In the 1980s, there was more controversy at MIT over its involvement in SDI (space weaponry) and CBW (chemical and biological warfare) research.[75] More recently, MIT's research for the military has included work on robots, drones and 'battle suits'.[76]

Recent history

The MIT Media Lab houses researchers developing novel uses of computer technology and shown here is the 1985 building, designed by I.M. Pei, with an extension (right of photo) designed by Fumihiko Maki opened in March 2010.

MIT has kept pace with and helped to advance the digital age. In addition to developing the predecessors to modern computing and networking technologies,[77][78] students, staff, and faculty members at Project MAC, the Artificial Intelligence Laboratory, and the Tech Model Railroad Club wrote some of the earliest interactive computer video games like *Spacewar!* and created much of modern hacker slang and culture.[79] Several major computer-related organizations have originated at MIT since the 1980s: Richard Stallman's GNU Project and the subsequent Free Software Foundation were founded in the mid-1980s at the AI Lab; the MIT Media Lab was founded in 1985 by Nicholas Negroponte and Jerome Wiesner to promote research into novel uses of computer technology;[80] the World Wide Web Consortium standards organization was founded at the Laboratory for Computer Science in 1994 by Tim Berners-Lee;[81] the OpenCourseWare project has made course materials for over 2,000 MIT classes available online free of charge since 2002;[82] and the One Laptop per Child initiative to expand computer education and connectivity to children worldwide was launched in 2005.[83]

MIT was named a sea-grant college in 1976 to support its programs in oceanography and marine sciences and was named a space-grant college in 1989 to support its aeronautics and astronautics programs.[84][85] Despite diminishing government financial support over the past quarter century, MIT launched several successful development campaigns to significantly expand the campus: new dormitories and athletics buildings on west campus; the Tang Center for Management Education; several buildings in the northeast corner of campus supporting research into biology, brain and cognitive sciences, genomics, biotechnology, and cancer research; and a number of new "backlot" buildings on Vassar Street including the Stata Center.[86] Construction on campus in the 2000s included expansions of the Media Lab, the Sloan School's eastern campus, and graduate residences in the northwest.[87][88] In 2006, President Hockfield launched the MIT Energy Research Council to investigate the interdisciplinary challenges posed by increasing global energy consumption.[89]

In 2001, inspired by the open source and open access movements,[90] MIT launched OpenCourseWare to make the lecture notes, problem sets, syllabi, exams, and lectures from the great majority of its courses available online for no charge, though without any formal accreditation for coursework completed.[91] While the cost of supporting and hosting the project is high,[92] OCW expanded in 2005 to include other universities as a part of the OpenCourseWare Consortium, which currently includes more than 250 academic institutions with content available in at least six languages.[93] In 2011, MIT announced it would offer formal certification (but not credits or degrees) to online participants completing coursework in its "MITx" program, for a modest fee.[94] The "edX"

online platform supporting MITx was initially developed in partnership with Harvard and its analogous "Harvardx" initiative. The courseware platform is open source, and other universities have already joined and added their own course content.[95] In March 2009 the MIT faculty adopted an open-access policy to make its scholarship publicly accessible online.[96]

MIT has its own police force. Three days after the Boston Marathon bombing of April 2013, MIT Police patrol officer Sean Collier was fatally shot by the suspects Dzhokhar and Tamerlan Tsarnaev, setting off a violent manhunt that shut down the campus and much of the Boston metropolitan area for a day.[97] One week later, Collier's memorial service was attended by more than 10,000 people, in a ceremony hosted by the MIT community with thousands of police officers from the New England region and Canada.[98][99][100] On November 25, 2013, MIT announced the creation of the Collier Medal, to be awarded annually to "an individual or group that embodies the character and qualities that Officer Collier exhibited as a member of the MIT community and in all aspects of his life". The announcement further stated that "Future recipients of the award will include those whose contributions exceed the boundaries of their profession, those who have contributed to building bridges across the community, and those who consistently and selflessly perform acts of kindness".[101][102][103]

In September 2017, the school announced the creation of an artificial intelligence research lab called the MIT-IBM Watson AI Lab. IBM will spend $240 million over the next decade, and the lab will be staffed by MIT and IBM scientists.[104] In October 2018 MIT announced that it would open a new Schwarzman College of Computing dedicated to the study of artificial intelligence, named after lead donor and The Blackstone Group CEO Stephen Schwarzman. The focus of the new college is to study not just AI, but interdisciplinary AI education, and how AI can be used in fields as diverse as history and biology. The cost of buildings and new faculty for the new college is expected to be $1 billion upon completion.[105]

The Laser Interferometer Gravitational-Wave Observatory (LIGO) was designed and constructed by a team of scientists from California Institute of Technology, MIT, and industrial contractors, and funded by the National Science Foundation. It was designed to open the field of gravitational-wave astronomy through the detection of gravitational waves predicted by general relativity.[106] Gravitational waves were detected for the first time by the LIGO detector in 2015. For contributions to the LIGO detector and the observation of gravitational waves, two Caltech physicists, Kip Thorne and Barry Barish, and MIT physicist Rainer Weiss won the Nobel Prize in physics in 2017.[107] Weiss, who is also an MIT graduate, designed the laser interferometric technique, which served as the essential blueprint for the LIGO.[108]

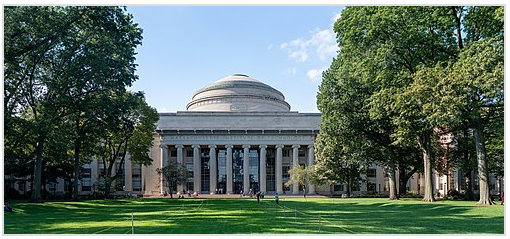
In April 2024, MIT students joined other campuses across the United States in protests and setting up encampments against the Gaza war.[109][110][111][112] Student likened their actions to the historic protests against the American invasion of Vietnam and MIT investments in South African apartheid;[113] they called for ending ties to the Israeli Ministry of Defense.[114]

Campus

MIT's 166-acre (67.2 ha) campus in the city of Cambridge spans approximately a mile along the north side of the Charles River basin.[6] The campus is divided roughly in half by Massachusetts Avenue, with most dormitories and student life facilities to the west and most academic buildings to the east. The bridge closest to MIT is the Harvard Bridge, which is known for being marked off in a non-standard unit of length – the smoot.[115][116]

MIT's central and east campus from above the Harvard Bridge. Left of center is the Great Dome over Killian Court, with the Stata Center behind.

The Kendall/MIT MBTA Red Line station is located on the northeastern edge of the campus, in Kendall Square. The Cambridge neighborhoods surrounding MIT are a mixture of high tech companies occupying both modern office and rehabilitated industrial buildings, as well as socio-economically diverse residential neighborhoods.[117][118] In early 2016, MIT presented a development plan for Kendall Square the City of Cambridge, adding high-rise educational, retail, residential, startup incubator, and office space around the MBTA station. The MIT Museum has moved immediately adjacent to a Kendall Square subway entrance, joining the List Visual Arts Center on the eastern end of the campus.[119]



MIT's Building 10 and Great Dome overlooking Killian Court

Each building at MIT has a number (possibly preceded by a *W*, *N*, *E*, or *NW*) designation, and most have a name as well. Typically, academic and office buildings are referred to primarily by number while residence halls are referred to by name. The organization of building numbers roughly corresponds to the order in which the buildings were built and their location relative (north, west, and east) to the original center cluster of Maclaurin buildings.[120] Many of the buildings are connected above ground as well as through an extensive network of tunnels, providing protection from the Cambridge weather as well as a venue for roof and tunnel hacking.[121][122]

The campus' primary energy source is natural gas. In connection with capital campaigns to expand the campus, the Institute has also extensively renovated existing buildings to improve their energy efficiency. MIT has also taken steps to reduce its environmental impact by running alternative fuel campus shuttles, subsidizing public transportation passes, constructing solar power offsets, and building a cogeneration plant to power campus electricity, heating, and cooling requirements.[123][124]

Research facilities

MIT's on-campus nuclear reactor[125] is one of the most powerful university-based nuclear reactors in the United States. The prominence of the reactor's containment building in a densely populated area has been controversial,[126] but MIT maintains that it is well-secured.[127]

MIT Nano, also known as Building 12, is an interdisciplinary facility for nanoscale research. Its 100,000 sq ft (9,300 m^2) cleanroom and research space, visible through expansive glass facades, is the largest research facility of its kind in the nation.[128] With a cost of US$400 million, it is also one of the costliest buildings on campus. The facility also provides state-of-the-art nanoimaging capabilities with vibration damped imaging and metrology suites sitting atop a 5×10^6 lb (2,300,000 kg) slab of concrete underground.[129]

Other notable campus facilities include a pressurized wind tunnel for testing aerodynamic research, a towing tank for testing ship and ocean structure designs, and previously Alcator C-Mod, which was the largest fusion device operated by any university.[130][131] MIT's campus-wide wireless network was completed in the fall of 2005 and consists of nearly 3,000 access points covering 9.4×10^6 sq ft (870,000 m^2) of campus.[132]

Architecture

MIT's School of Architecture, founded in 1865[133] and now called the School of Architecture and Planning, was the first formal architecture program in the United States,[134] and it has a history of commissioning progressive buildings.[135][136] The first buildings constructed on the Cambridge campus, completed in 1916, are sometimes called the "Maclaurin buildings" after Institute president Richard Maclaurin who oversaw their construction. Designed by William Welles Bosworth, these imposing buildings were built of reinforced concrete, a first for a non-industrial – much less university – building in the US.[137] Bosworth's design was influenced by the City Beautiful Movement of the early 1900s[137] and features the Pantheon-esque Great Dome housing the Barker Engineering Library. The Great Dome overlooks Killian Court, where graduation ceremonies are held each year. The friezes of the limestone-clad buildings around Killian Court are engraved with the names of important scientists and philosophers.[a] The spacious Building 7 atrium at 77 Massachusetts Avenue is regarded as the entrance to the Infinite Corridor and the rest of the campus.[118]

The Stata Center houses CSAIL, LIDS, and the Department of Linguistics and Philosophy.

Alvar Aalto's Baker House (1947), Eero Saarinen's MIT Chapel and Kresge Auditorium (1955), and I.M. Pei's Green, Dreyfus, Landau, and Wiesner buildings represent high forms of post-war modernist architecture.[140][141][142] More recent buildings like Frank Gehry's Stata Center (2004), Steven Holl's Simmons Hall (2002), Charles Correa's Building 46 (2005), and Fumihiko Maki's Media Lab Extension (2009) stand out among the Boston area's classical architecture and serve as examples of contemporary campus "starchitecture".[135][143] These buildings have not always been well received;[144][145] in 2010, *The Princeton Review* included MIT in a list of twenty schools whose campuses are "tiny, unsightly, or both".[146]

Housing

The Simmons Hall undergrad dormitory was completed in 2002.

Undergraduates are guaranteed four-year housing in one of MIT's 11 undergraduate dormitories.[147] Those living on campus can receive support and mentoring from live-in graduate student tutors, resident advisors, and faculty housemasters.[148] Because housing assignments are made based on the preferences of the students themselves, diverse social atmospheres can be sustained in different living groups; for example, according to the *Yale Daily News* staff's *The Insider's Guide to the Colleges, 2010*, "The split between East Campus and West Campus is a significant characteristic of MIT. East Campus has gained a reputation as a thriving counterculture."[149] MIT also has 5 dormitories for single graduate students and 2 apartment buildings on campus for married student families.[150]

MIT has an active Greek and co-op housing system, including thirty-six fraternities, sororities, and independent living groups (FSILGs).[151] As of 2015, 98% of all undergraduates lived in MIT-affiliated housing; 54% of the men participated in fraternities and 20% of the women were involved in sororities.[152] Most FSILGs are located across the river in Back Bay near where MIT was founded, and there is also a cluster of fraternities on MIT's West Campus that face the Charles River Basin.[153] After the 1997 alcohol-related death of Scott Krueger, a new pledge at the Phi Gamma Delta fraternity, MIT required all freshmen to live in the dormitory system starting in 2002.[154] Because FSILGs had previously housed as many as 300 freshmen off-campus, the new policy could not be implemented until Simmons Hall opened in that year.[155]

In 2013–2014, MIT abruptly closed and then demolished undergrad dorm Bexley Hall, citing extensive water damage that made repairs infeasible. In 2017, MIT shut down Senior House after a century of service as an undergrad dorm. That year, MIT administrators released data showing just 60% of Senior House residents had graduated in four years. Campus-wide, the four-year graduation rate is 84% (the cumulative graduation rate is significantly higher).[156]

Off-campus real estate

MIT has substantial commercial real estate holdings in Cambridge on which it pays property taxes, plus an additional voluntary payment in lieu of taxes (PILOT) on academic buildings which are legally tax-exempt. As of 2017, it is the largest taxpayer in the city, contributing approximately 14% of the city's annual revenues.[157] Holdings include Technology Square, parts of Kendall Square, University Park, and many properties in Cambridgeport and Area 4 neighboring the main campus.[158] The land is held for investment purposes and potential long-term expansion.[159]