting programs and interdisciplinary centers, laboratories, and programs whose work cuts across traditional departmental boundaries.

The MIT faculty determines the Institute's educational policy. The faculty meets monthly and conducts much of its business through elected standing committees.

The Institute's board of trustees, known as the Corporation, includes 73 distinguished leaders in engineering, science, industry, education, and other professions, and (ex officio) the MIT chairman, president, executive vice president and treasurer, secretary of the Corporation, CEO of the Alumni Association, and three representatives of the Commonwealth of Massachusetts. The Corporation also includes some 34 emeritus members. Approximately 70% of the members of the Corporation are MIT alumni.

## Faculty and Staff

# 12,707

Faculty and staff

# 1,056

Faculty (professors of all ranks)

# 251

Women faculty

# 3:1

Student:faculty ratio  
(undergraduates only)

Minority group representation among faculty includes **American Indian or Alaska Native, Native Hawaiian/Pacific Islander, Black, Hispanic, and Asian.**

### Faculty and Staff, as of October 2018

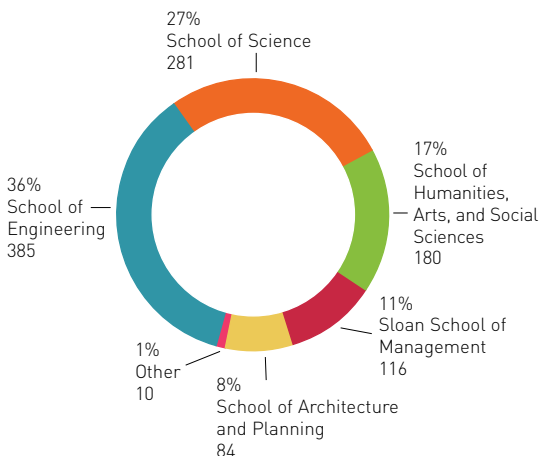
Category	Number
Faculty	1,056
Other academic staff	4,435
Research staff	1,726
Administrative staff	2,854
Support staff	1,655
Service staff	838
Clinical/Medical staff	143
<b>Total</b>	<b>12,707</b>

The MIT faculty instructs undergraduate and graduate students and engages in research.

### Teaching Staff

Category	Number
Professors	663
Associate professors	226
Assistant professors	167
Senior lecturers, lecturers, and professors emeriti	705
Instructors (including technical instructors)	170
Professors of the practice and adjunct faculty	36
<b>Total</b>	<b>1,967</b>

### Distribution of Faculty by School



Many MIT staff are international scholars (i.e., non-US citizens, non-US permanent residents) from around the world who come to the United States for teaching, research, collaboration, and other purposes. This diverse group of professionals includes visiting scientists, professors, artists, and scholars, as well as postdoctoral fellows and associates, lecturers, instructors, research associates and scientists, and tenure-track faculty. During academic year 2017–2018, MIT hosted 2,345 international scholars (75% men, 25% women) from 92 countries.

### International Scholars, by Region

Region	%
Asia	44.0%
Europe	35.5%
Middle East	8.5%
North America	5.0%
Mexico, Latin America, and the Caribbean	4.5%
Africa	1.5%
Oceania	1.0%

## Awards and Honors

Members of the MIT community have received accolades too numerous to list. Several of the most notable honors and awards won by MIT community members over the years are highlighted below, with winners currently on faculty and staff listed.

### 90

#### Nobel Prizes

Faculty members **Bengt Holmström**, economics (2016), **H. Robert Horvitz**, medicine/physiology (2002), **Wolfgang Ketterle**, physics (2001), **Robert C. Merton**, economics (1997), **Phillip A. Sharp**, medicine/physiology (1993), **Susan Solomon**, peace (co-chair of IPCC Working Group One recognized under Intergovernmental Panel on Climate Change, 2007), **Samuel C. C. Ting**, physics (1976), **Susumu Tonegawa**, medicine/physiology (1987), **Frank Wilczek**, physics (2004), and staff member **Jean-Marcel Tirole**, economics (2014).

### 59

#### National Medals of Science

Faculty members **Sallie W. Chisholm** (2012), **Ann M. Graybiel** (2001), **Rudolf Jaenisch** (2011), **Robert S. Langer** (2006), **Phillip A. Sharp** (2004), **Susan Solomon** (1999), and **Robert A. Weinberg** (1997).

### 29

#### National Medals of Technology and Innovation

Faculty member **Robert S. Langer** (2012).

# 19

## John Bates Clark Medals

Faculty members **Daron K. Acemoglu** (2005), **Esther Duflo** (2010), **Amy Finkelstein** (2012), and **Parag Pathak** (2018).

# 15

## A. M. Turing Awards

Faculty members **Timothy Berners-Lee** (2016), **Shafi Goldwasser** (2012), **Silvio Micali** (2012), and **Ronald Rivest** (2002), and staff members **Butler W. Lampson** (1992) and **Michael Stonebraker** (2014).

# 6

## Pulitzer Prizes

Faculty members **Junot Díaz** (2008) and **John H. Harbison** (1987), and staff member **Deborah Blum** (1992).

# 2

## Millennium Technology Prizes

Faculty members **Tim Berners-Lee** (2004) and **Robert S. Langer** (2008).

# 75

## MacArthur Fellows

Faculty members **Regina Barzilay** (2017), **Angela M. Belcher** (2004), **Tim Berners-Lee** (1998), **James J. Collins** (2003), **Erik D. Demaine** (2003), **Junot Díaz** (2012), **Esther Duflo** (2009), **Amy Finkelstein** (2018), **Linda G. Griffith** (2006), **John H. Harbison** (1989), **Dina Katabi** (2013), **Eric Lander** (1987), **Heather N.**

Lechtman (1984), Nergis Mavalvala (2010), John A. Ochsendorf (2008), David C. Page (1986), Lisa Parks (2018), Daniela L. Rus (2002), Sara Seager (2013), Peter W. Shor (1999), Marin Soljačić (2008), Frank Wilczek (1982), Heidi L. Williams (2015), Jack Wisdom (1994), and staff members Sendhil Mullainathan (2002) Amy B. Smith (2004), Richard M. Stallman (1990), and George Zweig (1981).

## 10

### Institute Professors

The title of **Institute Professor** is the highest honor awarded by the faculty and administration at MIT. The current Institute Professors are Sallie W. Chisholm, Ann M. Graybiel, John H. Harbison, Robert S. Langer, Thomas L. Magnanti, Ronald Rivest, Phillip A. Sharp, Marcus A. Thompson, Daniel I. C. Wang, and Sheila Widnall. Institute Professors emeriti are Emilio Bizzi, Noam Chomsky, John M. Deutch, Peter A. Diamond, Jerome I. Friedman, Barbara H. Liskov, John D. C. Little, Mario J. Molina, Joel Moses, Isadore M. Singer, and Robert M. Solow.

## 234

National Academy of  
Sciences Members

## 627

National Academy of  
Engineering Members

## 53

National Academy of Medicine Members

## 193

Guggenheim Fellows

## 33

Fulbright Scholars

## **Schools and Departments**

### **School of Architecture and Planning**

Architecture (Course 4)

Media Arts and Sciences (MAS)

Urban Studies and Planning (Course 11)

### **School of Engineering**

Aeronautics and Astronautics (Course 16)

Biological Engineering (Course 20)

Chemical Engineering (Course 10)

Civil and Environmental Engineering (Course 1)

Electrical Engineering and Computer Science  
(Course 6)

Institute for Data, Systems, and Society (IDS)

Institute for Medical Engineering and Science

Materials Science and Engineering (Course 3)

Mechanical Engineering (Course 2)

Nuclear Science and Engineering (Course 22)

### **School of Humanities, Arts, and Social Sciences**

Anthropology (Course 21A)

Comparative Media Studies/Writing  
(CMS/Course 21W)

Economics (Course 14)

Global Studies and Languages (Course 21G)

History (Course 21H)

Humanities (Course 21)

Linguistics and Philosophy (Course 24)

Literature (Course 21L)

Music and Theater Arts (Course 21M)

Political Science (Course 17)

Science, Technology, and Society (STS)

### **MIT Sloan School of Management**

Management (Course 15)



## School of Science

Biology (Course 7)  
Brain and Cognitive Sciences (Course 9)  
Chemistry (Course 5)  
Earth, Atmospheric, and Planetary Sciences  
(Course 12)  
Mathematics (Course 18)  
Physics (Course 8)

## Degrees Offered

Bachelor of Science (SB)  
Master of Applied Science (MASc)  
Master of Architecture (MArch)  
Master of Business Administration (MBA)  
Master of Business Analytics (MBAn)  
Master in City Planning (MCP)  
Master of Engineering (MEng)  
Master of Finance (MFin)  
Master of Science (SM)  
Engineer (each degree designates the field in  
which it is awarded)  
Doctor of Philosophy (PhD)  
Doctor of Science (ScD)

## Admission

The selection process at MIT is holistic and student centered: each application is evaluated within its unique context. No school, state, or regional quotas are applied; neither is preference given to those with alumni relations. Selection is based on outstanding academic achievement as well as a strong match between the applicant and the Institute, including:

- Alignment with MIT's mission
- Collaborative and cooperative spirit
- Initiative and risk taking
- Hands-on creativity
- Intensity, curiosity, and excitement
- Balancing hard work with downtime

*Selected 2018 Undergraduate Admissions  
Statistics*

**21,706**

Applications for first-year admission

**1,464 (6.7%)**

Offers of admission

**1,115**

First-year students enrolled

**49%**

Female

**71%**

Attended public  
high schools

**47**

US states  
represented

**8%**

International citizens  
from 54 countries

**18%**

Among the first generation in  
their family to attend college

## Graduate Admission

Applicants for graduate degree programs are evaluated for previous performance and professional promise by the department in which they wish to register.

### *Selected 2018 Graduate Admissions Statistics*

**28,826**

Applications for graduate study

**3,516 (12%)**

Offers of admission

**2,321 (66%)**

First-year students registered  
in advanced degree programs

**36%**

Female

**43%**

International citizens  
from 85 countries

For more information, visit [mitadmissions.org](http://mitadmissions.org).

## Enrollments 2018–2019

# 11,574

Students

---

# 4,602

Undergraduates (40%)

# 2,139

Women (46%)

# 2,250

US minority groups (49%)

---

# 6,972

Graduate students (60%)

# 2,463

Women (35%)

# 1,341

US minority groups (19%)

In 2018–2019, MIT students come from all 50 states, the District of Columbia, four territories, and 127 foreign countries.

For more information, visit [web.mit.edu/registrar](http://web.mit.edu/registrar).

## Undergraduate Enrollment, 2018–2019

### First-year, undeclared second-year, and special undergraduate students

	Number
First-year*	1,120
Undeclared second-year*	7
Special undergraduate students	52

By School	Majors	2nd Majors
Architecture and Planning	47	2
Engineering	2,481	60
Humanities, Arts, and Social Sciences	88	47
Management	90	16
Science	717	106

\*MIT students do not enroll in an academic department until the start of their sophomore year, and may defer decision on a course of study until the end of that year.

## Graduate Enrollment, 2018–2019

School	Master's	Doctoral	Special
Architecture and Planning	455	199	0
Engineering	1,008	2,127*	132
Humanities, Arts, and Social Sciences	28	299	0
Management	1,360	170	8
Science	8	1,175	3
<b>Total</b>	<b>2,859</b>	<b>3,970</b>	<b>143</b>

\*Includes 182 students working on Harvard degrees only through the Harvard-MIT Health Sciences and Technology Program.

## Minority Group Representation among Students, 2018–2019

Minority group	Undergraduate	Graduate
African American	280	130
American Indian or Alaska Native	6	8
Asian American	1,268	819
Hispanic	694	384
Native Hawaiian or other Pacific Islander	2	0
<b>Total</b>	<b>2,250</b>	<b>1,341</b>

## International Students

There are 3,337 international students enrolled in degree programs at MIT—459 undergraduates (10%) and 2,878 graduate students (42%)—for the current academic year. Additionally, there are 678 exchange, visiting, and special students on campus.

## International Students, by Region, 2018–2019\*

Region	%
Asia	53%
Europe	22%
Latin America and the Caribbean	8%
North America	7%
Middle East	6%
Africa	3%
Oceania	1%

\*Percentages are rounded.

## Tuition and Financial Aid

### Undergraduate Tuition and Living Expenses

**\$51,832**

2018–2019 tuition and fees (9 months)

**~\$15,510**

Housing and meals, depending on housing and dining arrangements

**~\$2,898**

Books and personal expenses

### Undergraduate Financial Aid

The Institute's undergraduate financial aid program ensures that an MIT education is accessible to all qualified candidates regardless of their financial circumstances. MIT provides financial aid to meet the full price of an MIT education, based on the calculated financial need of the family. In 2017–2018, 89% of undergraduates received \$149.4 million in financial aid from all sources, with MIT being the largest source. For students with a family income under \$90,000, the Institute ensures that scholarship funding from all sources will allow them to attend MIT tuition-free.

Financial need is the difference between the cost to attend MIT and the family's ability to pay that amount. Need is determined using information parents provide on the Free Application for Federal Student Aid (FAFSA) and the College Scholarship Service (CSS) Profile. The first \$3,400 of financial need is designated as self-help and can be met through a combination of term-time work, outside scholarships or grants (including Pell Grants), or student loans. The remaining need, if any, is met with an MIT scholarship. Students receiving scholarships and grants from sources outside MIT may use that aid to replace the student self-help.

### **Selected Undergraduate Financial Aid Statistics, 2017–2018**

Average need-based MIT scholarship	\$51,752
Average need-based financial aid award	\$49,317
Students awarded a need-based MIT scholarship	59%
Students attending tuition-free	31%
Class of 2018 graduates with no student loan debt	72%
Average student loan debt for those who borrowed	\$22,560
Average term-time earnings for those who worked	\$3,432



## Graduate Tuition and Living Expenses

Graduate students generally incur greater expenses than undergraduates. Most attend the Institute for a calendar year rather than an academic year, increasing the cost of tuition.

# \$51,832

2018–2019 tuition and fees (9 months)  
(specific programs and departments  
may have different tuition amounts)

# \$17,155

2018 summer tuition for students  
enrolled in courses

MIT's residential system can accommodate 38% of its graduate students; the rest find housing in the Boston/Cambridge area. Graduate students' costs for housing, food, books, medical insurance, and incidentals vary widely depending on marital status, quality-of-life expectations, and housing arrangements. For example, monthly charges for on-campus housing range from \$800 to \$2,075 depending on housing type and location.

## Graduate Financial Aid

Financial aid for graduate students is in large part provided by individual departments, and the amount of aid varies significantly. Financial support includes fellowships, traineeships, teaching and research assistantships, and loans. Most forms of support are granted for merit, while others are granted for financial need or a combination of merit and need.

### Doctoral Student Support, by Type and School, 2017–2018

School	RA	FE	TA	Other or none
Architecture and Planning	50%	23%	22%	5%
Engineering	58%	22%	8%	12%
Humanities, Arts, and Social Sciences	24%	37%	22%	16%
Management	35%	44%	18%	3%
Science	50%	35%	15%	1%
<b>Doctoral total</b>	<b>51%</b>	<b>28%</b>	<b>12%</b>	<b>8%</b>

RA=research assistantship, FE=fellowship, TA=teaching assistantship

## Academics

MIT's strength—as represented by its official seal and motto, *mens et manus*, mind and hand—is the fusion of academic knowledge with practical purpose.

### Undergraduate Education

MIT believes the best education occurs when students are self-motivated and engaged participants in a dynamic community of learners. Thus, an MIT undergraduate education combines rigorous academics with a “learning-by-doing” approach.

One avenue for student engagement is the Undergraduate Research Opportunities Program (UROP), pioneered at MIT in 1969 and now emulated in academic institutions around the globe. UROP offers students the opportunity to join a faculty-led research team or to initiate their own research project.

Students may also choose to participate in the Undergraduate Practice Opportunities Program (UPOP), which provides them with coaching, experiential workshops, company field trips, one-on-one counseling, networking events, exclusive panel discussions with major companies, and access to internships with more than 2,000 employers.

Another unique feature of an MIT education is the Independent Activities Period, a special four-week term in January that encourages students to set their own agenda within a creative and flexible environment.

As part of a complete MIT experience, undergraduates are encouraged to add an international dimension to their education. Students may choose from Institute-wide or departmental

study-abroad programs. They may also conduct research abroad, assist with building sustainable communities overseas, or venture out on fieldwork or internships arranged through MIT International Science and Technology Initiatives or the International Development Initiative.

Leadership training opportunities include the Bernard M. Gordon-MIT Engineering Leadership Program and ROTC programs in the United States Army, Navy/Marine Corps, and Air Force. In addition, Career Advising and Professional Development guides all students as they explore and prepare for careers, graduate study, and life after MIT.

### ***Selected Undergraduate Facts***

- MIT offers 54 undergraduate major and 58 minor programs.
- The first semester at MIT is graded on a pass/no record basis, giving first-year students time to adjust to the rigor of MIT before receiving letter grades.
- MIT's General Institute Requirements are designed to give every student a broad and strong foundation in core fields of human knowledge, including mathematics, physical, natural, and social sciences, and the humanities and arts.
- First-year students can choose to participate in a first-year learning community such as the Concourse Program, Experimental Study Group, Media Arts and Sciences First-Year Program, or Terrascope.
- More than 50% of graduating seniors in the Class of 2018 reported participating in an international experience while at MIT.
- Each year nearly 60% of MIT undergraduates participate in UROP, with 90% having done so by the time they graduate.

## Majors

Aerospace Engineering	German
American Studies*	History
Ancient and Medieval Studies*	Humanities and Engineering**
Anthropology	Humanities and Science**
Archaeology and Materials	Latin American and Latino/a Studies*
Architecture	Linguistics
Art and Design	Literature
Asian and Asian Diaspora Studies*	Management
Biological Engineering	Materials Science and Engineering
Biology	Mathematical Economics
Brain and Cognitive Sciences	Mathematics
Business Analytics	Mathematics with Computer Science
Chemical Engineering	Mechanical Engineering
Chemical-Biological Engineering	Mechanical and Ocean Engineering
Chemistry	Music
Chemistry and Biology	Nuclear Science and Engineering
Civil and Environmental Engineering	Philosophy
Comparative Media Studies	Physics
Computer Science and Engineering	Planning
Computer Science and Molecular Biology	Political Science
Computer Science, Economics, and Data Science	Russian and Eurasian Studies*
Earth, Atmospheric and Planetary Sciences	Science, Technology and Society**
Economics	Spanish
Electrical Engineering and Computer Science	Theater Arts
Electrical Science and Engineering	Urban Science and Planning with Computer Science
Finance	Women's and Gender Studies*
French	Writing

\*Major-departure, \*\*Joint major or 2nd degree

## Graduate Education

MIT's graduate students and postdocs, the lifeblood of the Institute's research enterprise, represent one of the most talented and diverse cohorts in the world.

The Institute's graduate programs provide collaborative environments and cutting edge facilities, such as MIT.nano, for advanced study. Students work together with faculty to extend the boundaries of knowledge in fields ranging from quantum computing to medicine to political science to the arts.

MIT boasts globally prominent doctoral programs in engineering, mathematics, architecture, management, the social sciences, and the humanities. Students interested in developing their teaching skills can take advantage of the Kaufman Teaching Certificate Program.

The Institute for Medical Engineering and Science, the Institute for Data, Systems, and Society, the Center for Real Estate, the Program in Media Arts and Sciences at the MIT Media Lab, and other programs offer interdisciplinary graduate degrees. The Harvard-MIT Health Sciences and Technology Program and the MIT-Woods Hole Oceanographic Institution Joint Program in Oceanography/Applied Ocean Science and Engineering provide opportunities for graduate students to engage with other local institutions.

## MIT Libraries

The MIT Libraries are an engine for creating, sharing, and safeguarding knowledge at the Institute and beyond. The Libraries work to improve access to the world's collective knowledge in many ways.

***Equipping scholars with the best content and the skills to use it.*** The Libraries provide access to tens of millions of items, both physical and digital, and to collections from libraries worldwide. Library specialists led nearly 300 classes last year to help people navigate resources, manage data, or think critically as consumers and creators of information.

***Offering a place to study—and gather, tinker, discover, and question.*** The Libraries' five locations welcome over 500,000 visitors annually for quiet study, using collections, working collaboratively, and creating new knowledge. The Libraries sponsor many community events, from data rescue hackathons to meditation sessions.

***Sharing MIT research with the world.*** Scholarly works by Institute authors made freely available through the Libraries have been downloaded more than 10 million times, in 90% of the world's countries. Since 2009, 43% of faculty articles have been shared openly, a high-water mark among academic research libraries.

***Preserving the Institute's record of research and learning.*** With 23 million tangible items, 20 terabytes of digital items, and 900 gigabytes of web archives, the Institute Archives serves as the "memory" of MIT. The Libraries work to ensure these resources can always be accessed and studied, no matter how technologies evolve.

***Solving big challenges in information science and scholarly communication.*** Library research initiatives aim to develop new models for producing, managing, sharing, preserving, and discovering scholarly information in a digital age.

For more information, visit [libraries.mit.edu](http://libraries.mit.edu).

## **Computing on Campus**

The computing environment at MIT supports an impressive array of information technologies and resources.

***MITnet.*** MIT's network infrastructure in the Cambridge/Boston area is made up of more than 7,500 miles (12,070 km) of fiber, over 6,900 wireless access points, and 4,000 switches that provide on-campus wired connectivity. The MIT Kendall Wi-Fi network covers approximately 1,000,000 square feet (92,903 m<sup>2</sup>) of outdoor space in the Kendall Square area and surrounding neighborhoods. The MIT Regional Optical Network—a 2,500-mile (4,203-km) optical ring—connects the MIT network to New York City and about 10 other locations, including the Massachusetts Green High Performance Computing Center. MIT's 100-gigabit backbone supports connections to Internet2 and the Energy Sciences Network, which in turn provides access to the CERN Large Hadron Collider. In addition, MIT has 10-gigabit dedicated connections to Amazon, Comcast, and Apple, as well as dual redundant 10-gigabit links to the commodity internet.

***Mobility.*** MIT is a fully wireless campus. The MIT Mobile App connects the community to the people directory; the campus map; information about shuttles, dining, and events; and more.



**Cloud-based infrastructure and services.** Information Systems and Technology (IS&T) provides managed servers to the MIT community through a hybrid cloud computing environment. In addition, the community has access to several enterprise cloud applications, including CrashPlan, Dropbox, Duo Security, and LastPass.

**Athena and Kerberos.** Athena is MIT's academic computing environment, which powers computing clusters (labs) with a mix of Linux and macOS workstations, private workstations, remote access servers, and personal machines throughout campus. Kerberos was originally developed at MIT to secure network services on Athena, and is now a widely adopted protocol for network authentication.

**Systems.** Stellar/LMOD, MIT's course management system, currently houses 1,000 sites containing course materials, assignments, and other resources. WebSIS, the student information system, provides access to personal records, course information, and scheduling.

**Support.** The IS&T Service Desk handles approximately 25,000 telephone calls, 10,000 in-person requests and 55,000 emails per year. Distributed Support Teams provide desk-side support to 53 departments, labs, and centers. An extensive Knowledge Base draws on the cumulative IT expertise at MIT to deliver close to 10,000 self-help articles to the community.

For more information, visit [ist.mit.edu](http://ist.mit.edu).

## Open Learning

MIT Open Learning works to transform teaching and learning at MIT and around the globe through the innovative use of digital technologies by:

- Supporting MIT faculty and students in bold digital teaching and learning experiments to enhance residential education
- Promoting and enabling quantitative, rigorous, and interdisciplinary research on teaching and learning
- Providing platforms for technological advances in education
- Sharing research and best practices by convening and partnering with teachers, schools, universities, companies, governments, and nongovernmental organizations
- Extending MIT's knowledge and classroom to the world

MIT Open Learning offers an array of programs and services:

- Residential MITx facilitates on-campus, online teaching and learning in MIT courses.
- MITx courses on edX extend MIT learning to the world through courses developed and taught by MIT instructors.
- OpenCourseWare (OCW) offers free, open, publicly accessible web-based materials from more than 2,400 MIT courses.
- MITx MicroMasters programs provide an affordable, accelerated, and convenient path to a master's degree. Learners who pass a set of MITx graduate-level courses and exams earn a MicroMasters credential, and can apply for an accelerated, on-campus, master's degree program at MIT and other top universities.

- MIT xPRO provides professional development opportunities to a global audience via online courses and programs.
- MIT Bootcamps offers intensive week-long programs that challenge participants to develop a sustainable new venture. Innovators come from around the world to learn from MIT faculty and MIT-trained mentors.
- MIT Integrated Learning Initiative furthers our understanding of learning and education through rigorous, interdisciplinary research.
- Abdul Latif Jameel World Education Lab convenes a global community of collaborators for sustainable, high-impact transformation in education.
- Digital Learning Lab scientists and fellows advance learning strategies and initiatives across campus.
- The MIT Teaching Systems Lab designs and researches the future of teacher learning.

### ***Open Learning Statistics (as of Fall 2018)***

- Over 99% of MIT undergraduates have used the MITx residential tool for coursework.
- A popular MITx MOOC on edX reached 1.2 million cumulative enrollments.
- More than 3.5 million unique learners from over 200 countries earned more than 180,000 MITx course certificates courses on edX.
- Nearly 1,400 learners have received a MicroMasters credential.
- More than 10,000 professionals have completed an MIT xPRO course.

For more information, visit [openlearning.mit.edu](https://openlearning.mit.edu).

## Makerspaces

“Learning by doing” is a cornerstone of MIT’s educational philosophy, and “making” is an important part of the MIT experience. Makerspaces located throughout the campus offer access to tools and space for members of the MIT community to invent, prototype, and bring their ideas to physical life. MIT has over 40 design/build/project spaces that add up to over 130,000 square feet (12,077 m<sup>2</sup>). Tools and facilities for CNC routing, 3D printing, glassblowing, wood and metal working, moldmaking and casting, robotics, circuitry, textiles, ceramics, masonry, and more are available for class and personal projects.

Recognizing the importance of the maker experience to an MIT education, the Institute initiated Project Manus in October 2016 with the goal of creating the gold standard in next-generation academic maker systems. Housed within MIT’s Innovation Initiative, Project Manus aims to foster maker communities, upgrade legacy spaces/equipment, introduce new technologies, create new campus makerspaces, and collaborate with peer universities, alumni, government, and industry.

## Campus Life

### The Campus

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**166**

Acres (0.67 km<sup>2</sup>)

**30+**

Gardens and green spaces

**18**

Residence halls on campus

**60+**

Publicly sited works of art

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In 1916, MIT relocated from Boston to Cambridge, where the campus now extends more than a mile (1.6 km) along the Cambridge side of the Charles River. The heart of the campus is a group of interconnecting buildings, designed by architect W. Welles Bosworth (Class of 1889), that facilitate interaction and communication among MIT's schools and departments.

The campus architecture showcases a range of styles, from neoclassical through modernist, brutalist, and deconstructivist. Among the timeless landmarks on campus are buildings designed by leading architects such as Alvar Aalto, Frank Gehry, Steven Holl, Fumihiko Maki, I. M. Pei '40, and Eero Saarinen. Inside, you will find state-of-the-art facilities that support MIT's ongoing research efforts in multiple disciplines. These facilities range from wet labs, clean rooms, and makerspaces to wind tunnels, robot and

drone test labs, and a 214,000-square-foot (19,881 m<sup>2</sup>) nanotechnology and advanced imaging center.

For students, the campus has 18 residence halls, each with its own distinctive personality and community. Urban and walkable, the campus encourages sustainable practices in many ways, offering gardens and green spaces, bicycle shares, and free shuttles. At its edges, it merges with various Cambridge neighborhoods, including Kendall Square—where the close association of industry and research expertise has made this area the most innovative square mile on the planet.

## **Housing**

### ***Undergraduate Students***

Most undergraduates live on campus in one of MIT's 10 Institute houses, or in one of 37 MIT-affiliated fraternities, sororities, and living groups. All unmarried first-year students must live in one of the Institute's residence halls. Each on-campus dormitory has a live-in head of house who is usually a senior faculty member. Students may elect to remain on campus following their first year or move to a fraternity, sorority, or independent living group. The current number of undergraduates living on campus is 3,334.

In 2018–2019, approximately 2,000 students were affiliated with a fraternity, sorority, or independent living group (FSILG); approximately 1,000 of them chose to live in an FSILG community as an alternative to a traditional residence hall.

## **Graduate Students**

More than 2,000 single graduate students live in MIT's six campus houses. Two campus apartment complexes accommodate over 400 graduate and undergraduate students with families. Approximately 90 graduate students live in undergraduate dorms as graduate resident tutors.

## **The Arts**

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**60+**

Music, theater,  
visual arts, writing,  
and dance groups

**12**

Museums  
and galleries  
on campus

**67%**

Incoming first-year  
students with  
training in the arts

**50%**

Undergraduates  
enrolled in arts  
courses each year

---

The arts at MIT are rooted in experimentation, risk taking, and imaginative problem solving. The Institute offers highly regarded degree programs in architectural design; art, culture, and technology; comparative media studies; history, theory, and criticism of architecture and art; music; theater arts; and writing in several of these fields. Undergraduate minors are also offered in several of these fields. Many MIT faculty have received awards in recognition of their work in the arts, including the Pulitzer Prize, Grammy Award, Guggenheim Fellowship,

and MacArthur Fellowship. MIT students are also strong contributors to the vibrant arts culture that permeates campus life.

The MIT Museum draws nearly 170,000 visitors each year to programs, exhibitions, and events that explore the foundations and frontiers of science and technology. The Institute's past achievements are celebrated through the Museum's extensive and unique collection, while MIT's current research, innovation, and design provide a catalyst for rotating exhibitions and ongoing programs. Key collection areas include science, technology, architecture, art, MIT history, holography, marine technology, and photography. The museum also produces the annual Cambridge Science Festival, featuring 10 days of programs and activities citywide serving over 100,000 people.

The MIT List Visual Arts Center is the contemporary art museum at the Institute. Its core mission is to exhibit, collect, and commission visual arts for MIT. The List presents six to eight exhibitions annually in conjunction with a broad range of education programs free to both the MIT community and the general public. It also maintains and adds to MIT's permanent collection of more than 3,500 artworks that includes over 60 publicly sited sculptures and hundreds of paintings, prints, photographs, and drawings located throughout MIT's campus. The List Center commissions new works for the MIT Public Art Collection through the MIT Percent-for-Art Program, and oversees the Student Lending Art Program that allows MIT students to annually borrow original works of art from the collection to hang in their living spaces.



The MIT Center for Art, Science & Technology facilitates and creates opportunities for artists at MIT and beyond to exchange ideas and collaborate with engineers and scientists. The center fosters a culture where the arts, science, and technology thrive as interrelated, mutually informing modes of exploration, knowledge, and discovery.

The Eugene McDermott Award in the Arts at MIT celebrates innovative talents in all arts disciplines and is one of the most generous cultural honors in the United States. Recent recipients of the award include singer and actress Audra McDonald (2018), architect David Adjaye (2016), and artist Olafur Eliasson (2014).

## Athletics and Recreation

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**33**

Varsity sports  
(16 men's,  
15 women's, 2 coed)

**33**

Club teams,  
with 800+  
participants

**18**

Intramural sports,  
with 4,000 participants  
from the MIT community

**>25**

Different classes  
to satisfy GIRs

---

MIT's Athletics, Physical Education, and Recreation Department offers opportunities for sports instruction and participation at all levels.

As part of the General Institute Requirements (GIRs), each student must earn eight points

through physical education courses and complete the swim requirement. Seasonal offerings include golf, sailing, broomball, and ice-skating, while additional specialty courses include scuba, backpacking, top-rope climbing, kayaking, downhill skiing, and snowboarding.

- Approximately 25% of undergraduates join a team during their time at MIT.
- MIT competes mainly against Division III New England colleges, but also routinely participates in regional and national championships.
- The Institute has earned 295 Academic All-America citations, the most for any Division III program in the nation.
- MIT provides group exercise and wellness classes, personal and group training, a variety of aquatic classes, and sport skill instruction for those who wish to engage in other recreational programs.

With 10 buildings and 26 acres (0.11 km<sup>2</sup>) of playing fields, MIT boasts one of the most expansive athletic complexes in New England. The Zesiger Sports and Fitness Center on the west side of campus features two swimming pools, a fitness center, international-scale squash courts, and a multi-activity court. Roberts Field and Barry Field, lighted sports-turf venues, are adjacent to the Zesiger Center. In the summer of 2018, the DuPont Outdoor Tennis courts were outfitted with a new playing surface, fencing, and top-level lighting for all 12 courts. The east side of campus is served by the Alumni Pool and Wang Fitness Center, located in the Stata Center at the edge of Kendall Square.

## **MIT Traditions**

### ***Hacking***

MIT culture distinguishes itself not only for its seriousness of purpose but also for its unique sense of humor, as expressed through “hacking.” Hacks at the Institute are elaborate but benign practical jokes, perpetrated anonymously—on campus, around Cambridge, or even farther afield—that amaze for their creativity, cleverness, and difficulty of execution. A 1958 prank in which the Harvard Bridge was measured in increments of fraternity pledge Oliver Smoot has achieved such fame that “smoot” has been incorporated into the American Heritage Dictionary and is included as a unit of measure in Google Earth. The bridge still displays its quirky unit of measure today.

Although not officially sanctioned, hacks can be appreciated for their technical prowess and humorous digs at rival institutions, for example in the astonishing emergence of a large black weather balloon with MIT written all over it in the middle of a Harvard-Yale football game in 1982, or in the 2006 cross-country theft of Caltech’s Fleming Cannon. Other famous hacks involve rather large objects falling from building rooftops (the Baker House Piano Drop) or appearing where they don’t belong, most notably on MIT’s Great Dome, which over the years has been graced by a Hilltop Steakhouse plastic cow, a Campus Police cruiser, the Wright Flyer, an MIT fire truck, and the Apollo Lunar Module.

### ***Pirate Certificate***

Not content to just produce exceptional graduates in the usual fields of study, the Institute also offers its swashbuckling students the opportunity to

become certified pirates. Students who complete four physical education courses—archery, fencing, pistol (or rifle), and sailing—are eligible to receive a Pirate Certificate, officially awarded by the Department of Athletics, Physical Education, and Recreation. In addition to receiving a tangible document printed on faux parchment, newly minted pirates are rumored to swear a secret oath. Although they are no longer lily-livered landlubbers, their pirating activities nevertheless are limited to “entertainment purposes only.”

### ***Brass Rat***

In a ritual long enjoyed by MIT undergraduates, a committee of sophomores gathers each year to design their class ring, which is ceremoniously revealed during the spring term. The history of MIT’s class ring dates back to 1929 when a student committee convened to design what is formally known as the “Standard Technology Ring.” Featuring a beaver on top (an industrious, nocturnal, American animal), the Boston and Cambridge skylines on the sides, and the MIT seal and dome on the shank, the ring also incorporates unique design elements related to each individual graduating class. Made of gold, the ring’s nickname, “the Brass Rat,” derives from its color—similar to brass—and the prominence of the beaver mascot—resembling a rat.

A concrete symbol of an MIT education, the distinctive Brass Rat is recognized worldwide and instantly identifies MIT alumni to one another, serving as a reminder of the bond that all MIT students share.

### ***F.A.T. Chain Reaction***

For 20 years, the Friday After Thanksgiving (F.A.T.) Chain Reaction has been a highly anticipated event that brings participants together to link their homemade contraptions to form one enormous, collaborative chain reaction, which is then set off as the culmination of the afternoon. Participants range from Girl Scout troops to artists and engineers, from MIT clubs to middle schools and family teams. More than 1,500 people attend this giant chain reaction each year.

### ***MIT Mystery Hunt***

The MIT Mystery Hunt is a puzzle hunt competition that takes place each year in January. The hunt challenges each participating team to solve a large number of puzzles that lead to an object (called a “coin”) hidden somewhere on campus. The winning team gets to write the subsequent year’s hunt.

The Mystery Hunt was launched in 1981 and is widely regarded as one of the oldest and most complex puzzle hunts in the world. It attracts more than 2,000 people every year and has inspired similar competitions at universities, companies, and cities around the world.

### ***Pi Day***

In true MIT fashion, the Institute typically releases admission decisions on Pi Day (March 14), an annual celebration of the mathematical constant. Frequently, these admissions decisions are released at 6:28 p.m., which is known colloquially as “Tau time” ( $\pi \times 2$ ). An exception was made for the release time of early decisions on March 14, 2015—known as “Super Pi Day” as the date reflects the full first five digits of Pi (3.1415)—

when admissions decisions were released at 9:26 a.m. in order to continue with the next three digits of Pi. MIT Admissions creates a humorous video to accompany the announcements and celebrate the tradition, and posts it to the MIT Admissions Blog.

## MIT and the Community

MIT is an integral member of its host city of Cambridge, a diverse and vibrant community noted for its intellectual life, history, and thriving innovation climate. With a campus nestled between Central and Kendall Squares and close to Boston's Seaport District, the Institute is in an optimal position to engage in collaborative endeavors with its neighbors and to contribute to the growing innovation community.

The city's approximately 110,000 residents, including more than 34,000 college and university students, together form a lively community within its 6.26 square miles (16.2 km<sup>2</sup>). Cambridge is pedestrian- and bicycle-friendly, with 82 parks and playgrounds, six subway stations, a commuter rail line, 26 bus routes, multiple shuttles, 48 bike sharing stations, and numerous dedicated bicycle lanes and bikeways, enabling visitors and students to get around the city and the MIT campus without a car.

***Service to the community.*** Since its founding, MIT has maintained a commitment to be a good neighbor and serve the local community. The Institute actively supports nonprofit organizations that address local challenges by providing educational programs, financial resources, representation on boards and committees, volunteer engagement, and the use of MIT facilities. In addition, members of

the MIT community support the Institute's Community Service Fund, which provides assistance for nonprofits where MIT volunteers are at work.

The Institute's Priscilla King Gray Public Service Center provides programming, guidance, information, and support to students, faculty, and staff interested in public service, and serves as a resource for both MIT and the community at large. More information is available at [web.mit.edu/mitpsc](http://web.mit.edu/mitpsc).

***Economic impact and innovation catalyst.*** MIT has a far-reaching impact on the economy of the region. The Institute is Cambridge's second largest employer and largest taxpayer, representing 14.6% of the city's revenue stream. MIT pays taxes on its commercial property and provides an annual payment in lieu of taxes (PILOT) for property that is used for academic purposes and is legally tax exempt. In fiscal year 2018, the Institute made a voluntary PILOT contribution of approximately \$2.2 million to the City of Cambridge and paid approximately \$57 million in real estate taxes.

MIT is a magnet for investment and fuels the innovation economy with the research, startups, and talent pool that it generates. Kendall Square, at the eastern end of MIT's campus, is the seat of a thriving innovation cluster in which MIT plays a catalyzing role. The Institute is reimagining a vibrant and diverse Kendall Square through its Kendall Square Initiative and Volpe projects. These two mixed-use developments will enhance the life and character of the area by adding over 2.5 million square feet (232,257 m<sup>2</sup>) of retail, office, and residential space and more than four acres (16,187 m<sup>2</sup>) of open space. Planning and

construction is ongoing, with the first building set to be completed in 2020.

For more information, visit [ogcr.mit.edu](http://ogcr.mit.edu).

## **Sustainability**

MIT is committed to leadership in sustainability and strong climate action at the local level, making strides to reduce the greenhouse gas emissions of the MIT campus, using the campus itself as a test bed for sustainability innovation and education, and partnering with the cities of Cambridge and Boston.

The Campus Sustainability Task Force published a report in 2018 outlining a vision and plan of action for campus sustainability at MIT. The report addresses how research, education, operations, living, and organizational transformation position MIT to serve as a powerful leader for sustainability. To ensure that our campus and community are prepared to address the current and future risks of climate change and their anticipated impacts, MIT is engaging climate modelers, scientists, and engineers on collaborative climate resiliency planning.

MIT has many offices, programs, and initiatives working to address sustainability and climate change issues, including the MIT Office of Sustainability, the Environmental Solutions Initiative, the MIT Energy Initiative, and the Abdul Latif Jameel Water and Food Systems Lab.

MIT also has a vibrant ecosystem of student and staff groups promoting sustainability on campus, including the Graduate Student Council and the Undergraduate Association's committees



on sustainability, and the staff Working Green Committee. Initiatives range from the monthly Choose to Reuse swapfest to hackathons that engage students, industry, and thought partners in finding real-life solutions to sustainability challenges.

As a founding member of the Cambridge Compact for a Sustainable Future, MIT works with Cambridge, Harvard University, and more than 15 local businesses and organizations to collaboratively achieve a more healthy, livable, and sustainable future. MIT is also a member of the Boston Green Ribbon Commission.

### ***Sustainability Facts***

- In 2015, MIT set a goal to reduce its campus greenhouse gas emissions by at least 32% below 2014 levels by 2030 and to strive to reach carbon neutrality as soon as possible.
- From 2014 through 2018, MIT reduced its greenhouse gas emissions by a total of 20%, taking into account the purchase of solar power from Summit Farms.
- Through its Access MIT program, the Institute provides generous subsidies for low-carbon commuting—including subway, bus, bicycling, and commuter rail. MIT sponsors four Blue Bikes stations on campus, with a total of 106 docks. The MIT community has completed more than 362,000 bike-share trips since July 2017.
- New construction and major renovation projects on campus aim to meet the national LEED Gold (version 4) certification standard, reflecting MIT's dedication to building healthy, high-performance facilities. To date, MIT has completed 12 LEED projects on campus,

ranging from residence halls to renovations in the Main Group.

- An Environment and Sustainability Minor offers undergraduates an opportunity to delve into interdisciplinary coursework and investigations into real-world challenges facing people and the planet.

Visit [sustainability.mit.edu](https://sustainability.mit.edu) and [datapool.mit.edu](https://datapool.mit.edu) to learn more.

## Research

The soul of MIT is research. For more than 150 years, the Institute has married teaching with engineering and scientific studies—and produced an unending stream of advancements, many of them world changing. Examples of some of MIT's historical achievements follow:

- 1930s** Pioneering high-speed photography
- 1940s** Engineering practical microwave radar
- 1950s** Building the magnetic core memory that made digital computers possible
- 1957** Achieving the first chemical synthesis of penicillin
- 1960s** Developing the inertial guidance systems for the Apollo space program
- 1960s** Developing the world's first biomedical prosthetic device
- 1977** Inventing the first workable public key cryptographic system
- 1986** Creating the first free-standing hologram

- 1988** Discovering the smallest known, most abundant photosynthetic bacteria in the ocean
- 1996** Using new genetic and multiple-cell monitoring technologies to demonstrate how animals form memory about new environments
- 2002** Creating the first acrobatic robotic bird—a small, highly agile helicopter for military use in mountain and urban combat
- 2007** Genetically reprogramming skin cells to cure a mouse model of sickle-cell anemia
- 2009** Finding a way to use RNA interference to silence multiple genes at once

This stream of discovery continues. Here are just a few accomplishments from this decade:

- 2010** Designing computer techniques that automatically decipher ancient languages
- 2011** Building a new radar technology system that can see through walls up to 60 feet (18.3 m) away
- 2012** Demonstrating experimentally the existence of a fundamentally new magnetic state called a quantum spin liquid
- 2013** Developing a new steelmaking process that produces no emissions other than pure oxygen
- 2014** Designing a new paper strip diagnostic test to rapidly diagnose Ebola and other viral hemorrhagic fevers

**2015** Designing the bandage of the future: a sticky, stretchy, gel-like material that can incorporate temperature sensors, LED lights and other electronics, as well as tiny drug-delivering reservoirs and channels that can release medicine in response to changes in skin temperature and be designed to light up if medicine is running low

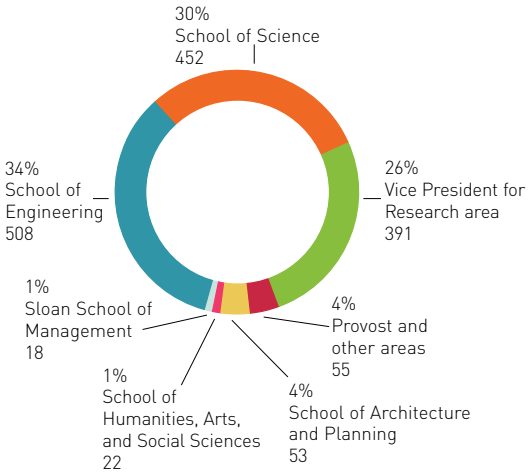
**2016** Making the first direct detection of gravitational waves reaching the Earth (in collaboration with Caltech and others around the world), confirming Albert Einstein's prediction from 100 years ago

**2017** Adapting a CRISPR protein that targets RNA, rather than DNA, for use as a rapid, inexpensive, highly sensitive diagnostic tool with the potential to transform research and global public health

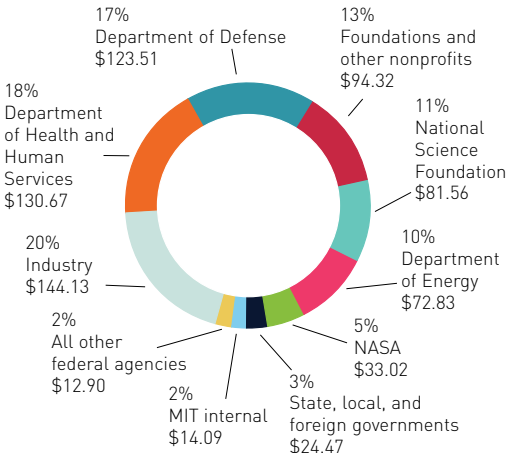
Undergraduates can plunge directly into this world of exploration through the Undergraduate Research Opportunities Program, which offers students a chance to collaborate on cutting-edge research as junior colleagues of Institute faculty.

During the academic year, approximately 3,760 researchers (including some 1,500 postdoctoral scholars and 485 visiting faculty and scientists) work with MIT faculty and students. Approximately 2,615 graduate students are primarily supported as research assistants and 660 are appointed as teaching assistants; 1,790 are supported on fellowships. Postdoctoral scholars pursue a program of research and training under the direction of an MIT faculty member and are widely distributed.

## Distribution of Postdoctoral Scholars, by School/Area



## Research Expenditures, by Primary Sponsor (in Millions),\* Fiscal Year 2018 Total: \$731.51



\*Figures are rounded.

As an institution, MIT encourages interdisciplinary research across department and school boundaries while focusing on tackling great challenges for society at large. More interdisciplinary teams are found off-campus in nearby Lexington, Massachusetts, at MIT Lincoln Laboratory, a federally funded research and development center focused on national security.

## Research Centers, Labs, and Programs

Today's researchers tackle complex problems that cannot be resolved within a single academic discipline—and MIT constantly creates and evolves academic organizations that foster interdisciplinary work.

Abdul Latif Jameel Poverty Action Lab  
Abdul Latif Jameel World Water and Food  
Systems Lab  
Center for Archaeological Materials  
Center for Bits and Atoms  
Center for Collective Intelligence  
Center for Computational Engineering  
Center for Computational Research in Economics  
and Management Science  
Center for Energy and Environmental  
Policy Research  
Center for Environmental Health Sciences  
Center for Global Change Science  
Center for Information Systems Research  
Center for International Studies  
Center for Real Estate  
Center for Transportation and Logistics  
Clinical Research Center  
Computer Science and Artificial Intelligence  
Laboratory  
Concrete Sustainability Hub  
Deshpande Center for Technological Innovation

Division of Comparative Medicine  
Edgerton Center/D-Lab  
Haystack Observatory  
Initiative on the Digital Economy  
Institute for Data, Systems, and Society  
Institute for Medical Engineering and Science  
Institute for Soldier Nanotechnologies  
Institute for Work and Employment Research  
Internet Policy Research Initiative  
Joint Program on the Science and Policy of  
Global Change  
Knight Science Journalism Program  
Koch Institute for Integrative Cancer Research  
Laboratory for Financial Engineering  
Laboratory for Information and Decision Systems  
Laboratory for Manufacturing and Productivity  
Laboratory for Nuclear Science  
Legatum Center for Development and  
Entrepreneurship  
Leventhal Center for Advanced Urbanism  
Lincoln Laboratory  
Martin Trust Center for MIT Entrepreneurship  
Materials Research Laboratory  
McGovern Institute for Brain Research  
Microsystems Technology Laboratories  
MIT Center for Art, Science, and Technology  
MIT Energy Initiative  
MIT Environmental Solutions Initiative  
MIT Innovation Initiative  
MIT Kavli Institute for Astrophysics and Space  
Research  
MIT Media Lab  
MIT.nano  
MIT Portugal Program  
MIT Program in Art, Culture, and Technology  
MIT Sea Grant College Program

MIT–Woods Hole Oceanographic Institution Joint  
Program in Oceanography/Applied Ocean  
Science and Engineering  
Nuclear Reactor Laboratory  
Operations Research Center  
Picower Institute for Learning and Memory  
Plasma Science and Fusion Center  
Research Laboratory of Electronics  
Simons Center for the Social Brain  
Singapore–MIT Alliance for Research and  
Technology  
Sociotechnical Systems Research Center  
Women’s and Gender Studies Program

## **Collaborating Institutions**

MIT’s research extends out through collaborations with leading institutes and consortia around the world.

Broad Institute  
Charles Stark Draper Laboratory  
Howard Hughes Medical Institute  
Massachusetts Green High Performance  
Computing Center  
Ragon Institute of MGH, MIT and Harvard  
Whitehead Institute for Biomedical Research

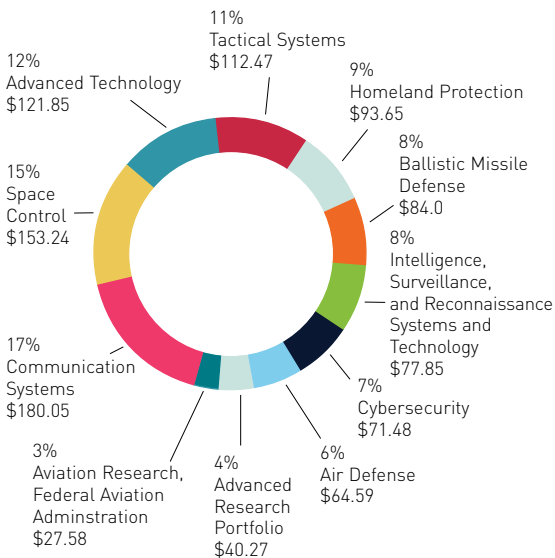


## Lincoln Laboratory

MIT's Lincoln Laboratory, in Lexington, Massachusetts, is a federally funded research and development center (FFRDC) that develops advanced technology to address national security needs. Its core competencies are in sensors, information extraction (signal processing and embedded computing), communications, and decision support—all supported by a broad research base in advanced electronics. Other areas of innovative research and development are cybersecurity, autonomous systems, bioengineering, and homeland protection. A strong emphasis is on field-testing prototype systems. As a Department of Defense FFRDC, the laboratory transitions technologies to both the military services and industry. Approximately 3,440 MIT employees worked at Lincoln Laboratory in fiscal year 2018.

# Lincoln Laboratory Program Funding, by Mission Area (in Millions),\* Fiscal Year 2018\*\*

**Total: \$1,027**



\*Figures are rounded.

\*\*Lincoln Laboratory's fiscal year runs from October 1 to September 30.

## MIT and Industry

Since its founding, MIT has encouraged researchers to work collaboratively across departments, fields, and institutional boundaries to solve problems. This has led to thousands of fruitful partnerships with industry and other leading research institutions.

More than 700 companies are working with faculty and students both in Institute-wide programs such as the Industrial Liaison Program (part of MIT Corporate Relations and the main conduit between corporations and MIT), the MIT Energy Initiative, and many other collaborations.

Research sponsored directly by industry totaled \$159 million in fiscal year 2018, or 22% of total MIT research expenditures. According to the National Science Foundation, MIT consistently ranks first in industry-financed research and development expenditures among universities and colleges without a medical school.

The Technology Licensing Office (TLO) moves innovations and discoveries from the lab to the marketplace for the benefit of the public and to amplify MIT's global impact. The TLO cultivates an inclusive environment of scientific and entrepreneurial excellence, and bridges connections from MIT's research community to industry and startups by strategically evaluating, protecting, and licensing technology. In fiscal year 2018, the TLO received 822 invention disclosures (including 83 from Lincoln Laboratory), filed 425 new US patents, had 360 US patents issued, executed 154 licenses and options, had 32 companies formed using MIT intellectual property, and received \$45.9 million in total licensing revenue.

MIT's strong corporate connection also is reflected in its extensive business-oriented curricula, such as the Leaders for Global Operations program, System Design and Management program, Sloan Fellows Program in Innovation and Global Leadership, Supply Chain Management program, and other degree programs that offer an industry internship component.

MIT Sloan Executive Education offers programs that combine innovation and entrepreneurship with strategic thinking and global leadership for mid- to senior-level executives. Led by senior faculty, programs provide participants with the tools and frameworks they need to create and lead successful organizations.

MIT Professional Education provides engineering, science, and technology professionals a gateway to renowned MIT expertise, research, and knowledge through advanced education programs designed for working professionals.

## **Entrepreneurship and Innovation**

MIT's preeminence in entrepreneurship is rooted in its founding. As one of the first land-grant colleges, the Institute was designed to deliver a practical education rather than to focus on the classical education that was provided by many private universities of that era. This emphasis on practice is infused into the entrepreneurship curriculum and programming, which emphasizes learning by doing. Over the course of the 2017–2018 academic year, more than 60 entrepreneurship courses were offered, as well as not-for-credit boot camps during the Independent

Activities Period and the MIT delta v accelerator program in the summer.

There are more than 85 resources dedicated to fostering entrepreneurship and innovation at MIT. These are just a few:

- The Bernard M. Gordon–MIT Engineering Leadership Program promotes leadership and communications skills among undergraduate engineers.
- The Deshpande Center for Technological Innovation funds innovative faculty research and supports faculty in technology commercialization.
- designX is an entrepreneurial accelerator for endeavors from the School of Architecture and Planning that aims to transform cities and the built environment.
- The Legatum Center for Development and Entrepreneurship supports MIT students creating ventures focused on solving challenges in developing economies.
- The Lemelson-MIT Program promotes invention at MIT, in particular among students, through the Lemelson-MIT National Collegiate Student Prize Competition.
- The Martin Trust Center for MIT Entrepreneurship supports students with an entrepreneurship curriculum, programming, coaching and mentoring from entrepreneurs in residence, and connections to the MIT and broader entrepreneurial communities.
- MIT D-Lab works with people around the world to develop and advance collaborative

approaches and practical solutions to global poverty challenges through interdisciplinary courses, research in collaboration with global partners, technology development, and community initiatives.

- MIT IDEAS Global Challenge is an annual, campus-wide social innovation competition run by the Priscilla King Gray Public Service Center. The program enables students to work closely with community partners to tackle quality-of-life issues for people around the world.
- The MIT Innovation Initiative combines opportunities for hands-on innovation and entrepreneurship education, building a dynamic innovation infrastructure across the campus.
- The MIT Sandbox Innovation Fund Program provides selected teams of MIT student innovators up to \$25,000 in seed funding, tailored educational opportunities, advising and mentoring, and access to materials and makerspace resources.
- The MIT Startup Exchange is a web community for the MIT innovation ecosystem composed of MIT Industrial Liaison Program members, MIT-connected startups, and employees and alumni with active startup engagements.
- The Technology Licensing Office assists MIT inventors in protecting their technology and in licensing that technology to startups and to existing companies.
- The Venture Mentoring Service matches student, faculty, staff, and alumni entrepreneurs with talented mentors.

MIT also has a wealth of student clubs and initiatives involved in entrepreneurship or innovation, among them the MIT \$100K Entrepreneurship

Competition, the MIT Clean Energy Prize, and conferences such as Hacking Arts and Hacking Medicine.

MIT's educational efforts in entrepreneurship and innovation have an impressive impact at local, regional, and global levels. A 2015 report suggested that 30,000 companies founded by MIT alumni were active as of 2014, employing 4.6 million people and producing annual revenues of \$1.9 trillion, equivalent to the world's 10th largest economy. MIT alumni form hundreds of new companies each year, and approximately 40% of MIT founders are serial entrepreneurs, starting multiple companies. Twenty-three percent of MIT alumni's new firms are founded outside the United States.

## **Alumni**

### **MIT Students after Graduation**

During 2017–2018, MIT Career Advising and Professional Development (CAPD) hosted 130 different employers for 2,609 interviews held on campus and 1,072 employers who posted over 2,042 jobs. Computer technology companies (21%), consulting (17%), financial services (15%), aviation/aerospace (14%), and consumer products (9%) were the top five industries participating in on-campus recruiting and accounted for 76% of total recruiters.

### ***Undergraduates after Graduation***

- Twenty-one percent of 2018 bachelor's degree graduates had internships that led to a full-time job offer.

- Seventeen percent found jobs through on-campus recruiting and MIT-sponsored job listings.
- Twenty-one percent found jobs through various networking venues, including MIT faculty and administrators, CAPD contacts, and professional conferences.
- Sixteen percent found jobs through a career fair.
- Eighty-six percent of all graduating seniors completed internships while at MIT.
- Fifty-two percent of MIT undergraduates took jobs after graduation; 39% went on to graduate school. The top graduate school destinations were California Institute of Technology, Columbia, Duke, Harvard, MIT, Northwestern, Princeton, Stanford, University of California at Berkeley, University of Chicago, and University of California at Los Angeles

### ***Graduate Students after Graduation***

- Seventy-nine percent of graduating master's students entered the work sector and 14% went on to further study.
- While 95% of PhD students planned to work after graduation, 1% continued their education. Of those with confirmed employment, 44% had postdoctoral positions.



## Employment Sectors for 2018 MIT Graduates, by Degree Type

Employment sector	Bachelor's	Master's	PhD
Aerospace/defense	8%	5%	4%
Computer technologies	23%	16%	11%
Consulting	15%	21%	4%
Education	1%	<1%	25%
Energy/utilities	3%	4%	4%
Engineering (all fields)	23%	15%	25%
Finance/banking	9%	13%	2%
Health/medicine	5%	1%	8%
Other sectors	13%	14%	18%

The top employers for each of the employer sectors were:

- **Aerospace/Defense:** Ball Aerospace, Boeing, Northrop Grumman, SpaceX
- **Computer Technologies:** Ab Initio Software, Akamai Technologies, Amazon, Analog Devices, Apple, Facebook, Google, Rubrik
- **Consulting:** Accenture, Bain & Company, Boston Consulting Group, Deloitte Consulting, McKinsey & Company
- **Education:** Columbia, Harvard, MIT, Princeton, Stanford, University of California at Berkeley, University of Chicago
- **Energy/Utilities:** Exxon, Shell Oil Company, Schlumberger

- **Engineering (all fields):** Anheuser-Busch, Applied Materials, Ford Motor Company, Formlabs, General Motors, Proctor & Gamble, Milwaukee Tool, Tesla, Toyota Research Institute
- **Finance/banking:** Capital One, Fidelity Investments, Goldman Sachs, Hudson River Trading, Jane Street Capital, JP Morgan, Morgan Stanley, Susquehanna International Group
- **Health/medicine:** Boston Children's Hospital, Massachusetts General Hospital
- **Other sectors:** Koch Industries, IBM Research, US Airforce, US Army, US Navy

## MIT Alumni Association

The MIT Alumni Association seeks to engage and inspire the MIT global community to make a better world. It serves as a platform to strengthen the ties of MIT's 137,765 living alumni with the Institute and with one another, and offers opportunities for connection through various resources, programs, services, and channels.

In fiscal year 2018, 47% of living alumni engaged with MIT philanthropically, virtually, or face to face. More than 15,330 alumni volunteered in service to the MIT community. The Annual Fund reported \$87.7 million in gifts, and more than 45,500 alumni, students, and friends gave to MIT.

## Geographic Distribution of Alumni\*

United States and Possessions	105,161
New England	26,503
Mid-Atlantic	26,497
West	21,729
Southwest and South Central	8,722
Great Lakes	7,704
Southeast	6,971
Northwest and Great Plains	6,253
Alaska and Hawaii	527
Puerto Rico, the Virgin Islands, and other US territories	255
Asia	8,142
Europe	6,203
North America (other than US)	1,847
South America	1,585
Pacific Ocean Islands and Australia	583
Africa	523
Central America	80
<b>Total</b>	<b>124,124</b>

\*Includes only alumni with known addresses.

## Building MIT's Resources

The MIT Campaign for a Better World publicly launched in May 2016 with the ambitious goal of meeting humanity's urgent global challenges through the vision and talent of the people of MIT.

The Campaign is guided by six priority areas that span the full breadth of the Institute:

- **Discovery Science:** Transforming our world through fundamental scientific research
- **Health of the Planet:** Addressing critical environmental and sustainability challenges facing humankind
- **Human Health:** Defining the future of health through advances from bench to bedside across a broad range of disciplines
- **Innovation and Entrepreneurship:** Accelerating the journey from idea to impact
- **Teaching, Learning, and Living:** Reimagining education for the 21st-century learner
- **The MIT Core:** Attracting extraordinary students and faculty and providing them with the resources they need to thrive

Thanks to the generosity of friends, alumni, foundations, and corporations, the Institute closed fiscal year 2018 with an additional \$737 million in new gifts and pledges and had raised \$4.3 billion towards the Campaign goal.

## Financial Data

### Year-end Statistics (in Millions), Fiscal Year 2018

#### Value of Plant and Invested Assets

<b>Asset</b>	<b>Value (in millions)</b>
Land, buildings, and equipment, net book value	\$3,684.4
Market value of endowed funds	\$16,400.0
Market value of total investments	\$20,743.8

*Note:* Figures are rounded.

#### Gifts and Pledge Payments to MIT

<b>Source</b>	<b>Amount (in millions)</b>
Individuals	\$213.8
Corporations	\$64.1
Foundations	\$215.2
Other	\$4.6
<b>Total</b>	<b>\$497.7</b>

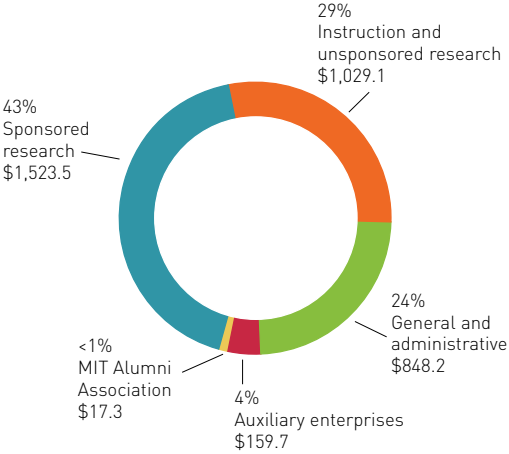
*Note:* Figures are rounded.

#### Gift and Pledge Payment Designations

<b>Designation</b>	<b>Amount (in millions)</b>
Faculty chairs	\$40.5
Scholarships and other undergraduate aid	\$23.8
Undergraduate education and student life	\$33.7
Graduate fellowships	\$15.4
Research and education programs	\$264.9
Construction and renovations	\$74.0
Unrestricted	\$27.5
Undesignated and miscellaneous	\$17.9
<b>Total</b>	<b>\$497.7</b>

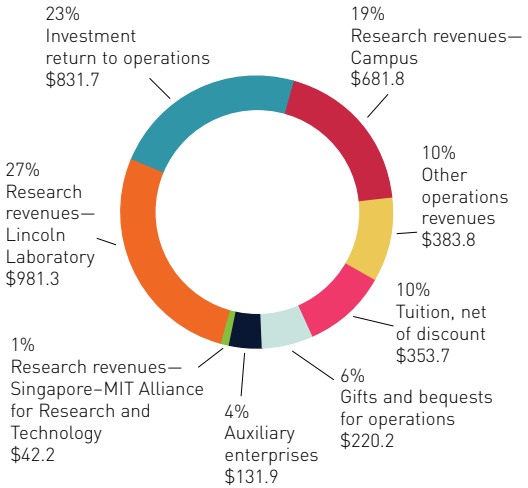
*Note:* Figures are rounded.

**Operating Expenditures (in Millions)\***  
**Fiscal Year 2018**  
**Total: \$3,577.8**



\*Figures are rounded.

## Operating Revenues (in Millions)\* Fiscal Year 2018 Total: \$3,626.6



\*Figures are rounded.

## Accreditation

MIT is accredited by the New England Commission of Higher Education (formerly the Commission on Institutions of Higher Education of the New England Association of Schools and Colleges, Inc.).

Inquiries regarding MIT's accreditation status by the Commission should be directed to [accreditation@mit.edu](mailto:accreditation@mit.edu).

New England Commission of Higher Education  
3 Burlington Woods Drive, Suite 100  
Burlington, MA 01803-4514  
telephone 781-425-7785  
email [info@neche.org](mailto:info@neche.org)

Many degree programs at MIT are accredited by specialized professional accrediting bodies, including ABET, the Association to Advance Collegiate Schools of Business, the American Chemical Society, the National Architectural Accrediting Board, and the Planning Accreditation Board. Academic departments can provide information on the accreditation of the specific degree programs they offer.



*At MIT, in order for you to win, no one has to lose. No one even has to come in second! ... [We] are members of a single team, united with a single mission. And we strive to see the world, not as a “zero-sum” game, but as “positive sum”—as a world where generous collaboration makes each collaborator smarter, stronger, and richer in every way.*

*—President L. Rafael Reif  
Charge to the Graduates, 2018*



Massachusetts  
Institute of  
Technology

A few of the most visited locations on campus are highlighted below:

- W16 Kresge Auditorium
- W20 Student Center
- N52 MIT Museum
- 7 Information Center
- 10 Lobby 10 and Great Dome
- K Killian Court
- N North Court
- 32 Stata Center
- 76 Koch Building
- E14 Media Lab
- E15 List Visual Arts Center
- E51 Wong Auditorium, Tang Center
- E62 Sloan School
-  Kendall T Station

whereis.mit.edu  
m.mit.edu

