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## MIT Facts 2024

Massachusetts Institute of Technology

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facts.mit.edu

January 2024

This publication was prepared by the Institute Office of Communications. Send comments and queries to facts@mit.edu.

An online version of MIT Facts, with links to additional information about the topics covered here, is available at facts.mit.edu.

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Center spread: Campus map by the MIT Department of Facilities, Wing-Ip Ngan, and the Institute Office of Communications, with pirate ship by Marius Usrache.

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Campus Map

## MIT at a Glance

## History



Incorporated by the Commonwealth of Massachusetts on April 10, 1861

Motto Mens et manus-"mind and hand"

#### Campus



168 acres (0.68 km<sup>2</sup>) in Cambridge, Massachusetts
19 student residences on campus
26 acres (0.11 km<sup>2</sup>) of playing fields
40+ gardens and green spaces
60+ public works of art



Employees 17,180, including Lincoln Laboratory

#### Faculty



Professors (all ranks): 1,089 Other teaching staff: 1,020 Student-faculty ratio: 3:1



#### Selected Honors

- 101 Nobel Laureates
- 83 MacArthur Fellows
- 61 National Medal of Science winners
- 33 National Medal of Technology and Innovation winners



First-year Admission Class of 2027 Applicants: 26,914 Admits: 1,291 (4,8%)



Undergraduate Cost of Attendance, 2023-2024

\$82,730 (before aid)

#### Undergraduate Financial Aid 2022-2023

Students attending tuition-free: 35% Students awarded need-based MIT scholarship: 58% Median need-based MIT scholarship: \$63,729 Class of 2023 graduates with no student loan debt: 86%



**Students, 2023-2024** Total: 11,920 Undergraduates: 4,576

Graduate students:

7,344

∱ ၨ₺

Undergraduate Majors and Minors Major programs: 58 Minor programs: 59

Pirate certificate: 1 Wellness certificate: 1



International Students, 2023-2024 Undergraduate students: 501 Graduate students: 2,977 Exchange, visiting, special students: 652

## 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.

## Origins

MIT is independent, coeducational, and privately endowed. 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.

## Leadership

## 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 provosts, deans of the schools and college, vice chancellors, vice presidents, chancellor for academic advancement, and director of libraries.

MIT's academic departments and institutes-each under the leadership of a head or director-are organized within five schools and one college that encompass numerous degree-granting programs and interdisciplinary centers, laboratories, institutes, 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 MIT Corporation, includes 69 members who are distinguished leaders in engineering, science, industry, education, and other professions. Eight members serve ex officio: the chair of the Corporation, president, executive vice president and treasurer, secretary of the Corporation, president of the MIT Alumni Association, and three representatives of the Commonwealth of Massachusetts. The Corporation also includes 27 emeritus members. Approximately 83% of Corporation members are MIT alumni.

## Presidents of the Institute

Sally Kornbluth
L. Rafael Reif
Susan Hockfield
Charles Marstiller Vest
Paul Edward Gray
Jerome Bert Wiesner
Howard Wesley Johnson
Julius Adams Stratton
James Rhyne Killian, Jr.
Karl Taylor Compton
Samuel Wesley Stratton
Ernest Fox Nichols
Richard Cockburn Maclaurin
Henry Smith Pritchett
James Mason Crafts
Francis Amasa Walker
William Barton Rogers
John Daniel Runkle
William Barton Rogers

## **Employees**



Employees (including Lincoln Laboratory)



Employees by Category, October 2023					
Category	Number	%			
Administrative staff	4,836	28%			
Research staff	4,275	25%			
Other academic staff	2,105	12%			
Support staff	1,770	10%			
Postdoctoral scholars	1,536	9%			
Service staff	1,436	8%			
Faculty	1,089	6%			
Clinical/Medical staff	133	1%			
Total	17,180	100%			

Note: Figures are rounded.

In 2023, 3,845 staff members had worked at MIT from between 10 and 25 years; another 1,482 had worked from between 25 and 50 years, and almost 50 employees had been at MIT for over 50 years.

## International Scholars

International scholars come to MIT from around the world to teach, conduct research, collaborate, and for other purposes. This diverse group of professionals includes visiting scientists, professors, artists, and scholars, as well as postdoctoral fellows and associates, research associates and scientists, faculty, and other instructional staff. During academic year 2022-2023, MIT hosted 2,155 international scholars from 98 countries in 73 departments, laboratories, and centers. Seventy-two percent were men and 28% were women.

International Scholars by Reg	ion, October	r 2023
Region	Number	%
Asia	1,026	48%
Europe	682	32%
Middle East	137	6%
North America	119	6%
Mexico, Latin America, and the Caribbean North America	102	5%
Africa	56	2%
Oceania	33	1%
Total	2,155	100%

## Faculty and Instructional Staff

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



## acuity (professors of all rafiks



Two-hundred fifty-eight faculty (24%) identify as a member of a US minority group.

US Minority Group Representation among Faculty, October 2023

Category	Women	Men	Total
Asian	54	118	172
Hispanic or Latino	11	45	56
Black or African American	14	36	50
American Indian or Alaska Native	0	2	2
Native American or other Pacific Islander	1	0	1

Note: Minority group representation is self-identified, and faculty may identify with more than one group.

#### Distribution of Faculty by School/College, October 2023

Number
393*
297
186
144*
114
84
12

\*141 faculty shared between the School of Engineering and the Schwarzman College of Computing are included in both counts.

Instructional Staff, October 2023	
Category	Number
Professors	704
Associate professors	222
Assistant professors	163
Senior lecturers, lecturers, and professors emeriti	830
Instructors (including technical instructors)	149
Professors of the practice and adjunct faculty	41
Total	2,109

## **Postdoctoral Scholars**

Postdoctoral scholars pursue a program of research and training under the direction of an MIT faculty member. As of October 2023, there were 1,536 postdoctoral scholars at MIT: 1,054 men and 482 women.

<b>Distribution of Postdoctoral</b>	Scholars	by School/
Area, October 2023		

School/Area	Number	%
School of Engineering	494	32%
School of Science	473	31%
Vice President for Research	256	17%
Schwarzman College of Computing	122	8%
Provost and other areas	87	6%
School of Humanities, Arts, and Social Sciences	41	3%
School of Architecture and Planning	40	3%
Sloan School of Management	23	1%
Total	1,536	100%

Note: Figures are rounded.

## **Awards and Honors**

MIT community members have received numerous accolades. The MIT Excellence Awards celebrate the extraordinary efforts made by members of our community toward fulfilling the goals, values, and mission of the Institute. The Collier Medal honors the memory of Officer Sean Collier, who gave his life protecting the MIT community. As of October 2023, there have been 435 MIT Excellence Award and 10 Collier Medal recipients. The MIT Staff Award for Distinction in Service was introduced in 2023, with two recipients to date.

The MIT Student Awards honor students who have made outstanding contributions to the shared life of the Institute. The awards recognize excellence in academics, public service, community building, diversity and inclusion, achievements in the arts and athletics, leadership, and entrepreneurship. The title of Institute Professor is an honor bestowed by the faculty and administration on a faculty colleague who has demonstrated exceptional distinction through leadership, accomplishment, and service in the scholarly, educational, and general intellectual life of the Institute or wider academic community.

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.



#### Institute Professors

The current Institute Professors are Daron Acemoglu (2019), Suzanne Berger (2019), Arup K. Chakraborty (2021), Sallie W. Chisholm (2015), Ann M. Graybiel (2008), Paula T. Hammond (2021), Robert S. Langer (2005), Thomas L. Magnanti (1997), and Marcus A. Thompson (2015).

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#### **Nobel Prizes**

Faculty members Joshua Angrist, economics (2021), Abhijit Banerjee, economics (2019), Moungi G.
Bawendi, chemistry (2023), Esther Duflo, economics (2019), H. Robert Horvitz, medicine/physiology (2002), Wolfgang Ketterle, physics (2001), Robert
C. Merton, economics (1997), 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).



#### National Medals of Science

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



#### National Medals of Technology and Innovation

Faculty members James G. Fujimoto (2023) and Robert S. Langer (2012).



#### **MacArthur Fellows**

Faculty members Isaiah Andrews (2020), Regina Barzilay (2017), Angela M. Belcher (2004), James J. Collins (2003), Erik D. Demaine (2003), Junot Díaz (2012), Esther Duflo (2009), Amy Finkelstein (2018), Danna Freedman (2022), Linda G. Griffith (2006), Dina Katabi (2013), Laura Kiessling (1999), Eric Lander (1987), Nergis Mavalvala (2010), John A. Ochsendorf (2008), David C. Page (1986), J. Taylor Perron (2021), Daniela L. Rus (2002), Sara Seager (2013), Peter W. Shor (1999), Marin Soljačič (2008), Joshua B. Tenenbaum (2019), Frank Wilczek (1982), Jack Wisdom (1994), Yukiko Yamashita (2011), and staff members Moriba Jah (2022), Sendhil Mullainathan (2002), Amy B. Smith (2004), and George Zweig (1981).



## John Bates Clark Medals

Faculty members Daron Acemoglu (2005), Isaiah Andrews (2021), Esther Duflo (2010), Amy Finkelstein (2012), and Parag Pathak (2018).



#### A. M. Turing Awards

Staff members Butler W. Lampson (1992) and Michael Stonebraker (2014).



## Pulitzer Prizes

Faculty member **Junot Díaz** (2008) and staff member **Deborah Blum** (1992).



## Millennium Technology Prizes

Faculty member Robert S. Langer (2008).



National Academy of Engineering Members



National Academy of Sciences Members





National Academy of Medicine Members **Guggenheim Fellows** 



#### **Fulbright Scholars**

## **Schools and College**

#### 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 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)

\*Electrical Engineering and Computer Science (Course 6) reports jointly to the dean of engineering and the dean of computing.

Global 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)

#### MIT Stephen A. Schwarzman College of Computing

Electrical Engineering and Computer Science (Course 6)\* Institute for Data, Systems, and Society

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\*Electrical Engineering and Computer Science (Course 6) reports jointly to the dean of engineering and the dean of computing.

## **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 student centered: each application is evaluated within its unique context. No school, state, or regional quotas are applied, and we do not consider legacy/alumni relations in our process. 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
- Risk taking
- Hands-on creativity
- · Intensity, curiosity, and excitement
- Balancing hard work with downtime

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#### Selected Class of 2027 Undergraduate Admissions Statistics



#### Applications for first-year admission



Offers of admission

1,092

#### First-year students enrolled



Attended public high schools

10%

International citizens from 59 countries **49** 

US states represented

18%

Among the first generation in their family to attend college

Forty-nine percent of students who enrolled are men, 48% are women, 4% are another gender identity, and 2% did not disclose their gender identity (students can select more than one).

For more information, visit mitadmissions.org.

## **Graduate Admission**

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

Selected 2023 Graduate Admissions Statistics



#### Applications for graduate study



#### Offers of admission



#### First-year students registered in advanced degree programs





International citizens from 102 countries

For more information, visit gradadmissions.mit.edu.

## Enrollments, 2023-2024



All students



#### Undergraduates (38%)



Women (49%)



US minority groups (58%)



#### Graduate students (62%)

**2,969** Women (40%)

1,617

US minority groups (22%)

In 2023-2024, MIT students come from all 50 states, the District of Columbia, four territories, and 136 foreign countries.

Undergraduates by School/College, 2023-2024						
School/College	Majors	2nd majors				
Architecture and Planning	71	6				
Engineering*	2,475 (1,557)	125 (111)				
Humanities, Arts, and Social Sciences	53	49				
Management	157	27				
Science	716	135				
Computing*	(1,557)	(111)				

Note: Excludes 1,094 first-year students, 5 undesignated sophomores, and 5 special students. 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.

\*Students in interdisciplinary programs are included in the totals of the school or college that administers the program. Students in joint programs with the College of Computing are included in the totals for Engineering, with the number of shared students in parentheses. See the Registrar's enrollment reports for details.

Graduate Students	by School/	College, 2023	8-2024
School/College	Master's	Doctoral	Special
Architecture and Planning	357	192	0
Engineering*	1,012 (318)	2,297† (851)	107
Humanities, Arts, and Social Sciences	12	290	0
Management*	1,516 (16)	166 (80)	10
Science*	10	1,250	0
Computing*	81 (334)	44 (931)	0
Total	2,988	4,239	117

\*Students in interdisciplinary programs are included in the totals of the school or college that administers the program. Students in joint programs with the College of Computing are included in the totals for Engineering and Management (with the number of shared students in parentheses) but not in the Computing totals. See the Registrar's enrollment reports for details.

<sup>†</sup>Includes 185 students working on Harvard degrees only through the Harvard-MIT Health Sciences and Technology Program. US Minority Group Representation among Students, 2023-2024

Minority group	Undergraduate	Graduate
Asian American	1,582	919
Hispanic or Latino	664	484
Black or African American	396	210
American Indian or Alaska Native	7	2
Native Hawaiian or other Pacific Islander	1	2
Total	2,650	1,617

#### International Students

There are 3,478 international students enrolled in degree programs at MIT in 2023-2024: 501 undergraduates (11%) and 2,977 graduate students (41%). Additionally, 652 exchange, visiting, and special students participated in MIT programs.

International Students, by Region, 2023-2024		
Region	%	
Asia	52%	
Europe	21%	
Latin America and the Caribbean	9%	
North America	6%	
Middle East	6%	
Africa	4%	
Oceania	2%	
Total	100%	

## **Tuition and Financial Aid**

Tuition rates are set by Academic Council each spring for the following academic year. The annual cost of attendance is the total amount we estimate it will cost a student to attend MIT for one year. We use this budget to determine financial aid for every student.

## Undergraduate Cost of Attendance

Cost of Attendance (Before Aid), 2023-2024			
Expense category	Amount		
Tuition	\$59,750		
Student life fee	\$406		
Housing	\$12,380		
Food	\$7,010		
Books, course materials, supplies, and equipment	\$880		
Personal expenses	\$2,304		
Total	\$82,730		

Note: This budget does not include travel allowances, which are assessed based on personal address.

## Undergraduate Financial Aid

The Institute's undergraduate financial aid ensures that an MIT education is accessible to all qualified candidates regardless of their financial circumstances. MIT provides financial aid to meet the yearly cost of attendance based on a family's demonstrated financial need. Financial need is the difference between the cost to attend MIT and a family's ability to pay that amount.

MIT is one of seven US universities that is need based and full need for all students-domestic and international. Need based means that MIT awards financial aid entirely based on a family's financial circumstances. Full need means that we meet 100% of a family's demonstrated need through scholarships, grants, and student employment. In the 2022-2023 academic year, the Institute awarded \$152.3 million in MIT Scholarships, which are grants that do not need to be repaid. Students with family incomes under \$140,000 (and typical assets) attend MIT tuition-free.

Selected Undergraduate Financial Aid St 2022-2023	atistics,
Median need-based MIT Scholarship	\$63,729
Students awarded a need-based MIT Scholarship	58%
Students attending tuition-free due to MIT need-based aid	35%
Class of 2023 graduates with no student loan debt	86%
Average student loan debt for Class of 2023 graduates who borrowed	\$26,195
Median yearly earnings for those who worked	\$3,468

For detailed information regarding financial aid and the cost of attendance, visit the SFS website.

## 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.



## **\$20,640** 2023 summer tuition for students enrolled in courses

MIT's residential system can accommodate approximately 37% of the graduate student population; 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 \$972 to \$3,373, 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, 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. Approximately 2.412 graduate students are primarily supported as research assistants and 662 are appointed as teaching assistants; 2,119 are supported on fellowships.

2022-2023					
School/College	RA	FE	ТА	Other or self supported	
Architecture and Planning	55%	21%	20%	3%	
Engineering	50%	31%	9%	10%	
Humanities, Arts, and Social Sciences	14%	56%	23%	7%	
Management	33%	44%	20%	2%	
Science	48%	39%	12%	1%	
Computing	49%	46%	5%	0%	
Total	47%	35%	12%	7%	

## Doctoral Student Support by Type and School.

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

For more detailed information regarding the cost of attendance for the 2023-2024 academic year. including specific costs for tuition and fees, books and supplies, housing, food, and transportation, visit the SES website.

## 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. Moreover, learning must take place in an environment where students can not only find support for their academic success but can also attend to their well-being and cultivate their personal and intellectual growth.

One of the hallmarks of an MIT undergraduate education is the combination of rigorous academics with a "learning-by-doing" approach. MIT's rich experiential learning ecosystem enables students to pursue a wide variety of educational opportunities in such areas as research, public service and social impact, and entrepreneurship, to name a few.

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 world. UROP offers students the opportunity to join a faculty-led research team or to initiate their own research project.

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

Undergraduates are encouraged to add an international dimension to their education as well. 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.

Leadership training opportunities include the Undergraduate Practice Opportunities Program, 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 & Professional Development guides all students as they explore and prepare for careers, graduate study, and life after MIT.

## Selected Undergraduate Facts

- MIT has a 3-to-1 ratio of undergraduate students to faculty and instructional staff.
- MIT offers 58 undergraduate major and 59 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, DesignPlus, Experimental Study Group, or Terrascope.
- In a typical year, roughly half of graduating seniors report participating in an international experience while at MIT.
- Nearly 60% of MIT undergraduates participate each year in the Undergraduate Research Opportunities Program, with more than 93% having done so by the time they graduate.

## Majors

- Aerospace Engineering
- African and African Diaspora Studies
- American Studies
- Ancient and Medieval Studies
- Anthropology
- Archaeology and Materials
- Architecture
- Art and Design
  - Artificial Intelligence and Decision Making

Asian and Asian Diaspora Studies **Biological Engineering** Biology Brain and Cognitive Sciences **Business Analytics** Chemical Engineering Chemical-Biological Engineering Chemistry Chemistry and Biology Civil and Environmental Engineering Climate System Science and Engineering **Comparative Media Studies** Computation and Cognition Computer Science and Engineering Computer Science and Molecular Biology Computer Science, Economics, and Data Science Earth, Atmospheric, and Planetary Sciences Economics Electrical Engineering and Computer Science Electrical Science and Engineering Finance Global Studies and Languages (French, German, or Spanish) History Humanities and Engineering Humanities and Science Latin American and Latino/a Studies Linguistics and Philosophy Literature Management Materials Science and Engineering Mathematical Economics Mathematics (General, Applied, or Pure) Mathematics with Computer Science Mechanical Engineering Mechanical and Ocean Engineering Music Nuclear Science and Engineering Philosophy Physics

Planning Political Science Russian and Eurasian Studies Science, Technology, and Society Theater Arts Urban Science and Planning with Computer Science Women's and Gender Studies Writing

## **Graduate Education**

MIT's graduate students and postdocs represent one of the most talented and diverse cohorts of scholars in the world. The Institute not only invests in student academic success but fosters community, well-being, and personal growth.

The Institute's graduate programs provide collaborative environments and leading-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 master's and doctoral programs in engineering, mathematics, architecture, management, the social sciences, and the humanities.

The Institute for Medical Engineering and Science; the Institute for Data, Systems, and Society; the Center for Real Estate; and other research units 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 graduate students pursue career paths ranging from academia to industry, government, nonprofits,

and beyond. Comprehensive support opportunities include one-on-one advising through Career Advising and Professional Development and interactive online resources. The Faculty Job Search Series and the Path of Professorship conference for women focus on academia, while Mentoring Circles and Graduate Career Exploration Grants provide connections and resources for all career paths. Through programs like the Grant Writing Training Certificate and the Research Mentoring Certificate, graduate students deepen skills in seven competency areas: career advancement, communication, interpersonal skills, personal development, social responsibility, and teaching.

## **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 and support the MIT community 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 help people navigate resources, manage data, and think critically as consumers and creators of information; they play a vital role in supporting data-intensive and computational research across MIT.

**Providing an intellectual crossroads.** Through thought-provoking programs, free workshops, and the MIT Reads shared reading and discussion program, the Libraries foster connections across the MIT community. Welcoming spaces–including the renovated Hayden Library and Building 14 courtyard– invite users to recharge, find inspiration, and create new knowledge. Sharing knowledge with the world. The Libraries work to ensure that research is openly and equitably available to the broadest possible audience. Launched in 2019, the Center for Research on Equitable and Open Scholarship investigates how disparate communities can participate in scholarship with minimal bias or barriers and hosts a postdoctoral fellowship program. Since 2009, articles by Institute authors made freely available on DSpace@ MIT have been downloaded more than 24 million times, with 57% of faculty articles shared openly.

**Stewarding collections unique to MIT.** Distinctive Collections preserves and fosters the use of unique and rare items, both tangible and digital, including MIT-produced materials, archival collections, rare books, visual materials, and the Aga Khan Documentation Center collections.

# Information Technology and Computing on Campus

Information Systems and Technology (IS&T) provides services in support of MIT's mission to advance knowledge and educate students.

IS&T manages the digital infrastructure, technology architecture, software development, cybersecurity, and overall IT ecosystem of core Institute platforms, including the computing and communications infrastructure and applications. Together, these systems provide the digital foundation for for faculty, students, and staff engaged in MIT's research, academic, and administrative activities.

**Connected campus.** IS&T supports and maintains MITnet, the network that powers the Institute's communication and collaboration capabilities.

 MIT's network infrastructure in the Cambridge/ Boston area is made up of more than 7,500 miles (12,070 km) of fiber, over 12,000 wireless access points, and 4,000 switches that provide on-campus connectivity.

- MIT maintains high-speed dedicated connections to a number of global research and education networks, collaborators, and enterprise cloud platforms, including Amazon Web Services, Google Cloud Platform, and Microsoft Azure.
- The MIT Kendall WiFi network covers approximately 1,000,000 ft<sup>2</sup> (92,903 m<sup>2</sup>) of outdoor space, providing high-speed internet service at no cost to residents and visitors to the Kendall Square area and surrounding neighborhoods as a community service.

**Research computing.** The Office of Research Computing and Data, the Office of the Vice President for Research, and IS&T collaborate closely to provide efficient and sustainable research computing resources. These include:

- A broad range of research collaborations and the digital infrastructure supporting the Institute's core research computing facilities, including Bates Research and Engineering Center and the Massachusetts Green High Performance Computing Center.
- MIT's 100-gigabit backbone that supports high-speed connectivity across its research enterprise, providing seamless access to the computational resource facilities located throughout campus and beyond, such as Internet2 and the Energy Sciences Network, which in turn provides access to the CERN Large Hadron Collider.

**Applications and support.** IS&T develops and supports an extensive catalog of software and services.

- IS&T licenses widely used productivity tools (e.g., Office 365, Adobe, Zoom, Slack, CrowdStrike and Dropbox) for the community as well as discipline-specific technical software (e.g., MATLAB, SolidWorks) to support education and research activities.
- IS&T facilitates access to multiple enterprise cloud platforms and provides managed servers in a hybrid cloud environment for developers.
- Support teams provide 24/7 IT help by live chat, phone, or email, as well as in-person walk-in support during business hours in the Atlas Service Center, to more than 60 departments, labs, and centers.
- The teams field nearly 100,000 questions annually, ranging from routine support requests to queries about more complex technical issues and needs. The Knowledge Base draws on the cumulative IT expertise at MIT to deliver thousands of self-help articles.

#### 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. The Institute has over 40 design/build/project spaces that add up to over 130,000 ft<sup>2</sup> (12,077 m<sup>2</sup>). Tools and facilities for CNC routing, 3D printing, glassblowing, wood and metal working, mold making and casting. robotics, circuitry, textiles, ceramics, biomaking, and more are available for class, research, entrepreneurial, and personal projects. The Institute is building a next-generation campus-wide makerspace in the Metropolitan Storage Warehouse (Met), scheduled to open in late 2025.

Project Manus is charged with enhancing campus making and fostering student maker communities. Current projects include Maker-Lodge, a first-year maker training program; The Deep and Metropolis, open-access makerspaces optimizing peer-to-peer hands-on trainings for the MIT community; MAKE/Mobius, an app for locating maker resources on campus and paying for materials; and developing programming for the new campus-wide makerspace in the Met.

## 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, and organizations
- Extending MIT's knowledge and classroom to the world

Access to knowledge and high-quality education can empower people to improve their lives, their communities, and the world. MIT Open Learning provides educational opportunities for learners across the globe and students on campus through an array of programs and services.

• **Residential Education** supports MIT faculty and instructors with digital technologies to augment and transform how they teach and to make MIT education more effective and efficient.

- Digital Learning Lab advances learning initiatives on campus and designs online learning opportunities for a global community of learners.
- **OpenCourseWare** offers free, online, open educational resources from more than 2,500 MIT courses.
- MITx extends MIT learning to the world through online courses developed and taught by MIT instructors. MITx has offered courses to more than 6.3 million learners from over 200 countries.
- MITx MicroMasters programs offer credentials for professionals and an affordable, accelerated, and convenient path to a master's degree.
- The Open Learning Library is a collection of free, open resources used by 950,000 learners from 228 countries.
- MIT xPRO provides professional development opportunities via online courses and programs.
- MIT Horizon is comprised of a continuous learning library, events, and experiences designed to help organizations keep their workforces ahead of disruptive technologies.
- MIT Bootcamps offers intensive in-person and online programs for aspiring and experienced entrepreneurs.
- The Jameel World Education Lab aims to transform learning at scale by supporting research and connecting MIT faculty with leaders from 17 member institutions and educational innovators worldwide.
- Emerging Talent offers academic and professional opportunities for underserved communities, including historically marginalized groups and displaced populations.
- MIT pK-12 creates transformative learning experiences for youth and educators worldwide.

- MIT Integrated Learning Initiative furthers our understanding of learning and education through rigorous, interdisciplinary research.
- The MIT Center for Advanced Virtuality pioneers innovative experiences using technologies of virtuality and investigates the impacts of these technologies on learning, simulation, and cognition, as well as their social and ethical implications.
- Responsible AI for Social Empowerment and Education (RAISE), a collaboration between Open Learning, the Media Lab, and the Schwarzman College of Computing, provides curriculum and instruction to help prepare learners and workers for an AI-powered society.

MIT Open Learning also hosts the Digital Credentials Consortium, a group of higher education institutions in North America and Europe that is building an infrastructure and tools for verifiable digital academic credentials to support the education systems of the future.

## **Campus Life**

### The Campus

16819Acres<br/>(0.68 km²)Residence halls<br/>on campus40+60+Gardens and<br/>green spacesPublic works<br/>of art

Originally founded in Boston, MIT relocated to Cambridge in 1916. The Institute is an integral part of the city, a diverse and vibrant community of approximately 118,400 residents noted for its history, intellectual life, and thriving innovation climate. The city hosts more than 48,000 college and university students, many of whom live within its 6.26 mi<sup>2</sup> (16.21 km<sup>2</sup>).

MIT's campus extends more than a mile along the Charles River. At its heart 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, state-of-the-art facilities support MIT's 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 nanotechnology and advanced imaging center.

Current major capital projects include a new music building, the MIT Schwarzman College of Computing, and a substantial renovation of the historic Metropolitan Storage Warehouse as a hub for design and the new home for the School of Architecture and Planning.

For students, the campus has 19 residence halls (11 for undergraduates and eight for graduate students and families), each with its own distinctive personality and community. Newer additions to this lineup include the New Vassar Residence Hall for undergraduates and the E37 graduate tower in Kendall Square. A new graduate student residence (Graduate Junction) will open in 2024. Urban and walkable, the campus encourages sustainable practices in many ways, offering gardens and green spaces, bike-share stations, and free shuttles. At its edges, the campus 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.

Pedestrian- and bicycle-friendly, Cambridge has six subway stations, a commuter rail line, 27 bus routes, 80 bike-share stations, dedicated bicycle lanes, and numerous shuttles and bikeways, all of which enable visitors and residents to get around without a car.

## Housing Undergraduate Students

Most undergraduates live in one of MIT's 11 on-campus houses or in one of 35 MIT-affiliated fraternities, sororities, and independent living groups (FSILGs). All unmarried first-year students must live in one of the Institute's residence halls. Each on-campus residence hall has a live-in house team comprising a head of house (usually a senior faculty member) as well as a house operations manager and other professional staff, including an area director and graduate resident advisors, who support residents. On-campus housing is guaranteed for four consecutive years, and many students elect to remain on campus following their first year or move to an FSILG. Currently, more than 3,500 undergraduates live on campus.

In 2023-2024, approximately 1,700 students were affiliated with an 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 2,400 graduate student residents live in MIT's eight graduate houses conveniently located on campus. Graduate Junction, a new on-campus housing complex, is scheduled to open in August. Five of these living options are able to accommodate graduate students and their partners; two can accommodate over 400 students with families. Approximately 100 graduate students also live in undergraduate residence halls as graduate resident advisors.

### Sustainability

MIT's comprehensive commitment to sustainability aims to transform the Institute into a powerful model that generates just, equitable, applicable, and scalable solutions for responding to the unprecedented challenges of a changing planet. In these efforts, MIT has mobilized its community-from researchers to students to faculty and staff-to tackle climate change at the level of the campus and beyond.

In 2024, the Institute announced the Climate Project at MIT, an ambitious new model of accelerated, university-led innovation aimed at making the Institute one of the world's most prolific and collaborative sources of technology, behavioral, and policy solutions for the global climate challenge.

Guided by Fast Forward: MIT's Climate Action Plan for the Decade, MIT is committed to eliminating direct campus emissions by 2050 with a near-term milestone of net-zero by 2026. The plan is both outward facing-addressing climate challenges on the global scale-and focused on the campus level. Campus climate action is organized around 18 commitments related to mitigation and resiliency, electric vehicle infrastructure, greenhouse gas portfolio expansion, and climate leadership. In 2023, MIT launched a series of goals to reduce the emissions related to campus, food, water, and waste, and further inform decarbonization efforts.

- Since 2014, MIT has reduced its net emissions by approximately 14%.
- The Access MIT program provides generous subsidies for staff, faculty, and postdocs for low-carbon commuting-including subway, bus, bicycling, and commuter rail.
- MIT sponsors four Bluebike stations on campus, with a total of 207 docks. The MIT community completed more than 633,600 bike-share trips in 2023.
- New campus construction and major renovation projects aim to meet the national LEED Gold (version 4) certification standard. To date, MIT has completed more than 25 LEED projects, including three LEED Platinum projects.

More than two dozen offices, programs, and initiatives at MIT work to address sustainability and climate change issues, including the MIT Office of Sustainability, the Environmental Solutions Initiative, the MIT Energy Initiative, the MIT Climate & Sustainability Consortium, and the Abdul Latif Jameel Water and Food Systems Lab. MIT community groups also contribute significantly to sustainability work, with no fewer than 20 studentand staff-led groups advocating for and advancing climate change solutions. Recurring initiatives of the Graduate Student Council and Undergraduate Association's committees on sustainability and the staff Working Green Committee include a monthly Choose to Reuse swapfest and hackathons that engage students, industry, and thought partners in finding real-life solutions to sustainability challenges.

MIT offers a Climate System Science and Engineering degree and an Environment and Sustainability Minor, which give undergraduates an opportunity to delve into interdisciplinary coursework and investigations into real-world challenges facing people, the planet, and the campus itself. 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 achieve a more healthy, livable, and sustainable future. The Institute also partners with the cities of Cambridge and Boston to develop sustainability solutions for MIT and the world and is a member of the Boston Green Ribbon Commission.

#### The Arts

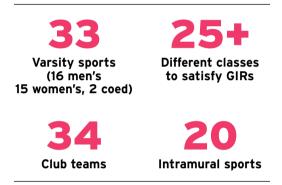
12 60+ Music, theater, Museums visual arts, writing, and galleries on and dance groups campus >50% >50% Incoming first-Undergraduates vear students with enrolled in arts training in the arts courses each year

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. 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 presents programs, exhibitions, and events inspired by the spirit and drive of innovation, welcoming all to participate in public dialogue and conversation. The Institute's past achievements are celebrated through the museum's extensive and unique collections, while MIT's current research, innovation, and design provide a catalyst for exhibitions and ongoing programs. The museum also produces the annual Cambridge Science Festival, featuring multiple days of programs and activities. In 2022, a reimagined museum opened in its new location at MIT's Kendall Square gateway.

The MIT List Visual Arts Center is the Institute's contemporary art museum. 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, which includes over 60 public sculptures and hundreds of paintings, prints, photographs, and drawings located throughout 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 multidisciplinary artist and composer Pamela Z (2022), designer Thomas Heatherwick (2020), and singer and actress Audra McDonald (2018).

### Athletics and Recreation



MIT's Department of Athletics, Physical Education, and Recreation offers opportunities for sports instruction and participation at all levels. The Institute supports one of the broadest intercollegiate athletic programs in the world, as well as an expansive club sport program. 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.

As part of the General Institute Requirements (GIRs), each student must earn eight points through physical education and wellness 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 while at MIT.
- MIT competes mainly against NCAA Division III New England colleges but also routinely participates in regional and national championships.
- The Institute has earned 419 Academic All-America honors, the most among all NCAA Divisions.

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, internationalscale squash courts, and a multi-activity court. Roberts Field and Jack Barry Field (lighted sportsturf venues), as well as the duPont Outdoor Tennis Courts, are adjacent to the Zesiger Center. 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.

### Fun and Culture MIT Colors

Cardinal red and silver grey first came to represent MIT in 1876, following the recommendation of the "School Color Committee," convened in February that year expressly for the purpose of defining its official colors. According to committee chair Alfred T. Waite (Class of 1879), cardinal red was selected because it was reminiscent of the American flag and "has always stirred the heart and mind of man." Gray, on the other hand, was chosen for its "quiet virtues of modesty and persistency and gentleness." The committee's choices were affirmed by the Alumni Association and approved by the faculty that May. Today, MIT's colors are displayed in myriad ways, one of the most prominent being through the Cardinal and Gray Society, the alumni group for those who have reached the 50th anniversary of their graduation. The group plays an important role at Commencement, as newly inducted memberswearing the society's distinctive cardinal red jacket and gray slacks or skirt-head the processional and lead the graduates into Killian Court.

#### Tim the Beaver

Tim the Beaver has represented MIT since 1914, when he was adopted as the mascot at the suggestion of the Technology Club of New York during their annual dinner, at which President Richard Maclaurin was presented with two handsomely mounted real beavers. Other contenders included the kangaroo, who goes forward by leaps and bounds, and the elephant, who is wise, patient, strong, hardworking, and has a good, tough hide. The club chose the beaver-nature's engineer, or in Lester Gardner's (Class of 1898) words, "an industrious American animal noted for its mechanical skills who does its best work after dark."

#### 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. 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 (the Institute's mascot) on top, 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 graduating class. Made of gold, the ring's nickname, "the Brass Rat," derives from its color and the prominence of the beaver mascot. A concrete symbol of an MIT education, the distinctive Brass Rat is recognized worldwide and instantly identifies MIT alumni to one another.

## Pi Day

In true MIT spirit, 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. ET, which is known colloquially as "Tau time" ( $\varpi$ x2). An exception was made for the early release time of 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 an engaging video to accompany the announcements and celebrate the tradition, which it posts to the MIT Admissions Blog.

## 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.

Though not officially sanctioned, hacks can be appreciated for their technical prowess and humorous digs at rival institutions. Examples include 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 and the 2006 cross-country theft of Caltech's Fleming Cannon.

## 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 certificate printed on faux parchment, newly minted pirates are rumored to swear a secret oath.

#### MIThenge

The Infinite Corridor runs through the center of MIT's campus, connecting its east and west sides. Twice a year, an astronomical event lights up the length of the hallway that runs through Buildings 7, 3, 10, 4, and 8. In November and again in January, the setting sun aligns with that particular section, flooding its third-floor windows with a stream of direct sunlight that dazzles spectators observing from the west end of Building 8. The assumed azimuth is 245.75 degrees. Now an annual tradition known as "MIThenge," this phenomenon was originally discovered, calculated, and publicized in 1975-1976 by students from the Department of Architecture.

## MIT Mystery Hunt

The MIT Mystery Hunt is a puzzlehunt competition that takes place in January. The hunt challenges participating teams to solve a series of puzzles that lead to "the coin" (physical or virtual) hidden somewhere on campus. Puzzles can be as creative, complex, collaborative, unusual, physical, and solvable as hunt organizers decide to make them. The winning team gets to write the subsequent year's hunt-and redefine the rules.

Launched in 1981, the MIT Mystery Hunt continues today as strong as ever. It is widely regarded as one of the oldest and most complex puzzlehunts in the world, attracting as many as 2,000 people annually and inspiring similar competitions at universities, companies, and cities around the world.

## **MIT and the Community**

#### 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 financial resources, the use of MIT facilities, representation on boards and committees, educational programs, and volunteer engagement. In addition, members of the MIT community support the Institute's Community Service Fund, which provides assistance for nonprofits where MIT volunteers work.

Departments, labs, and centers at MIT often create programming to inspire K-12 student interest in science, technology, engineering, and math. The Institute is working to increase awareness of these offerings to local schools and ensure equitable access to these opportunities.

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.

#### 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 15.8% of the city's revenue stream. MIT pays taxes on its commercial property and provides an annual voluntary payment in lieu of taxes (PILOT) for property that is used for academic purposes and is legally tax exempt. In fiscal year 2023, the Institute made a PILOT contribution of approximately \$2.3 million to the city and paid approximately \$84 million in real estate taxes.

The research, startups, and talent pool that MIT generates are a magnet for investment that catalyzes and fuels the local innovation economy. Kendall Square, at the eastern end of MIT's campus, is the seat of a thriving innovation hub and serves as a gateway to MIT. To provide expanded opportunities in the local innovation economy, the Job Connector by MIT serves as a free workforce development hub for Cambridge residents to explore opportunities for job readiness, skill training, internships, and apprenticeships. The Institute's Kendall Square Initiative and Volpe mixed-use development projects will also enhance the life and character of the area by adding over 2.5 million ft<sup>2</sup> (232.000 m<sup>2</sup>) of retail, office, and residential space and more than four acres (16.000 m<sup>2</sup>) of open space. MIT's Open Space Programming office creates diverse and vibrant events and activities in MIT's Kendall open spaces.

## **Research at MIT**

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 include:

- 1930s Pioneering high-speed photography
- 1940s Engineering practical microwave radar
- 1950s Building the magnetic core memory that made digital computers possible
- 1960s Developing the inertial guidance systems for the Apollo space program
- 1970s Inventing the first workable public key cryptographic system
- 1980s Discovering the smallest known, most abundant photosynthetic bacteria in the ocean
- 1990s Using new genetic and multiple-cell monitoring technologies to demonstrate how animals form memory about new environments
- 2000s Creating a new type of matter, a gas of atoms that shows high-temperature superfluidity
- 2010s 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 a century ago

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

- Developing a new steelmaking process that produces no emissions other than pure oxygen
- 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
- Developing with scientists from Brigham and Women's Hospital a way to power and communicate with devices implanted within the

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human body. The implants are the size of a grain of rice, have no batteries, and are powered by radio frequency waves.

- Capturing the first direct image of a black hole as part of an international team of over 200 scientists
- Ramping up a high-temperature superconducting electromagnet to a field strength of 20 tesla, the most powerful magnetic field of its kind ever created on Earth
- Reliably producing oxygen on the surface of Mars using an instrument the size of a lunchbox that can do the work of a small tree
- Observing for the first time a star swallowing a planet-a preview of what is expected to happen to the Earth in 5 billion years. Astronomers from MIT, Caltech, Harvard, and elsewhere identified a likely Jupiter-sized planet vanishing in a 10-day hot flash, followed by a lingering cold signal.

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

During fall 2023, approximately 5,810 researchers (including 1,536 postdoctoral scholars and 525 visiting faculty and scientists) worked with MIT faculty and students.

As an institution, MIT encourages interdisciplinary research across department and school boundaries while focusing on tackling great societal challenges. 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 Expenditures, by Primary Sponsor, Fiscal Year 2023

Primary sponsor	Expenditures (in millions)	%
Industry	\$162.87	19%
Department of Health and Human Services	\$160.05	19%
Department of Defense	\$126.41	15%
Foundations and other nonprofits	\$103.35	12%
National Science Foundation	\$95.51	11%
Department of Energy	\$89.29	11%
NASA	\$35.70	4%
State, local, and foreign governments	\$22.91	3%
MIT internal	\$21.82	3%
All other federal agencies	\$19.47	2%
Total	\$837.39	100%

Note: Figures are rounded.

### **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.

#### Centers, Labs, and Institutes

Independent interdisciplinary centers, laboratories, and institutes:

Abdul Latif Jameel Clinic for Machine Learning in Health Abdul Latif Jameel Poverty Action Lab Center for Environmental Health Sciences Center for Global Change Science Center for International Studies Center for Real Estate Center for Transportation and Logistics Computer Science and Artificial Intelligence

Laboratory Division of Comparative Medicine Havstack Observatory (off-campus entity) Institute for Data, Systems, and Society Institute for Medical Engineering and Science Institute for Soldier Nanotechnologies Koch Institute for Integrative Cancer Research Laboratory for Information and Decision Systems Laboratory for Nuclear Science Leventhal Center for Advanced Urbanism Lincoln Laboratory (off-campus entity) Materials Research Laboratory McGovern Institute for Brain Research MIT Energy Initiative MIT Kayli Institute for Astrophysics and Space Research MIT Media Lab Nuclear Reactor Laboratory Picower Institute for Learning and Memory Plasma Science and Fusion Center Research Laboratory of Electronics Singapore-MIT Alliance for Research and Technology Sociotechnical Systems Research Center

#### Institute Initiatives

Institute-wide research and educational activities:

Abdul Latif Jameel World Water and Food Systems Lab Center for Clinical and Translational Research Climate Project at MIT Internet Policy Research Initiative MIT Environmental Solutions Initiative MIT Innovation Initiative MIT International Science and Technology Initiatives MIT Mobility Initiative MIT.nano Morningstar Academy for Design

#### **Prominent Programs**

Notable centers, laboratories, institutes, and programs that engage the efforts of multiple MIT faculty:

Abdul Latif Jameel World Education Lab Art, Culture, and Technology Program Behavioral Research Lab Center for Bits and Atoms Center for Collective Intelligence Center for Computational Science and Engineering Center for Constructive Communication Center for Energy and Environmental Policy Research Center for Information Systems Research Concrete Sustainability Hub Consumer Finance Initiative Cybersecurity at MIT Sloan Deshpande Center for Technological Innovation DesianX D-Lab **Edgerton Center** Food Supply Chain Analytic and Sensing Initiative Global Languages Program Golub Center for Finance and Policy Health Systems Initiative Initiative on the Digital Economy Institute for Work and Employment Research Joint Program on the Science and Policv of Global Change Knight Science Journalism Program Laboratory for Financial Engineering Laboratory for Manufacturing and Productivity Leadership Center Legatum Center for Development and Entrepreneurship Martin Trust Center for MIT Entrepreneurship Microsystems Technology Laboratories MIT Center for Art, Science, and Technology MIT-IBM Watson AI Lab **MIT Portugal Program** MIT Quest for Intelligence

MIT Sea Grant College Program MIT-Woods Hole Oceanographic Institution Joint Program in Oceanography/Applied Ocean Science and Engineering Operations Research Center Responsible AI for Social Empowerment and Education Senseable City Lab Simons Center for the Social Brain Sustainability Initiative Women's and Gender Studies Program

## Key Local Collaborators

MIT's research extends out through collaborations with leading institutes and consortia both locally and around the world. These are the notable local centers, institutes, and laboratories that have a close research affiliation with the Institute:

Advanced Functional Fabrics of America 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), communications, and decision support–all supported by a broad research base in computing and advanced electronics. Other areas of innovative research and development are cybersecurity, biotechnology, novel engineered materials, autonomous systems, and humanitarian assistance and disaster relief systems. Field-testing prototype systems is strongly emphasized. As a Department of Defense FFRDC, the laboratory transitions technologies to both the military services and industry. Approximately 4,025 MIT employees and 500 subcontracted personnel worked at Lincoln Laboratory in fiscal year 2023.

Ninety percent of Lincoln Laboratory's funding comes from the US Department of Defense.

Lincoln Laboratory Program Funding, by Mission Area, Fiscal Year 2023*			
Mission area	% of total funding		
Space Systems and Technology	19%		
Air, Missile, and Maritime Defense Technology	17%		
Communications Systems	16%		
Advanced Technology	12%		
Tactical Systems	10%		
Cybersecurity and Information Sciences	6%		
Homeland Protection	5%		
Biotechnology and Human Systems	5%		
Intelligence, Surveillance, and Reconnaissance Systems and Technology	4%		
Advanced Research Portfolio	3%		
Air Traffic Control	3%		
Total	100%		

\*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.

Approximately 700 companies work with faculty and students in Institute-wide programs such as MIT Corporate Relations' Industrial Liaison Program (the most inclusive and continuous conduit between corporations and MIT) and MIT Startup Exchange (which promotes collaboration and partnerships between MIT-connected startups and industry), as well as in many other collaborations.

Research sponsored directly by industry totaled \$176 million in fiscal year 2023, or 21% 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) collaborates with faculty, researchers, and entrepreneurs in academia and industry. TLO's mission aligns with MIT's goal of building a better world through education, research, and innovation. By protecting and commercializing groundbreaking technologies in areas focusing on climate crisis, manufacturing, healthcare, secure communication, and beyond, the TLO plays a critical role in MIT's broader efforts.

In fiscal year 2023, the TLO received 593 invention disclosures (including 80 from Lincoln Laboratory), filed 592 new US patents, had 362 US patents issued, executed 92 license agreements, had 23 companies formed using MIT intellectual property, and received \$40.2 million in total licensing revenue. MIT's strong corporate connection is also 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 custom programs for organizations, executive certificates, and more than 90 online and in-person short courses for individuals. Led by MIT Sloan faculty, executive programs provide business professionals with a targeted and flexible means to advance their career goals and position their organizations for future growth.

MIT Professional Education provides technology and engineering education for working professionals pursuing career advancement and for organizations seeking to meet modern-day challenges. Programs are offered through a variety of approaches to meet the needs of today's learners.

## Innovation and Entrepreneurship

MIT was founded with the aim of providing students with an education that combines rigorous academic study with practical, hands-on learning. This emphasis on practice is infused into the Institute's innovation and entrepreneurship (I&E) curriculum, student groups, I&E hubs, and programming. Collectively, these contribute to MIT's vibrant and growing I&E ecosystem.

MIT promotes diversity, equity, and inclusion in I&E by elevating opportunities for community members who are traditionally underrepresented in STEM and innovation through Inclusive Innovation Programs and the Women in Innovation and STEM Database at MIT. The Institute offers more than 150 courses that intersect with I&E as well as a minor in entrepreneurship and innovation, an MBA E+I Track, and Independent Activities Period and summer opportunities.

MIT has more than 50 I&E student clubs and initiatives, including the MIT \$100K Entrepreneurship Competition and the MIT Clean Energy Prize, and events such as Hacking Arts and Hacking Medicine.

## Innovation and Entrepreneurship Hubs

MIT **InnovationHQ (iHQ)** is a home for the Institute's thriving community of innovators and entrepreneurs. Offering 25,000 ft<sup>2</sup> (2,323 m<sup>2</sup>) of workspaces, meeting rooms, and event spaces, iHQ encourages the cross-pollination of ideas among MIT students, faculty, staff, and the global innovation community.

The Martin Trust Center for MIT Entrepreneurship provides frameworks, courses, co-curricular programs, facilities, advisory services, and processes to create a rigorous, practical, customized, and integrated educational experience.

#### Programs

More than 85 resources are dedicated to fostering I&E at MIT. Here are just a few:

- The Deshpande Center for Technological Innovation awards research grants and provides other types of assistance to faculty members whose work shows the potential to benefit society, transform markets and industries, and improve the quality of life for people across the globe.
   The Legatum Center for Development and Entrepreneurship runs a fellowship program for students with a commitment to building ventures through principled entrepreneurial leadership
  - and provides grants for students looking to experience global entrepreneurship opportunities.

- Through more than 15 classes and student research and fieldwork opportunities, MIT D-Lab works with people around the world to develop and advance collaborative approaches and practical solutions to global poverty challenges.
- MIT IDEAS Global Challenge is a social entrepreneurship program that enables MIT student-led teams to apply their education and expertise in collaboration with community partners to address social and environmental challenges around the world.
- The MIT Office of Innovation supports MITs innovative people, programs, and partnerships by catalyzing the iHQ infrastructure, providing platforms for innovation programs, and stewarding the wider I&E community.
- The MIT Sandbox Innovation Fund Program provides seed funding, mentorship, and tailored entrepreneurship education that empowers student innovators to explore ideas, take risks, and prepare to launch.
- The MIT Startup Exchange actively promotes collaboration and partnerships between MITconnected startups and industry, principally members of MIT's Industrial Liaison Program.
- MITdesignX is a design innovation and entrepreneurship program that empowers students to build new business ventures and forward-thinking solutions designed to address critical challenges facing the future of cities and the human environment.
- Mission Innovation X enables mission-driven organizations and dual-use ventures to better solve the world's biggest challenges. It also runs high-impact venture development programs such as Proto Ventures.
- Venture Mentoring Service is a confidential service for entrepreneurs in the MIT community that connects entrepreneurs with teams of carefully selected mentors to help turn their ideas into ventures.

## Alumni

## MIT Students after Graduation

Upon graduation, MIT students are well prepared and successful applicants for jobs or graduate school. They use a variety of MIT resources, including networking: career fairs: employer programs: advising; and professional development services. clubs, and organizations. MIT Career Advising and Professional Development (CAPD) and other Institute resources, along with faculty, advisors, departmental staff, and alumni, help quide students applying to graduate and professional schools. Students interact with employers and graduate schools through career fairs, employer information sessions, and recruiting partnerships. In the 2022-2023 academic year, employers recruited students for internships and employment through on-campus career fairs, information sessions, programs, and events, as well as through formal partnerships.

Plans					
Plan	Bachelor's	Master's	Doctoral		
Graduate school	43%	14%	-		
Work	49%	79%	98%		

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Sources: 2023 Graduating Student Survey, Doctoral Exit Survey. Institutional Research, Office of the Provost,

Graduating bachelor's students going on to graduate school indicated pursuing one or more of the following: master's (58%), doctoral (35%), and medical (7%) degrees. In 2023, the top universities for bachelor's recipients pursuing graduate study were MIT, Harvard, Stanford, CalTech, University of California-Berkley, Carnegie Mellon University, and Columbia. Master's students seeking further study

were primarily pursuing doctoral (87%) and master's (8%) degrees. Most master's students (67%) continued their studies at MIT.

Approximately 14% of graduating bachelor's and 17% of graduating master's students indicated they would be working at an employer considered to be a startup. More than half of doctoral students planning to work (54%) were choosing to work in academic or research institutions. Of those entering academia, 16% had tenure-track faculty appointments.

## Additional 2023 Post-Graduation Employment Statistics

Plan	Bachelor's	Master's	Doctoral
Expect to work in the US	95%	86%	92%
Had an internship/ externship that led to accepted job offer	47%	35%	-

Sources: 2023 Graduating Student Survey, Doctoral Exit Survey. Institutional Research, Office of the Provost.

MIT graduates who continue to employment are offered competitive salaries after graduation. Typically, they receive salary offers 30-40% above the national average for new college graduates, depending on the industry. Additional salary data is available on the CAPD website.

### **Organizations that Hire MIT Graduates**

Many companies and organizations regularly recruit at MIT. The following is a brief list of top employers who hired from the Class of 2023:

Amazon Amgen Apple Bain & Company Boeina Boston Children's Hospital Boston Consulting Group Citadel LLC Goldman Sachs Gooale Jane Street Capital Massachusetts General Hospital McKinsev & Company Merck Meta Microsoft NVIDIA Palantir Technologies Space Exploration Technologies (SpaceX) Tesla Inc. US Navv World Bank

### **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 146,539 living alumni and its students and friends with the Institute and with one another, and it offers opportunities for connection through various resources, programs, services, and channels.

Geographic Distribution of Alumni			
Region	Number		
United States and Possessions		111,813	
New England	28,058		
Mid-Atlantic	27,566		
West	23,122		
Southwest and South Central	9,684		
Great Lakes	7,808		
Southeast	7,681		
Northwest and Great Plains	6,984		
Alaska and Hawai'i	617		
Puerto Rico, the Virgin Islands, and other US territories	293		
Asia		10,357	
Europe		7,071	
North America (other than US)		2,612	
South America		1,832	
Pacific Ocean Islands and Australia		769	
Africa		618	
Central America		90	
Total	1	135,162	

Note: Includes only alumni with known addresses. Data as of July 1, 2023.

In fiscal year 2023, 60% of living alumni engaged with MIT philanthropically, virtually, or face-to-face. More than 15,000 alumni volunteered in service to the MIT community. MIT Annual Giving reported \$84.2 million in gifts, and more than 35,000 alumni, students, and friends gave to MIT.

## **Resource Development**

During fiscal year 2023, more than 31,000 individuals and organizations gave or pledged \$615 million to support the talented people of MIT in their quest to meet the great challenges of our time. This marked the Institute's ninth consecutive fiscal year surpassing its \$500 million fundraising target.

Philanthropic contributions provide essential unrestricted funds and vital resources designated to a range of priorities across MIT. Unrestricted fundswhich can be directed toward pressing needs-have helped the Institute accelerate its commitment to action on climate change and ensured the continued revitalization of campus facilities.

MIT continues to cultivate the support of its alumni and friends for ongoing core needs, such as educating the "whole student"-which encompasses undergraduate scholarships, experiential learning, athletics, and graduate fellowships-and professorships, campus construction, and the arts. The Institute is also focusing fundraising efforts on helping the MIT community come together to make progress in high-impact fields, such as climate and generative AI, and to drive the creation of new knowledge and solutions.

## **Operating Financials**

#### Value of Plant and Invested Assets, Fiscal Year 2023

Asset	Value (in millions)
Land, buildings, and equipment, net book value	\$5,016.7
Market value of endowed funds	\$23,453.4
Market value of total investments	\$30,692.9

Gifts and Pledge Payments to MIT, Fiscal Year 2023	
Source	Amount (in millions)
Foundations	\$264.4
Individuals	\$173.8
Corporations	\$98.1
Other	\$0.1
Total	\$536.4

#### Gift and Pledge Payment Designations, Fiscal Year 2023

Designation	Amount (in millions)
Research and education programs	\$301.0
Graduate fellowships	\$65.7
Construction and renovations	\$45.1
Unrestricted	\$38.1
Faculty chairs	\$35.2
Scholarships and other undergraduate aid	\$28.4
Undergraduate education and student life	\$20.0
Undesignated and miscellaneous	\$2.9
Total	\$536.4

#### **Operating Expenditures, Fiscal Year 2023** Expenditures Category (in millions) % Sponsored research \$1,926.9 43% Instruction and \$1,416.8 31% unsponsored research General and administrative\* 26% \$1.167.4 Total \$4,511.1 100%

\*Includes auxiliary enterprises and Alumni Association.

Operating	Revenues,	Fiscal	Year	2023

Category	Revenues (in millions)	%
Investment return to operations	\$1,360.9	29%
Sponsored support– Lincoln Laboratory	\$1,220.6	26%
Sponsored support-Campus	\$818.0	17%
Tuition, net of discount	\$409.0	9%
Gifts and bequests for operations	\$398.1	9%
Other revenue	\$267.1	6%
Auxiliary enterprises	\$157.3	3%
Sponsored support– Singapore-MIT Alliance for Research and Technology	\$24.4	1%
Total	\$4,655.4	100%

## Accreditation

MIT is accredited by the New England Commission of Higher Education.

Inquiries regarding MIT's accreditation status may be submitted to MIT at accreditation@mit.edu or directly to the commission:

New England Commission of Higher Education 301 Edgewater Place, Suite 210 Wakefield, MA 01880 telephone 781-425-7785 email 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.

