

Office of the Vice Chancellor President's Report 2017-2018

The mission of the [Office of the Vice Chancellor](#) (OVC) is to advance academic innovation and foster the growth of every MIT student, empowering them to make a positive impact at MIT and beyond. The OVC, formally created in July 2017, brings together the former Office of the Dean for Undergraduate Education and the Office of the Dean for Graduate Education.

Led by Vice Chancellor and former Dean of Engineering Ian A. Waitz, OVC is part the Chancellor's Office, led by Cynthia Barnhart. The focus of the Chancellor's Office is "all things students" and OVC is aligned in helping to meet the broad goals the chancellor has outlined: admit exceptional students; make an MIT education accessible and affordable; improve the academic experience; promote student well-being and provide support when needed; establish a strong model of shared governance; ensure spaces where students live and learn meet their needs; create an environment that is caring, respectful, and inclusive; and work to prevent and respond to sexual misconduct.

The Chancellor's Office also comprises the Division of Student Life (DSL), which the OVC works with closely across a variety of activities, functions, and initiatives. In addition, OVC has close links with the dean for digital learning, and school and department leadership.

Charge, Strategic Priorities, and Values

Charge

Provide students with the education and guidance they need to fulfill their personal aspirations and make a better world, through:

- Engaging with students and departments to develop and pursue a roadmap for enhancing the first-year student academic experience;
- Partnering with community members to make improvements for our students in areas such as advising, professional development, diversity and inclusion, and well-being;
- Implementing the residential education innovations called for in the [Institute-wide Task Force on the Future of MIT Education \(July 2014\)](#); and
- Working with the staff from undergraduate and graduate education to conduct an organizational review that positions the two offices to support the above efforts, as well as optimize services for our students and faculty.

Strategic Priorities (see detailed list below)

- Enhance the undergraduate experience;
- Serve our graduate students;
- Promote diversity, inclusion, and well-being;
- Improve advising, career services, and professional development;
- Strengthen academic infrastructure; and
- Live our mission and values.

OVC was created to advance residential education at a time of rapid change *and growing opportunities*, such as:

- educational innovations and the rise of open learning;
- broadening student population and needs; and
- evolving political, economic, and global landscape.

Values

In summer 2017, Vice Chancellor Waitz convened two separate, daylong All-Hands Meetings for the purpose of learning more about the work of the units of the former DUE and ODGE and for the units to become better acquainted with each other. During these meetings, Vice Chancellor Waitz asked the staff to brainstorm new organizational models that might better position the new OVC to meet the chancellor's charge. From those meetings, the staff developed and adopted a set of values for the new OVC which are as follows:

- **Student-centeredness:** We support the teaching, learning, academic success, personal growth, and well-being of the whole student and all students.
- **Integrity:** We strive to be transparent, respectful, honest, and accountable to ourselves and others; integrity fosters trust and trust builds the bonds of community.
- **Community:** We actively work to create a caring, compassionate, healthy, and safe environment that enables all community members to thrive.
- **Diversity and Inclusion:** We build and maintain a community and culture that celebrates and values diverse backgrounds, identities, and perspectives.
- **Collaboration:** We are committed to creative, flexible, and generous ways of building bridges, working together, and communicating openly.
- **Innovation:** We engage in creative risk-taking to build a more agile organization that in turn affects transformative change at the Institute, and in the world.

The New OVC Organization

Strategic Approach

Simultaneously, Vice Chancellor Waitz developed a strategic approach for the new organization that synthesized and integrated input from across OVC. In early March 2018, he unveiled his vision of the new organizational structure, which was designed to support the chancellor's charge, new mission, and new strategic priorities. The OVC was created with *implementation* in mind, and to that end, the OVC strategic organizational approach had several key elements:

- **Learning is central:** The Teaching and Learning Lab will play a central role in the new OVC. Their evidence-based approach in terms of using the latest literature in the field on teaching and student learning and tying that to assessing and evaluating outcomes is the way that we will pursue our priorities.
- **Cross-functional teams are core:** Dashed lines can more effective, flexible, and empowering than reorganizing boxes. OVC aims to provide a diversity of perspectives

wherever possible from staff as part of these teams. Creating more cross-functional teams, including participants from the OVC and from across MIT, will enhance professional development for staff.

- **Building on our strengths is critical:** During his first eight months, Vice Chancellor Waitz observed that the OVC staff was executing many core programs and services with excellence. He didn't want to disrupt what was going well in terms of delivering important services to students.
- **Balancing priorities, remaining focused is crucial:** Given the ambitious charge, set of priorities, and the reality that OVC will remain relatively the same size in terms of resources, success will rely upon finding the right balance. Practically, this means focusing on crucial day-to-day activities (and optimizing where possible); combining / working together where we can; and in some cases, spinning non-core, less impactful elements down (and by that we mean, not people, but activities).

Changes in Process

The major organizational changes that resulted from creating the new OVC include the following:

- The Office of Undergraduate Advising and Academic Program (UAAP) will evolve.
 - A new office (called the Office of the First Year) was created and dedicated to the undergraduate first-year experience and related activities. A search for the head of this office was launched. Elizabeth Young will continue as interim director of UAAP until the search concludes and a director is identified.
 - The Freshman Learning Communities (FLCs), which include Concourse, the Experimental Study Group, and Terrascope, and Denny Freeman's first-year advising seminars, will report into this Office of the First Year.
 - ATIC, currently reporting into UAAP, will report to DSL's office of Student Disabilities Services.
 - UROP, currently reporting into UAAP, will report to OEL (more information below).
- The Office of Experiential Learning (OEL) will transition and be comprised of UROP, Edgerton, D-Lab, Global Education, and the Priscilla King Gray Public Service Center (PKG).
 - Global Education (now part of GECD) will report to OEL (more information below).
 - PKG, currently in DSL, will move to OEL.
 - Current OEL Director Kim Vandiver will take on a new role, focusing his primary efforts on the Edgerton Center and student clubs and teams. As a result, a new administrative head of OEL will be sought. Kim will continue as the director of the current OEL until a new director is identified.
- GECD will transition into Career Advising & Professional Development, focusing on career services and professional development (new function), serving both undergraduate and graduate students.
 - As above, Global Education will move to OEL.
 - As part of this broadened mission to include professional development, Distinguished Fellowships will move to this office.

- The Office of Graduate Education (OGE) will remain as a dedicated unit.
 - ISO, which currently reports into OGE, will be a separate unit reporting directly to the vice chancellor.
- ISO will continue its current functional role, serving both undergraduate and graduate students.
- ATIC will continue its functional role and report to DSL's office of Student Disabilities Services.
- Admissions, OME, Student Financial Services, Registrar, ROTC, Teaching and Learning Laboratory will remain distinct offices with their current portfolios and the same reporting structures.
- OVC HQ will retain its core function of supporting offices, units, and staff throughout OVC and the Chancellor's Office.

The May 2018 Visiting Committee viewed these changes favorably in their report to MIT Senior Leadership.

Strategic Priorities and Goals (2018-2021)

*(Note: * denotes work that has been initiated.)*

Looking ahead, OVC has identified the following priorities for the coming and subsequent years.

Enhance the Undergraduate Experience

Objective: Provide students with the education they need to fulfill their aspirations and make a better world.

- Contribute to advancing MIT undergraduate education by enhancing the first-year student academic experience. [UAAP, TLL, OME, FLCs] *
- Develop an improved undergraduate orientation that aligns with goals for the first-year experience. [UAAP, OME, TLL] *
- Improve our understanding of who chooses MIT and why and improve our ability to communicate MIT's strengths to continue to attract the world's most talented students. [Admissions] *
- Improve how we communicate undergraduate tuition and financial aid. [Admissions and SFS] *
- Invent a way to reduce the time between end of finals and graduation by a factor of two. [Registrar]
- Collaborate with PKG to implement an undergraduate service opportunities program. [UAAP, OEL]
- Provide a more coordinated interface for students seeking extracurricular and co-curricular opportunities. [UAAP, OEL, OME, FLCs]

Serve Our Graduate Students

Objective: Provide students with the education they need to fulfill their aspirations and make a better world, and create an environment in which students may produce their best work to support the teaching and research mission of MIT.

- Create new initiatives for graduate students and strengthen existing efforts in partnership with the GSC and DSL, to enhance the graduate student experience with regard to: professional, research and personal advising; professional development; diversity; inclusion; and well-being. [OGE, GECD, TLL, GSC, DSL, Departments, Labs, and Centers (DLCs)]
- Work with GSC & DSL to redesign the graduate student orientation experience for onboarding all graduate students at MIT. [OGE, Grad Administrators, ISO, MIT Medical, MIT Police, MIT Work/Life Center]*
- Expand OGE capabilities by leveraging resources from other OVC offices. [OVC HQ, UAAP, Registrar]*
- Contribute to developing a rigorous understanding of graduate student housing needs. [OGE, DSL]*

Promote Diversity, Inclusion, and Well-being

Objective: Deliver on the OVC mission, we must commit to being diverse and inclusive. Different perspectives create the best solutions and outcomes.

- Inventory and evaluate programs in order to build a more diverse and supportive environment that meets the needs of all students, especially those from underrepresented groups. [OGE, OME, Admissions, SFS, UAAP, OVC-CDI, MHH]
- Expand the number of students we reach through OME by creating an online version of Interphase EDGE through a collaboration of ODL, OME, and TLL. Evaluate the use of these tools for improving the learning outcomes of on-campus Interphase EDGE students. [OME, ODL, TLL]*
- Leverage research and new technologies to support MIT's enrollment of an undergraduate and graduate student body that is talented and diverse. [Admissions, TLL, UAAP, OGE]
- Build stronger diversity programs through collaboration across OVC and MIT. Cross-fertilize best practices across programs. [OVC-All, DLCs, Institute Community and Equity Office (ICEO)]
- Partner with MindHandHeart (MHH) to create a more welcoming environment in OVC offices and catalyze change in MIT departments. This means being intentional about promoting and supporting the overall health and well-being of all students, staff, and faculty. [OVC-All, MHH, DLCs]*

Broaden Advising, Career Services, and Professional Development

Objective: Equip students with the professional skills they need to thrive in a variety of workplace settings over the course of their careers as national and global leaders.

- Increase opportunities for students to explore a diverse range of academic and career opportunities. [GECD, OME]*

- Enhance academic advising in the first year and beyond for both undergraduate and graduate students in partnership with MHH, faculty, and academic departments. [UAAP, OGE, Registrar, Global Education, TLL, MHH, OME, Departments]*
- Provide undergraduate and graduate students more effective professional development opportunities. [GECD, OME]
- Build on current programmatic efforts to deliver a robust financial literacy program. [Admissions, OGE, ISO, TLL, GECD, OME]*
- Provide more effective navigation for students to MIT resources, including both digital and in-person components. [OVC-All]

Strengthen Academic Infrastructure

Objectives: Provide students, faculty, and staff with the best tools and classrooms to deliver the optimal student academic experience.

- Identify and implement an electronic learning management system that better serves the needs of students and faculty. [Registrar]*
- Define a plan to optimize resources and implement solutions that best support the needs of students, faculty, and staff through a three-year Education Systems Roadmap [Registrar]*
- Improve the subject and teaching evaluation process. [Registrar, TLL]
- Create an integrated student dashboard. [UAAP, OGE, OME, SFS, ISO, Registrar, DSL]*
- Evolve classroom spaces to improve the teaching and learning environment and support pedagogical innovation.*

Live Our Mission and Values

Objective: Serve as a model organization at MIT for a principle-driven approach towards optimizing the best outcomes.

- Promote staff engagement and professional development through assignments on cross-functional teams that reflect diverse opinions/ideas/experiences/backgrounds. [OVC-All]*
- Develop and implement a coordinated OVC communications strategy. [OVC HQ + OVC Communicators]*
- Streamline business practices to optimize efficiency and effectiveness. [OVC-All]
- Promote Institute-wide impact by using the TLL's teaching and learning and assessment and evaluation experts to guide our work both within and outside OVC. [TLL]*
- Strengthen our capabilities in collection, interpretation, and use of qualitative and quantitative information to improve the rigor of decision-making. [OVC HQ, TLL]
- Find additional ways to recognize, reward, and celebrate people within our organization who help fulfill our mission, values, and goals. [OVC HQ/HR, OVC-All]
- Prioritize and balance ongoing activities and new initiatives in a manner consistent with our resources, staffing, and space. [Vice Chancellor, OVC Leadership Team]

Office Updates

Note: The descriptions below reflect current, not future, structure.

OVC Headquarters (OVC HQ)

OVC HQ provides foundational support to OVC staff, enabling them to fulfill the organization's mission. The OVC HQ delivers administrative and operational support across the organization in the following areas:

- Human Resources
- Finance
- Communications
- Desktop Support (shared with DSL)
- Project Management
- Cross-Functional Team Oversight

During his first six months, Vice Chancellor Waitz added the following individuals to his Leadership Team and to the OVC HQ in order to support the work of building the new organization:

Mary Markel Murphy, Senior Associate Dean, and Michael Rutter, Senior Advisor for Communications, moved from the School of Engineering to OVC. Lauren Pouchak was hired from Northeastern University into the role of Special Projects Director.

In addition, Elizabeth Hoy, Vice Chancellor Waitz's assistant from his time as Dean of Engineering, joined him in OVC.

Lisa Stagnone who was formerly the assistant to Professor Dennis Freeman in his role as Dean for Undergraduate Education, transferred to the MIT's Gordon Engineering Leadership Program.

Prof. Freeman stepped down as Dean for Undergraduate Education, but remains actively involved in designing first-year advising seminars.

In AY2019, details of implementing the new organization will be ongoing. This work includes concluding a search for a new director for the Office of Experiential Learning and launching a search for a new director of the Office of the First Year. OVC HQ plays a critical role in supporting this work.

Cross-functional Teams

While the new organizational changes are still in process (and ongoing), OVC is already a powerful catalyst and connector. There are several cross-functional teams and working groups that are advancing the chancellor's charge. Their progress is monitored by OVC HQ and include:

Completed

- [Graduate Housing Working Group \(with Division of Student Life, Graduate Student Council\)](#) which studied and articulated effective strategies for MIT to create housing options for the graduate student population. The [final report, delivered in August, is online](#).

Active

- [Designing the First Year at MIT](#), which is dedicated to exploring how the first-year undergraduate experience at MIT might be reimagined.
- [Office of Vice Chancellor – Council on Diversity and Inclusion \(CDI\)](#), which advocates for diversity and inclusion within OVC by defining and executing actions that will make a more inclusive community at home and abroad.
- [Career Explorations](#), which reviews aspects and activities associated with student career exploration and services, and identifies changes that would enhance exploration of, and access to, a broad range of careers in a manner that best serves student needs.
- [Graduate Student Professional Development Working Group](#), which is tasked with establishing a framework for graduate student professional development, with a focus on leveraging data-driven best practices, creating a repository of information, resources, and best practices to enable students can participate in professional development activities.
- [Undergraduate Student Professional Development Working Group](#), which is establishing a framework for undergraduate student professional development.
- [Interphase EDGE Online](#), which is building an online versions of the Office of Minority Education's popular summer program for rising first-year students.
- [Grad Student Orientation & Onboarding](#), a joint effort of OVC, DSL, and the GSC, whose mission is to design a smooth transition to graduate student life.

Future

- [International/Domestic Undergraduate Student Orientation and Onboarding Team](#), which is identifying enhancements to the process of orienting international undergraduate students of color.
- [Learning Management System](#) whose charge will be to identify a new LMS for MIT faculty and students.

Key Accomplishments

Beyond the creation of the new office and ongoing efforts to support the new structure, key accomplishments for the 2017-2018 academic year at OVC included:

- Enhancing Orientation for incoming undergraduate and graduate students

- With DSL, Completing the graduate student housing report
- Running the Designing the First Year at MIT course / campaign
- Launching a new [graduate student initiative](#) to improve the graduate student experience, with particular focus on career and professional development
- Devising a new paid parental leave policy for graduate students
- Completion of the 2018 Perception of Major survey
- With MindHandHeart, the Department Support Project (DSP), which strengthens partnerships with academic department program leaders and serves as a catalyst for sharing and adopting best practices

Awards / Recognitions

- Infinite Mile Awards / [Collier Medal](#)

Looking Ahead

- Focus on implementation of the key priorities.
- Impact and action tracking.

Admissions

The Office of [Admissions](#) enrolls a diverse and talented undergraduate student body composed of some of the world's most intelligent and creative individuals interested in an education centered on science and technology. The Institute upholds a commitment to meritocracy and fair access to the admissions process for students from all backgrounds.

Overview and Accomplishments

The Office of Admissions received 21,706 applications for the first-year class entering in the fall of 2018, up 7.2% compared to last year. This increase is primarily attributed to an increase in Early Action applications, which rose 13.8%, particularly the number of women applying early (3,201 in 2018, versus 2,664 in 2017) and underrepresented minorities applying early (1,312 in 2018, versus 1,212 in 2017). Admitted students totaled 1,464, representing 6.7% of the applicant pool.

The overall yield on admitted students increased to 77%. Women make up 49% of the first-year class, and the yield on women was 74% versus 79% for men. There were 612 applicants for transfer admission. Twenty-four were admitted and 22 are expected to enroll, including two veterans. No students were admitted from the wait list due to this higher-than-anticipated yield.

Class Profile and Commitment to Diversity

The composition of the Class of 2022 reflects MIT's ongoing commitment to the diversity and excellence of our student body. Of the first-year students entering in 2018, 49% are women, 18% are the first generation in their families to graduate from college, and 8% are international citizens. Students come from 47 U.S. states and 55 countries. Ninety-one percent of incoming class members have been leaders (president, captain, etc.) of an organization and more than a third (37%) have founded an organization or business. Forty-one percent are valedictorians and 94% graduated in the top 5% of their high school class. The mean SAT score for first-year students is 741 verbal and 787 math.

MIT continues to partner with QuestBridge, a nonprofit organization that recruits high-achieving students from low-income backgrounds, and 85 QuestBridge finalists will attend in the fall. Nineteen percent of the class are Pell Grant recipients, down from 20% the previous year.

Enrolling students who are U.S. citizens or permanent residents are asked to self-identify race/ethnicity within categories established by the U.S. Department of Education. The Class of 2022 is composed of the following groups: American Indian/Alaskan Native 3%; Asian American 37%; Black/African American 10%; Hispanic/Latinx 18%; Native Hawaiian/Pacific Islander 1%; White/Caucasian 48%. Twenty-six percent self-reported as an underrepresented minority student. (Note: Students may identify with more than one racial or ethnic group. International students do not report race or ethnicity; however, they are included when calculating percentages of the class as a whole.)

Recruitment Travel and Outreach

Domestic recruitment travel consisted of visits to 37 states with 53 central meetings, of which 45 were MIT-only and eight were group meetings in collaboration with Pomona College, California Institute of Technology and Yale University. International recruitment travel included trips to Georgia, India, Italy, Kenya, Kingdom of eSwatini (formerly known as Swaziland), Korea, Rwanda, South Africa, Tanzania, Qatar and Zimbabwe.

Visit Programs

We welcomed approximately 45,000 visitors to campus for information sessions and provided approximately 2,500 tours to prospective students, parents and other visitors to the Institute. In the fall of 2017, the Admissions Office and campus partners hosted over 250 college counselors from around the world during the three-day National Association for College Admissions Counseling conference held in Boston. This counselor program was a collaboration between MIT, Harvard, and Wellesley. Campus Preview Weekend, our largest yield event, was held over Boston Marathon weekend and continued to be successful with 1,124 admitted students and over 1,100 parents attending.

Educational Council

The MIT Educational Council increased the number of alumni interviewers to 5,599 and conducted 18,904 interviews. The pool of interviewers is 26% international and 40% female. This year's group of Educational Counselors includes members from the classes of 1941 to 2018, with 30% of the volunteers hailing from the last 10 graduating classes.

Staffing

In AY2018, the staff was composed of 26 administrative staff (including several shared positions with Student Financial Services) and nine support staff, consisting of 26 women and nine men. Thirty-seven percent of the staff were underrepresented minorities (Hispanic, Asian and Black/African American).

Dean of Admissions and Student Financial Services Stuart Schmill '86 won the MIT Gordon Y. Billard Award, recognizing "special service of outstanding merit performed for the Institute," and Director of Admissions Matthew McGann '00 left MIT to become Dean of Admissions and Financial Aid at Amherst College.

Experiential Learning

The [Office of Experiential Learning](#) (OEL) brings together Concourse, D-Lab, the Edgerton Center, the Experimental Study Group (ESG), and Terrascope. Its director is J. Kim Vandiver, dean for undergraduate research and director of the Edgerton Center. Faculty directors for Concourse, D-Lab, ESG, and Terrascope are, respectively, Professors Anne McCants, Dan Frey and Maria Yang, Leigh Royden, and David McGee.

Concourse

[Concourse](#) is a first-year learning community of students and instructors dedicated to exploring foundational questions at the heart of humanistic inquiry and the relationship of these questions to the remainder of their MIT education. Our curriculum covers the science core (mathematics, physics, and chemistry), offers a foundational humanities course, and integrates both the sciences and humanities into a larger context in the program's weekly first-year advising seminar.

Key accomplishments

- Received renewal for our annual T.W. Smith award, which helps fund upper-level seminars and educational experiences outside of the classroom, such as our joint venture with the history department to send students to Ancient Rome/Greece, as well as our annual curriculum-planning retreat.
- Continued to see improvements in our retention rate. The fall cohort was 47 at the 5th week mark, and in the spring we had 51 participants at the same point.
- Began work to update our online educational tools for the Concourse physics courses.
- First annual student/faculty spring break trip to New York City for an immersive cultural and historical experience.
- We continued to use our spring seminar, CC.011: Thinking Across the Disciplines, to expose our first-year students to a diverse range of faculty at MIT.
- Hosted first annual NYC alumni dinner.
- Added sailing to our Concourse physical education offerings.
- Participated actively in the First Year Experience Course.
- Offered two new upper-level seminars and one new 12-unit HASS elective.

Awards/Recognitions

- Elizabeth Vogel Taylor received an Infinite Mile Award, making this our third year in a row with an award recipient in our area.

Looking Ahead

- Adjusting to potential changes to the GIRs.

- Alumni initiative plan to have another NYC event and hoping to have one in the San Francisco Bay Area.
- We plan to utilize our new position within the OVC structure to better enhance our relationship with the other areas under the new Office of the First Year, specifically advising.

Notable Statistics/Data

- Fall first-year enrollment at 5th week: 47
- Spring first-year enrollment at 5th week: 48
- We employed 25 upper-level Concourse alumni as tutors, TAs, and graders.

D-Lab

Founded by Senior Lecturer in Mechanical Engineering Amy Smith, [D-Lab](#) works with people around the world to develop and advance collaborative approaches and practical solutions to global poverty challenges. D-Lab offers courses, supports student research and fieldwork, has six research groups, and a group of participatory innovation programs. D-Lab has active international partners—such as local nongovernmental organizations and social enterprises—that define student projects, participate in research, collaborate on the design of technologies, host design summits and trainings, and more.

Key Accomplishments

- In October 2017, D-Lab celebrated its 15th anniversary with a full-day symposium and special events for funders and alumni.
- Over 15 years, D-Lab has developed 24 MIT courses, has enrolled more than 2,000 students in its MIT classes and trained more than 5,000 people worldwide in design or business skills, and provided financial support or mentorship to more than 70 designers and entrepreneurs.

Academics

- Though D-Lab has traditionally focused on undergraduate offerings, 10 of the courses carry alternate graduate course numbers. All D-Lab courses carry an EC (Edgerton Center) course number but many are cross-listed with departments such as Department of Urban Studies and Design, Media Lab, Mechanical Engineering, Sloan School of Management, and Architecture.
- Associate Professor Maria Yang (Mechanical Engineering) joined D-Lab as its first Faculty Academic Director in summer 2017.

Courses Offered

- D-Lab: Development, D-Lab: Design, Design for Complex Environmental Issues (Terrascope), Design for Scale, Development Ventures, Education & Learning, D-Lab: Energy, Gender & Development, Humanitarian Innovation, D-Lab: New Economies, D-Lab: Schools, Smallholder Agriculture, D-Lab: Supply Chains, D-Lab: WASH + ENV, Water, Climate Change, & Health

Students and Projects

- This year, 283 students enrolled in D-Lab classes. The students worked in teams on 57 unique projects with community partners in 17 countries including Botswana, Colombia, Ghana, Guatemala, India, Kenya, Nepal, Pakistan, Nicaragua, Puerto Rico, Rwanda, Singapore, South Africa, Tanzania, Uganda, US, and Zimbabwe.

Research

- D-Lab’s lean, collaborative, and interdisciplinary research team designs and implements a variety of studies in collaboration with organizations and local community members around the world in several sectors. The research program is integrated with the other programs within D-Lab and its findings inform the continual development of the D-Lab Academic and Innovation Practice programs.

Thematic Areas of Focus

- D-Lab reorganized a number of its research programs and projects into the areas of food, water, and energy. The team also absorbed a research group that examines local innovation ecosystems and the capacity for innovation that originated with the International Development Innovation Network. In addition, D-Lab continued to serve as the home of the Mobile Technology Lab. Over the course of the year, D-Lab researchers had active projects in the following countries: India, Indonesia, Mali, Mexico, Morocco, Nepal, Niger, Tanzania, Uganda, and Viet Nam.

Highlights from the Year

- Publication of “The Lean Research Field Guide,” a practitioner’s guide to an approach to research that is rigorous, respectful, relevant, and right-sized.
- Publication of “Evaporative Cooling Technologies for Improved Vegetable Storage in Mali,” and related resources “Evaporative Cooling Decision Making Tool” (interactive) and the “Evaporative Cooling Best Practices Guide.”
- Launch of working paper series “New Directions in Innovation Research” by the Local Innovation Group.
- Continued work on Development of Low-Cost Water Filter Using Sapwood Xylem – a collaboration funded by J-WAFS between D-Lab and Mechanical Engineering Professor Rohit Karnik.

Innovation Practice

The D-Lab activity, Innovation Practice, was created in spring of 2017 to encompass D-Lab communities of practice, field programs, and trainings. These programs work with diverse partners to develop, advance, and apply participatory innovation as a methodology for tackling poverty. Innovation Practice programs include:

- Global Trainings through co-design summits, creative capacity building workshops, and innovation ecosystem workshops. Highlights included a collaboration with Population Services International on a sanitation summit in Ethiopia and the start of an ongoing collaboration with MIT Enterprise Forum – Mexico.
- A new approach to humanitarian innovation is training refugees and displaced persons in the design process and the use of tools so that they can create the kinds of things they need to improve their lives and ultimately improve the way humanitarian work is delivered. Highlights of the last year included rapid response work with water filters in Puerto Rico and a program with Oxfam in El Salvador.
- Inclusive Markets engages with regional and community leaders to develop inclusive businesses, markets, and economies that promote equity, resourcefulness, and resilience for people living in poverty. This past year, the program worked primarily with waste pickers in Ghana and with Fundación Entre Mujeres in Nicaragua.
- Innovation Ecosystem Builder Fellowship is a new fellowship that seeks to increase the number of successful grassroots entrepreneurs addressing local and global challenges and creating jobs around the world. Fellowships were offered this first year to nine individuals from Uganda, Brazil, Kenya, and India.
- Practical Impact Alliance, a membership organization of leaders from diverse organizations who learn, collaborate, and develop best practices together. Current members include Danone, Johnson & Johnson, OCP Phosboucraa Foundation, PACT, SC Johnson, Siemens Stiftung, USAID, and World Vision.
- Scale-Ups Fellowship, a yearlong program for social entrepreneurs supporting MIT alumni and members of the International Development Innovation Network. This past year, there were six fellows working in agriculture, energy, livelihoods, education, and health and based in countries including India, Kenya, Nigeria, Tanzania, and Uganda. Since 2012, Scale-Ups fellows have reached one million users and generated revenue of \$3.5 million.

Looking Ahead

- Documenting not just outputs but outcomes is of core interest to D-Lab. In fall 2017, the monitoring, evaluation, and learning manager hired for a USAID-funded program was transferred to D-Lab “central.” We look forward to sharing documented impact from her work across our academic, research, and innovation practice programs through a dedicated section on the about-to-be-launched new D-Lab website.

- The academic program is undergoing a strategic planning program intended to streamline and order course offerings while the academics team and instructors contemplate organizing a minor.
- The research groups look forward to increased integration with our academic and practice programs – pulling students into UROPs, providing useful findings to the practice team, and collaborating with peers and programs across the institute.
- D-Lab communities of practice – the two fellowships and the industry consortium are undergoing evaluation and working to align their missions, strategies, and calendars in order to build synergies across these groups.

Edgerton Center

The [Edgerton Center](#) upholds the legacy of Harold “Doc” Edgerton – inventor, entrepreneur, explorer, and longtime MIT professor – by promoting hands-on and project-based learning; offering subjects in engineering and imaging; supporting student clubs and teams; managing student machine shops; upholding MIT’s expertise in high-speed and scientific imaging; and offering a year-round K-12 program.

Key Accomplishments

- *Clubs and Teams:* The Edgerton Center provides the infrastructure MIT students rely on when undertaking club and team engineering projects.
 - The 55-member MIT Motorsports team placed 4th overall at the FSAE Electric collegiate competition. Significantly, the team placed 1st in acceleration, 1st in autocross, 2nd in skid pad and in endurance was 1:54 seconds faster than 71 other teams. “Logistics, open houses, bringing in other departments to help us fundraise, connecting us back to our alums, the welding table, Pat’s help in the shop...the list goes on. It feels so good that there is a parent organization we can go to for anything,” MIT Motorsports captain, Cheyenne Hua ’19.
 - The MIT SawBlaze Team has won [100% of their matches](#) on the Discovery Networks (Discovery and Science Channel) BattleBots reality TV series. Notably, team member Alex Hattori ’19 also placed third in the [2017 World Yoyo contest](#).
 - The MIT Solar Electric Vehicle Team unveiled their solar car, Flux, at Johnson Rink this spring. Captained by Veronica LaBelle ’19, the team marked a milestone and generated alumni support culminating in an endowed gift agreement with former SEVT captain, James Worden ’89 and Anita Rajan Worden ’90 of \$100k.
- *Student Machine Shops (44-022, N51-1st flr, N52-3rd flr, 4-409):* In true *mens et manus* fashion, MIT students are getting their hands oily in all of the best ways, gaining an education in how to design, build, and manufacture in the 10K sq. ft. of staff supervised shop space facilities.
 - In the Edgerton Student Shop, 210 individual students logged over 6,100 hours fabricating projects for research, course work, or personal projects.

- 190 students were trained in the Edgerton Student Shop 12-hour course, with the waitlist down to about 65 students, a significant improvement over the past few years.
- *Subjects:* The Edgerton Center is the administrative home for subjects offered by the Edgerton Center and D-Lab. In AY2018, 394 students participated in 40 for-credit subjects, ranging from Edgerton’s iconic Strobe ProjectLab, through D-Lab offerings, to student-initiated UROPs and independent projects.
- *K-12 Programs:* With the benefit of little or no fee to participate, the Edgerton Center’s K-12 programs execute the Institute’s larger goals of creating educational opportunities for students from *all* backgrounds and removing barriers to participation.
 - In February, the Greater Lawrence Technical School and Advanced Functional Fabrics of America (AFFOA) entered into an educational collaboration with the Edgerton Center to launch an advanced fabrics curriculum program. Additionally, we have been collaborating with the STEAM program at GLTS and the first cohort of 39 ninth graders completed the first year of the program.
 - Now in its 21st year, the Edgerton Center’s daily, no cost, three-hour, project-based lessons in science and engineering for 4th through 8th-grade students drew over 2,500 students from public, private, and home schools in the Greater-Boston area and nearby New England states.
 - Now in its 12th year, the five-week summer Engineering Design Workshop for high-school students attracts four times as applicants as it can accept. Admission, equally split between males and females, is primarily intended for local students including Boston’s O’Bryant School of Math and Science.
 - Eight years ago, we created the *GE Girls* summer program in collaboration with General Electric (GE) and its plant in Lynn. This year 25 rising 7th grade girls from the Lynn Public Schools participated. The model has been disseminated to other GE sites and partner educational institutions across the nation.
 - Maker spaces are proliferating in middle- and high-schools. To that end, Diane Branzio trained over 120 K-12 educators in 18 professional development workshops in our methodology for integrating maker activities into K-12 curricula.
 - Fifteen K-12 schools worked with the Edgerton Center to develop teacher-focused resources for Maker Methodology through the Learning Supported by Making Project, a Teaching and Learning Innovation Grant from the Woodrow Wilson National Fellowship Foundation through the Teaching Systems Lab.
 - We have invented two sets of innovative teaching aids for biology and chemistry. The first set allows students to use injection-molded plastic components to build models of a DNA or RNA molecule. The second set expands the kit to include models of Proteins and tRNA. With these models and our curricula, middle- and high-schools students can manipulate their models to demonstrate and learn fundamental processes in biology. The Edgerton Center is training the biology teachers at all 32 Boston City high schools in the use of these modules in their life sciences curriculum.

- *Fundraising:* This year saw the creation of two newly endowed funds, the Edgerton Center Director's Fund (11/17) and Worden Fund (6/18)

Awards/Recognitions

- Our 25th Anniversary Video won the silver award for Video Fundraising from District 1 of the Council for Advancement and Support of Education.
- Elliot Owen '18, member of the MIT Motorsports team, was awarded the Dept. of Mechanical Engineering Sontheimer Prize (creativity and innovation in design) for his development of MIT Motorsport's battery pack.

Looking Ahead

- With the Edgerton Center newly reorganized into the Office of Experiential Learning, we are exploring collaborations with PKG and Global Education. Collaborations with other experiential learning programs such as MISTI and Sandbox are in play with Sandbox teams using the Edgerton Student Shop and occupying space in the Milkdrop shop.
- We are scaling-up and creating distribution channels for our biology curriculum to extend its educational reach.
- We are collaborating closely with Project Manus to expand opportunities for students to acquire training in tools and machinery for hands-on projects.

Experimental Study Group

The [Experimental Study Group](#) (ESG) offers instruction in the core first year subjects of biology, chemistry, math, [physics](#), and humanities through small, discussion-based classes designed for students who are interested in taking an active role in their education. Academics are supplemented by a variety of community activities, including weekly luncheons, evening study sessions, and weekend trips.

Student Statistics

- Fifty-nine first-year students were enrolled in the Experimental Study Group (ESG) this year. Of those, 66% were female, 13% were underrepresented minorities, and 12% were international students from countries including China, Indonesia, Mexico, Nigeria, Peru, the United Kingdom, and Vietnam. Approximately 10 non-ESG students enrolled in the four humanities classes (all CI-H or CI-HW) offered at ESG. Approximately 60 additional students (most of whom were never in ESG) enrolled in nine pass/fail undergraduate seminars sponsored by ESG in the fall and spring terms.

Staff and Faculty

- ESG's administration was headed by Prof. Leigh Royden, director, and included associate director Graham Ramsay and academic administrator Dr. Paola Rebusco. Bettina

McGimsey completed her third full year as associate in charge of community and resource development. Carole Cafferty joined the ESG staff in the spring to work with the ESG/MIT prison initiative.

- Dr. Analia Barrantes continued to head the ESG physics staff, joined by Dr. Rebusco and ESG Director Leigh Royden. The mathematics staff was headed by Dr. Jeremy Orloff and included Dr. Gabrielle Stoy. The chemistry and biology offerings at ESG were taught by Dr. Patricia Christie, and chemistry lecturer Nick Boekelheide taught one fall section of 5.111 and 5.112 in the spring. In the fall term, Dave Custer taught ES.033J Science Writing and the New Media. Dave Custer taught for the fifth time humanities CI-H credit subject, ES.333 Production of Educational Videos: Skills for Communicating Academic and Professional Content in the spring 2018. In the fall term, Dr. Lee Perlman taught ES.S40 Non-violence as a Way of Life, and in the spring term he taught ES.1122 Philosophy of Love.
- The ESG teaching staff were assisted by 41 undergraduate teaching assistants in the fall and 32 in the spring; 85% of these TAs were women. These TAs provided excellent support for our freshmen, learned valuable teaching and leadership skills, and achieved an overall median grade point of 4.8 while doing so.

Educational Initiatives

- *Math with Python*
ESG math lecturer Jeremy Orloff was awarded \$95,000 from the D'Arbeloff fund in support of a new initiative to introduce Python programming to the basic curriculum of differential equations (18.03). Modeled after a similar ESG project that integrated Python into physics electricity and magnetism curriculum, this three-year project ultimately will evolve into a 15-unit course that integrates the basic programming and differential equations components.
- *Chemistry GIR Problems with a Climate Science Focus*
With an award from the MIT Alumni Class Funds, ESG biology and chemistry staff members Patti Christie and Nicholas Boekelheide are piloting a new project that redesigns biology and chemistry GIR problems with a climate science focus. Drs. Christie and Boekelheide will develop climate and environmental science modules and pilot those modules at ESG in the fall 2018 semester.
- *Faculty Mentoring Program*
This year with funding from the Dean for Undergraduate Education, ESG continued its faculty mentoring program which is designed to engage ESG first-year students and faculty in meaningful discussion on a range of topics from discovering UROPs to exploring possible majors. Faculty participated in a range of activities, including informal talks with small groups of students, hiking trips, theater and concert outings, and ESG's Friday lunch conversations. Faculty mentors included John Belcher (Physics), John Essigman (Chemistry), Taylor Perron (EAPS), Alex Slocum (Mechanical Engineering), David Vogan (Math), and Karen Wilcox (Aero-Astro).

- *Teaching in Prison Initiative*
Started in the 2016-2017 academic year, the ESG prison initiative received a boost this spring through a \$110,000 anonymous donation. The additional funds have enabled the program to hire Carole Cafferty to co-direct the initiative with Lee Perlman. Now called The Educational Justice Institute at MIT (TEJI), the program has expanded its original mission of teaching subjects to a mixed cohort of incarcerated students and MIT students; TEJI is now working on a three-year plan to develop a consortium of Massachusetts colleges and universities that have a commitment to education within the correctional system.

ESG Documentary

- Progress goes well on *Experimental*, a documentary film about 50 years of educational innovation at the Experimental Study Group. Principal footage is expected to be completed by the end of September 2018, expected completion April 2020. So far, over 50 interviews with current ESG first-year students, upper-level students, alumni, staff, and other key figures already have been conducted. Directed by Graham Ramsay, this documentary is providing ESGers with the opportunity to learn elements of filmmaking, interviewing, editing, and production.

ESG undergraduate seminars

- In the fall of 2017, ESG offered three seminars including a freshman advising seminar ES.A71 MIT Life Hacks (taught by Patti Christie and Naomi Carton) , ES.200 ESG Teaching Seminar (taught by Dr. Christie), and ES.S50 Adventures in Special Effects for Live Performance (taught by Lee Perlman). In the spring of 2018, ESG sponsored six undergraduate seminars: ES.010 Chemistry of Sports (taught by Dr. Christie and Steve Lyons), ES.200 ESG Teaching Seminar (taught by Dr. Stoy), ES.S70 E&M with Python (taught by ESG senior Lotta Blumberg with supervision by Paola Rebusco), ES.S71 (taught by ESG alum Henry Lieberman), ES.S41 Poetry Beyond the Page (taught by ESG sophomore Isabel Seguin with supervision by Dave Custer), and ES.S10 Many Interesting Things (MIT) (taught by ESG alum Christian Cardozo).

Awards

- Winners of the annual Peter and Sharon Fiekowsky Community Service Award (for outstanding contributions to the ESG community) included Luke Bordonaro '20, and Mary Clare Beytagh '18. Winners of the annual Peter and Sharon Fiekowsky Excellence in Teaching Award (given to graduating seniors who have demonstrated excellence in teaching at ESG over a sustained period of time) were Jennifer Subler '18, Bettina Arkhurst '18 and Lotta Blumberg '18. Winners of the Fiekowsky Distinguished Teaching Awards included Henry Wu '18, Shirley Lu '18, Sherri Green '18, and Mary Clare Beytagh '18.

- In spring 2018, ESG physics lecturer Paola Rebusco receive a First-year Advisor Award, administered through the UAAP. As well, ESG humanities Lecturer Lee Perlman won the MLK Jr. Leadership Award.

Looking Ahead

- ESG is collaborating with the vice chancellor to innovate and experiment new options for the first year.
- ESG is in the planning stages for ESG's 50th anniversary highlighting public outreach that explores how a group of MIT students can be transformed into a community of learners.

Terrascope

At the core of the [Terrascope](#) program is one basic but important idea: MIT students, even in their first year, are ready to take control of their own education and to tackle big, important problems. Every year Terrascope explores a different sustainability-related issue, and in our hands-on, project-based classes the students take charge to develop solutions, drawing on diverse perspectives, interdisciplinary research, and a supportive Terrascope community. Terrascopers also bond as a community in a shared common space on campus and over meals, outings, advising, and a Spring Break Field Experience.

Key Accomplishments

- In the fall semester (Subject 12.000), this year's Terrascope students completed an especially challenging task: designing climate-change adaptation plans both for the MIT campus (and Cambridge in general) and for coastal Bangladesh. The expert panel before whom they presented and defended their proposals, (a panel that included MIT Executive Vice President and Treasurer Israel Ruiz) praised the students for their innovative ideas, and in particular for their sensitivity to issues that arise when working across cultures in complex environmental problem-solving.
- Kelly Chen '21 acknowledged Terrascope's role in helping her to solve complex problems. "...now that I've had this [Terrascope] experience and gone through the thought process...it's a lot easier to actually do something instead of sit there and be paralyzed because you don't know where to start."
- In the spring semester, students in the Terrascope design class (Subject 2.00C/1.016/EC.746) developed and prototyped engineering solutions for a variety of climate-change-related issues and presented the prototypes to the public and to a panel of experts. Students in Terrascope Radio (Subject SP.360) created a radio program on flood-protection measures in the Netherlands, premiering the program on WMBR and then releasing it for national distribution via the Public Radio Exchange. (After the semester, Terrascope Radio students created a companion story, in which a student reflects on what insights the Dutch experience can offer to residents of her own hometown, who are facing the aftermath of multiple catastrophic floods.) In this year's Terrascope Field experience, students, faculty and staff visited flood defenses along

nearly the entire coast of the Netherlands, as well as some innovative inland projects, under the guidance of staff from the Technical University of Delft, the Dutch Army Corps of Engineers and other organizations.

- The Terrascope community continued to strengthen, with increased participation in co-curricular events, intramural sports and Terrascope sections of physical education classes.
- After a significant search, Terrascope hired a new Program Assistant, Elise Chambers. As an alumna of the program, Elise has been extremely effective at building community and supporting students, in addition to efficiently managing the budget and handling all the logistics for the spring break trip and other program activities.
- As part of a new focus on alumni engagement and resource development, Terrascope participated for the first time in the MIT 24-Hour Challenge. The results were most encouraging: the program almost doubled its participation goal, setting the stage for future campaigns.
- Terrascope initiated an Advisory Board to provide input on program direction and evaluation; the Board's inaugural meeting provided significant guidance in key areas.
- Terrascope initiated what is expected to be a long-term partnership with the PKG Public Service Center, sending a joint staff/student team to explore issues of mutual interest in the Navajo Nation. This has resulted in the development of a complex and important Terrascope problem for next academic year, and an innovative plan under which Terrascope students will be able to continue specific partnerships via the PKG Center after their first-year Terrascope experience.

Notable Statistics/Data

- Terrascope had 35 students this fall and added 9 new students in the spring. The program continues to increase student participation in the spring semester, with total spring enrollment 91% of fall enrollment this year, as compared to only 29% only four years ago.

Awards and Recognition

- This year's Terrascope Radio production was selected for broadcast on "Sprouts: Radio from the Grass Roots," the most popular program (other than news) on the Pacifica Radio Network.
- Terrascope is increasingly recognized across campus for the important roles it plays in offering student-centered learning experiences and in offering a foundation of sustainability education to first-year students. Some concrete examples of Terrascope's broader engagement include: Terrascope staff serving as mentors in the OVC-led Designing the First Year class in spring 2018; presentations to the External Advisory Board of the Environmental Solutions Initiative, as an exemplary instance of sustainability education at MIT; involvement in development activities and advisory support for the implementation project-based learning in NEET tracks; advisory support

and leadership in the education aim of MIT's Pathway to Sustainability Leadership.

Looking Ahead

- Terrascope is building strong partnerships on campus, in particular with ESI, the PKG center, the Office of Minority Education, the Department of Mechanical Engineering, D-Lab and the Office of Sustainability, in addition to remaining involved in broader efforts to improve the first-year experience. As mentioned above, next year's Terrascope topic, focusing on water security on the Navajo Nation, will be a joint effort with the PKG center. This partnership will provide improved opportunities for interested students to deepen their engagement in the topic beyond their first year.
- Terrascope has put substantial effort into recruitment to increase the number of students in the program, and this summer's enrollment data will enable us to assess the effectiveness of these efforts.
- Terrascope will continue to develop a robust fundraising and alumni engagement strategy to ensure the sustainability of its spring break field experience and to build community among its 16 years of alumni.

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Global Education and Career Development

The mission of [Global Education and Career Development](#) (GECD) is to empower MIT students and alumni to achieve lifelong success through seamless access to transformative global experiences, comprehensive and holistic career services, and mutually beneficial connections with employers and with graduate and professional schools. Our goal is to engage students and alumni in self-discovery to craft lives that are intellectually challenging, personally enriching, and of service to the world.

The organization is undergoing significant organizational changes to align with the vice chancellor's new initiatives. Effective July 1, 2018, Global Education reports to the Office of Experiential Learning and the rest of the organization will expand to include Distinguished Fellowships and a new program area, professional development. To reflect these changes, this office has been renamed Career Advising & Professional Development (CAPD). Planning for a new mission and vision is underway.

Key Accomplishments

- **Implementation of two new online platforms and consultation on MIT's new travel registry:** GECD implemented a new career services platform, GradLeaders, improving the customer user interface and communications. A new study abroad system, GoAbroad HQ, was deployed to manage study abroad lead generation and customer relationship management and we contributed significantly to the deployment of MIT's new travel registry system, Terra Dotta.
- **One of four MIT departments to participate in MIT's flexible work pilot:** Following a pilot phase, we implemented a new flexible work arrangement policy for the organization, with many staff participating.
- **Expanded student access to career education:** Produced four new online learning videos about negotiating job offers, medical school interviewing, articulating the value of study abroad to employers, and implications of marijuana use in the internship and job search process, with 300 views.

Global Education

- **Significantly contributed to MIT attaining a 53% undergraduate participation rate in global experiences:** This growth represents more than double the 2006 undergraduate participation rate, helping to realize the goal of a majority of MIT undergraduates participating in an international experience while at MIT. Global Education has been providing significant overall logistical support to global education efforts and participation in study abroad programs has grown by 158% over the past 10 years to over 165 students annually.
- **MIT Global Classroom Fund and study abroad expansion:** Faculty applications during this cycle doubled from six to 12 for funding to support new coursework abroad and six awards were granted, in collaboration with MISTI. Last year's fund produced a new

literature course in London, with 15 students participating. Additionally, a new multi-departmental academic exchange with Imperial College London, a replacement for the Cambridge-MIT Exchange, was developed and the first cohort of eight MIT students will be participating in AY2019.

Prehealth Advising

- **Implemented a new Health-Professions Graduate School Fair** with 89 students or alumni attending across 22 majors and 70% of survey respondents reporting an increase in their knowledge of health professions schools and programs.
- **Three new Prehealth Advising programs** were offered to enhance student preparation for health careers with 63 overall participants and positive outcomes. Specific programs included:
 1. **Beth Israel Deaconess Medical Center (BIDMC) physician shadowing program** was added and 17 students shadowed physicians in the operating room, with 70% of survey respondents indicating that this experience enhanced their understanding about a specific specialty area of medicine.
 2. **Culturally Competent Patient Care** (three-part series), addressed the significance of gender affirmation, sexual violence, trauma-informed practices, and power and privilege within their roles in the health professions (32 participants), with 80% of survey respondents reporting increased knowledge in this area.
 3. **Exploring Pelvic Pain through a Team Based Approach** (four-day series) was offered during IAP with six health professionals presenting to 14 students and 75% of survey respondents reporting increased knowledge in this area.

Career Services

- **A new career exploration pilot** was launched to help MIT students and postdoctoral scholars explore broader career options, with 1,657 overall (non-unique) engagements and positive outcomes. Specific programs included:
 1. **MIT Future (Me in the Future)** featured targeted career exploration programming held in collaboration with the Fall Career Fair organizers, engaging first year students to explore broad career possibilities and gain early career fair access (1,286 participants).
 2. **Infinite Careers**, done in collaboration with the MIT Alumni Association, engages students with alumni speakers in small groups to learn about non-linear career paths (11 seminars and 96 participants) and 97% of survey respondents would recommend the event to other students.
 3. **Designing Your Life (DYL) Seminars**, based upon Stanford's popular D-School course and a best-selling book, teaches students how to apply a design approach to their academic and career plans (nine seminars, with 186 students attending) and 88% of survey respondents would recommend the program to others.
 4. **Career Communities** provide tailored resources, events and guidance to student registrants interested in underserved or emergent career paths (291 registrants).

Notable Statistics / Data

- Overall, GECD had 17,984 MIT (non-unique) student, alumni, and postdoctoral scholar engagements through 9,255 advising and online career guidance system sessions; 214 workshops, speaker panels, and information sessions (5,830 participants); and 2,685 recruitment interviews and company site visitors.
- In AY2018, 1,086 undergraduates (-4%) participated in global opportunities within 59 countries, with 735 in internships, 165 in study abroad, 128 in research, and 65 in public service/service learning and 53.3% of graduating seniors reported completing a global experience while at MIT (+3.5%).
- Global Education provided \$186,493 in study abroad scholarships to 104 eligible students (+19% in funding and +82% in recipients).
- There were 79 (-32%) MIT student and alumni (46 undergraduates, 5 graduate students, and 65 alumni) in the 2017 medical school application cycle, with an 81% acceptance rate for undergraduates who used prehealth services. There were 76 evaluation interviews conducted with one of seven faculty committee members and the associate director for prehealth advising.
- We provided 112 prehealth undergraduates (+30%) with physician shadow experiences at local hospitals. Among survey respondents, 93% reported that the shadow experience gave them a better understanding about a specific specialty area of medicine.
- 86 students enrolled in SP.800 Freshmen/Alumni Summer Internship Program (F/ASIP).
- We continue to experience declines in traditional on-campus recruiting. In AY2018, we hosted 130 different employers conducting 2,609 on campus interviews (-5%) and posted 2,042 internships and jobs (-22%). Reasons for these changes include the use of new recruiting technologies, increased conversion of interns to full time hires, and a growing number of corporations opening local branches in Boston and Cambridge.
- For the Class of 2017, 87% Bachelor's, 80% of Master's graduates, and 85% of PhD graduates seeking employment reported obtaining a job within three months of graduation (among those seeking immediate employment). Reported mean salaries were \$88,381 for SB; \$87,812 for MS; \$108,973 for MEng, and \$129,851 for MBA. Reported salaries for doctoral graduates were \$59,807 for postdoctoral positions and \$119,265 for all other positions. (Sources: 2017 Graduating Student Survey and 2017 Doctoral Exit Survey)

In addition, in FY2018:

- Two GECD staff support OVC's Career Exploration Committee, appointed by the vice chancellor to review and make recommendations to enhance student access to career exploration services and to a broad range of career opportunities. The committee should issue a report in November 2018.
- Seven GECD staff served on professional development working groups, which are reviewing professional development activities at MIT, developing a competency framework, and making recommendations to create a comprehensive and systematic

professional development program at MIT for both undergraduate and graduate students.

- Five staff left GECD with one transferring to another department at MIT and another retiring from MIT. Four new staff were hired.
- Five staff served or were leaders with national professional associations, 10 staff served on MIT or OVC committees and eight staff presented at regional or national conferences.

Awards / Recognitions

- Robert Dolan and Amanda Pickett were recipients of OVC Infinite Mile Awards.

Looking Ahead

- Career Advising & Professional Development will continue its reorganization as well as develop plans for a new professional development initiative and expanded mentoring opportunities for all MIT students.
- Global Education will join the new Office of Experiential Learning together with UROP, D-Lab, Egerton Center, and PKG Center.
- Career Services will pilot VMock, an online tool that uses artificial intelligence to review resumes and is evaluating a change in career services management systems to enhance both the student and employer user experience.
- SP.800 Freshmen/Alumni Summer Internship Program (F/ASIP) will not be offered in the upcoming year and it will be reevaluated. A non-curricular program will be piloted to increase first year student engagement, career exploration, and professional development.
- Prehealth Advising will expand their portfolio of student mentoring programs with the launch of a new premed mentoring initiative in collaboration with MIT Alumni Association's Advisors Hub.

Office of Graduate Education

The [Office of Graduate Education](#) (OGE) supports, consults, and collaborates with graduate students, faculty, and other community members on the stewardship of policies and procedures; the promotion of student financial well-being; the enhancement of the graduate personal support network; and the cultivation of an inclusive and diverse community.

Key Accomplishments

- **Committed to Caring:** In AY2018, 28 new faculty members were honored through the [Committed to Caring](#) (C2C) program after evaluating 114 nominations for 72 faculty members. As the committee reviewed this past year’s nominations, a number of striking themes emerged. The C2C team developed a list of “Mentoring Guideposts” that reflect acts of mentorship that seem to be the most meaningful and formative. All new and former awardees were honored at a reception in April.
- **Support for graduate families and Parental Leave policy:** After months of research and preparation, a proposal by the Graduate Student Council and GWAMIT for Parental Leave was brought forward for discussion by MIT administrators in December 2016. Subsequent discussions led to a better understanding of projected costs and sources of funding, and were included in a larger conversation around support for student families. Final approval of parental leave was granted by all five school deans in early spring 2018, at which point an intensive process to write a parental leave policy was undertaken by staff members in the OVC and OGE. Staff from the Office of General Counsel, MIT schools, Office of the Registrar, and International Students Office, as well as students from the GSC and GWAMIT collaborated on language and development of the policy. Part of a broad strategic effort for graduate students on the part of the vice chancellor, [the new policy](#) was announced in mid-May, with an effective date of September 1, 2018.
- **Financial support:** The OGE provided financial support for a range of student-run activities that target students with families, including [Graduate Student Life Grants](#) in support of students, their spouses, and their children. Funding was also provided to Eastgate to subsidize activities for children. In addition, the OGE organized and sponsored a “date night” jazz concert and reception in April, targeting student parents and spouses, with free babysitting arranged. All of these events were open to graduate families living both on and off campus. The OGE also helps publicize the family-centered opportunities offered by DSL.

The OGE has provided emergency financial assistance during the past year to some individual graduate students who had acute needs and could not otherwise provide adequately for their families, particularly international families who live off of one stipend because the spouse cannot work in the US.

- **The MIT University Center of Exemplary Mentoring:** UCEM successfully hosted a site visit by the Alfred P. Sloan Foundation in the fall 2017 semester and received approval of the grant renewal for years four, five and six through June 30, 2021. The OVC recommitted its focus to increase the number and to sustain growing community of underrepresented minority (URM) graduate students in the four participating departments: Biological Engineering, Chemical Engineering, Electrical Engineering and Computer Science and Mechanical Engineering. In partnership with the School of Engineering, the goals of the MIT UCEM include recruitment into our doctoral programs and retention of URM students by providing academic support, mentoring and professional development. The MIT UCEM will initiate a Faculty Engagement Circle to enhance their awareness and increase understanding of issues related to diversity, equity and inclusion in graduate education.

- **Graduate Personal Support:** The addition of staff in Graduate Personal Support enabled the office to expand its presence at departmental student orientations and to work more closely with department faculty around supporting graduate students. There two additional departments for orientation and environment consultation already anticipated in the upcoming year.

- **Reaccreditation:** Blanche Staton and Jessica Landry have been part of the planning groups that are currently involved in the Institute’s reaccreditation process. MIT seeks reaccreditation at the institutional level every ten years through the New England Association of Schools and Colleges (NEASC), our regional accreditor. Our next reaccreditation application will be made in 2019. The primary document for that effort will be a 100-page self-study that will speak to each of the nine standards of accreditation established by NEASC.

- **Communications**
 - In a collaborative effort between invested graduate students, the Engineering Communications Labs, and the Office of Graduate Education, the one-time 2017 IAP graduate blog workshop and nascent Graduate Admissions Blog became a defined and sustained effort, supported by a graduate student editorial board and staff support from the Comm Labs, OGE, and OVC. Entries are now published on an ongoing, monthly basis, with a broader communication effort that includes outreach to departments, social media, and reposting on Medium.com.
 - A considerable array of outputs were refined and assessed as part of Gradcommx, an effort to creatively use media to improve graduate student professional communication skills. Two versions of a live course were offered, the second iteration testing a strategy for future scaling to serve more grad students. The initial online course was developed into an online game, both a single-player and multi-player edition. The suite of original well-received comic books were polished and presented in a trade soft cover for ease of distribution. And the podcast series was repackaged for broader online distribution. All elements of the course were assessed by the MIT Teaching and Learning Lab in

partnership with external research firm Applied Curiosity, and a white paper drafted as the basis of sharing outcomes with the community. This sharing will take place over the summer 2018.

Notable Statistics / Data

Admissions

- In 2017, of the 28,801 applications for graduate study, 3,412 (12%) offers of admission were made, and 2,261 (66%) students ended up registered in advance degree programs. The steady climb in applications likely relates to the continued strength of MIT's graduate programs, across varied fields and disciplines.
- Special students:
 - Fall 2017
 - 60 students applied – 38 were admitted.
 - Five students applied from partner institutions – four were admitted and four enrolled
 - Five students were citizens or permanent residents – four were admitted and 4 enrolled
 - 50 were independent international students – 30 were admitted, 23 accepted and enrolled
 - Spring 2018
 - 81 students applied- 59 students were admitted
 - 12 students applied from partner institutions – nine were admitted and eight enrolled
 - 12 students were Citizens or Permanent residents – nine were admitted and seven enrolled
 - 57 students were independent international students – 41 were admitted and 31 enrolled

Academics

- General Petitions: 15 types. AY2018 saw an increase of 15% over AY2017. Over half of the increase over the last year is drop actions, and over 20% is add actions. These two types of petitions have increased steadily over seven years and both drastically in the last two years. The increase in the seven years since AY2012 has been 41%; in fact, general petitions for spring term alone in 2018 approached the total number for all of AY 2012 (summer, fall and spring combined). Drop, add, and change of grading status petitions will go online in the upcoming fall term. This will reduce the data entry load, but OGE will still review and approve each one.
- Changes in Registration Status (i.e. non-res, absentia & exchange scholar): as a category have fluctuated over seven years but remained relatively consistent.

- Childbirth Accommodations: there have been 192 since introduced in 2004, averaging 13 per year over the life of the program.
- Medical Actions (leaves, continuations and returns): have fluctuated but trending upward over the past 10 years. The AY2018 total of 81 is more than double those of 10 years ago.
- OGE sponsored the annual Graduate Student Appreciation Week with support from various campus partners including the Teaching & Learning Lab, Chancellor's Office, DSL, Institute Chaplain, Mental Health & Counseling and ISO. Over 300 graduate students participated in a variety of programs ranging from stressbusting mini-backrubs, to flower planting culminating in a wine and cheese reception at OGE headquarters.

Diversity Programs

- GradCatalyst
 - Over 100 prospective graduate students participated in eight GradCatalyst sessions – four in-person and four online; OGE sustained its relationships with a number of diversity graduate preparation programs who coordinated sessions on their campuses at University of Miami, Florida International University, Tufts University, MIT, Harvard University, Brown University, and Morehouse College.
- Graduate Diversity Ambassadors and Recruitment Conferences
 - The OGE Service Award is in recognition of graduate students who collaborate with the Office of Graduate Education Diversity Initiatives to broaden participation of underrepresented minorities and underserved students interested in pursuing masters and doctoral degrees at MIT. Over the past year, our Graduate Diversity Ambassadors have engaged with over 775 prospective graduate students by attending 12 diversity recruitment conferences, hosting 8 GradCatalyst sessions, and reviewing 20 statements of objectives of our MIT Summer Research Program (MSRP General) and CONVERGE alumni applying to MIT graduate programs. Their service is a testament to the Institute's desire to create a more diverse, equitable, and inclusive community.
- MSRP General
 - MSRP General 2017 received its highest number of applications to date; a total of 616 applications – a 27% increase from 2016 and a 104% increase from 2015.
 - 37 undergrads from other institutions conducted research in 13 different departments across four schools at the Institute last summer. Among the 2017 MSRP General cohort, 54% are women, 76% self-identified as URM and 11% as international, and 41% are Pell-grant recipients. The MSRP 2017 interns were featured in MIT News article, MIT Summer Research Programs nurture tomorrow's scientists [link: <http://news.mit.edu/2017/mit-summer-research-programs-nurture-tomorrows-scientists-0905>].

- In 2017, the OGE continued to address the holistic needs of our students – mind, hand, and heart - instituted the previous year; the new enhancements to MSRP General 2017 programmatic activities included the addition of a five-part scientific communication workshop led by instructors of the Broad Institute of MIT and Harvard as well as a joint networking activity with the Minority Introduction to Engineering and Science (MITES) coordinated by the Office of Engineering Outreach Programs.
- In the MSRP General 2017 Intern Exit Survey, prior to participating in MSRP General, 64% interns indicated an interest in applying to MIT; after MSRP General, their interest increased to 94%. 100% MSRP General interns indicated they will recommend the program to others; 89% definitely will and 11% probably will.
- Overall, MSRP General has hosted 786 interns in 25 different departments with over 380 MIT faculty since 1986.
 - 89% (n=419) of alumni respondents earned advanced degree
 - 89 earned degrees @MIT, 22 currently enrolled @MIT
 - 36 MSRP Gen alumni became faculty; one @MIT: Prof. Asegun Henry, MSRPg '03, MechE
- CONVERGE
 - CONVERGE 2017 received 41 applications from prospective graduate students across the country. Twenty scholars interested in 13 different MIT graduate programs across four schools at the Institute participated. Among the 2017 CONVERGE cohort, 55% are women, 70% self-identify as URM, 25% first-generation college students, and 25% are Pell grant recipients.
 - In 2017, OGE collaborated with MIT Communications Lab to offer an intensive two-hour communications workshop where the students create and practice elevator pitches, provide and receive feedback to and from peers, and role-play scenarios wherein they are in meetings with faculty members discussing their research interests and professional aspirations.
 - Overall, CONVERGE has hosted 277 scholars, 28 different departments, offered 12 times since 2004
 - 31 earned degrees @MIT, nine currently enrolled @MIT
- Graduate Application Fee Waivers
 - 720 prospective applicants requested a graduate application fee waivers for 33 different departments across the institute
 - Earned bachelor's degrees from over 300 institutions from across the world
 - 89% US Citizens and Permanent Residents and 11% International
 - 48% (n=346) financial hardship, 14% (n=101) MIT-sponsored diversity programs, 32% (n=228) other diversity programs, events or conferences,

and 6% (n=45) US Armed Forces Member

- Ignite
 - 220 current graduate students attended nine Ignite events including Inside Graduate Admissions: Merit, Diversity, and Faculty Gatekeeping, Managing Difficult Conversations with your Faculty Advisor, CONVERGE Preview Weekend Celebration, Fall End-of-Semester Celebration, Ignite Your Vision: Faculty Luncheon featuring MLK Visiting Professors & Scholars, Ignite & OME & OMP & ACME Trip to the Movies: Black Panther, IGNITE Lunch with Graduate Students and Faculty from across the Institute, Office of Engineering Outreach Programs & OGE Ignite: STEM Outreach at MIT & Why It Matters, and Spring End of Semester Celebration

- Sloan-MIT UCEM
 - This year's community of UCEM Sloan Scholars includes 33 URM graduate students; three scholars earned master's degrees and three scholars earned doctoral degrees; one scholar ([Corban Swain](http://news.mit.edu/2018/student-profile-corban-swain-0222)) was featured in MIT News [link: <http://news.mit.edu/2018/student-profile-corban-swain-0222>].
 - In this year's admissions cycle, the Sloan-MIT UCEM offered scholarships to 20 exceptional URM admitted graduate students; 12 accepted our offer and will enroll for Fall 2018 (60% yield). The fourth cohort includes four women, eight graduates of public colleges and universities, one alumnus of MIT Summer Research Program and one alumnus of MIT CONVERGE.
 - In the spring 2018 program survey, OGE solicited feedback from all 36 UCEM Sloan Scholars about upcoming semester activities, admissions volunteer opportunities and overall program; the response rate was 94% (n=34). Scholars were asked to indicate the importance of several MIT UCEM components; the following were ranked "extremely important": 71% Financial Support (\$40K); 41% Personal Support by PI & OGE Staff; 41% Peer Support by other UCEM Scholars, 21% UCEM Programming; and 21% Opportunity to attend SREB Institute on Teaching and Mentoring. OGE also found a considerable increase in our scholars' (n=19) intent on enrolling at MIT before and after they were awarded the \$40,000 UCEM Sloan Scholarship; 21% to 74% respectively.

Fellowships

- For FY18, the OGE administered **953** fellowships totaling **\$46 million**. Fellowship administration included promotion, student advising, liaising with MIT department administrators, interfacing with funding agencies such as NSF and Hertz and foreign governments, financial tracking and reporting, and resolving problems.

- *Internal*

- Provided a total of \$8.1 million in internal fellowships, which includes competitive, diversity, and special case fellowships.
- Administered 134 Endowed Presidential Fellowships for the Provost Office and organized the yearly Presidential Fellowship Reception.
- Co-administered 16 Martin Fellowships for Sustainability with MITeI.
- Recently took on the administration of the Draper Laboratory Fellows program (43 fellows)
- *External*
 - Administered 577 external fellowships, including the NSF Graduate Research Fellowship (458 fellows), the NDSEG (50 fellows), the Hertz Foundation Fellowship (20 fellows), and the DOE (17 fellows).
 - Conducted a webinar for the American University in Cairo on MIT’s Endowed Fellowship of the Arab Republic of Egypt (200+ attendees)

Financial Literacy

- Workshops on applying to graduate fellowships were attended by 220 students
- Eight workshops presented on various topics such as budgeting, investing, retirement, American banking 101.
- iGrad online financial literacy platform users increased from 820 to 1,223 active users.

Graduate Community Life

- During the reporting period, 10 new proposals for Graduate Student Life Grants (GSLG) were funded, as well as 12 renewal proposals for successful projects entering their second or third year. Projects included a cooking-at-home series led by student instructors, a “lab crawl” for Sloan students to learn about research activities and network with fellow students in other graduate programs, and a program that brings together graduate students from across campus to build science kits for local elementary schools, and a brunch series for on-campus and off-campus student families. Established in 2002, the GSLG program enables creative ideas for community building activities among graduate students.
- The Graduate Community Fellows program involved 30 fellows who worked with staff in the OGE and partner office on projects that impact graduate students, as well as the larger MIT community. Highlight: Two fellows supported the establishment of a student government, dorm website, and community life in the 70 Amherst residence.
- 100% compliance on Haven Plus (Suraiya)
- Partnered with Grad Women at MIT (GW@MIT) to welcome approximately 200 women entering graduate programs, at a reception during orientation.
- Partnered with DSL to offer monthly graduate women’s lunches attended by roughly 50 students each month. Lunchtime programming promotes academic, professional, and personal development of graduate women.

- The OGE hosted the twelfth annual weekend-long “Path of Professorship” workshop, designed for women graduate and postdoctoral students at MIT who are considering tenure-track academic positions in STEM fields. The workshop was attended by 44 grad women students, 26 postdocs, who listened to presentations by 26 faculty women, including four who are former program participants and seven who are MIT professors.
- The OGE funded the Science Policy Initiative’s annual trip to Congressional Visit Days, as well as a boot camp over IAP for the students to prepare. During Congressional Visit Days, 27 graduate students from the [Science Policy Initiative](#) met in groups with the offices of 34 US Senators and 26 US Representatives over two days in Washington, DC, to advocate for science research, education, and funding, including NSF and NIH graduate fellowships.

Awards / Recognitions

- Blanche Staton: Collier Medal for her outstanding support of the students, faculty and staff who make up our MIT community.
- Jessica Landry: Infinite Mile Award for “Serving the Client”

Looking Ahead

- Work with the Audit Division to improve processes for assisting graduate students including database enhancement.
- Engage with our thinking partners across campus including Mind/Hand/Heart, OMP, OVC and Mental Health & Counseling to provide ideas for content, optimal delivery modalities and goals for proposed Kognito for Graduate Students module. The Kognito module will be focused on providing guidance on supporting fellow students in distress.
- Building HQ staff to current level of 14, strengthen teams, and improve onboarding.
- Assist with the centralization of professional development resources under the Career Advising and Professional Development office.
- Collaborate with campus partners, including DSL, MindHandHeart, and the Committed to Caring (C2C) team, on the development of projects such as the Department Support Project (DSP), Accessing Resources at MIT Coalition (ARM), and training for faculty and staff so that they can better support and advise students, both undergraduate and graduate. The C2C team will develop a brochure to share “Mentoring Guideposts.”
- Continue to contribute to the refinement of orientation and onboarding of graduate students.

International Students Office

The [International Students Office](#) (ISO) serves all incoming and currently enrolled international students at the Institute and assists students in maintaining their legal status in the United States, provides support for their dependents, and promotes interaction with and integration into the MIT community at large.

- **Internship/Experiential Learning Subjects in Academic Departments – CPT eligibilities:** Student demand for additional off-campus internship opportunities has been the predominant advocacy issue communicated by students and colleagues across the Institute. Increased outreach by the ISO, along with Institute partners (especially Graduate Administrators), have been able to collectively advocate for and support the academic departments as they review their curriculum to provide opportunities for their students. An exciting example was the partnership with Course 6 to develop the “Professional Perspectives” degree requirement for master’s and PhD students, incorporating opportunities for internships, experiential learning, and academic presentations towards graduate requirements. We expect additional departments in the School of Engineering, and across the Institute, to adopt similar requirements with proven success of the Course 6 initiative.
- **Creation of Summer Internship-Only Subject Tuition Charge:** With support from the Registrar’s Office and the Dean’s Council, the ISO Director proposed the creation of an internship-only subject tuition charge, effective summer 2018, which was approved and communicated to the Institute community by Vice Chancellor Waitz this past fall. The proposal was in response to MIT needing to meet U.S. Department of Homeland Security guidance for F-1 CPT authorization with current term enrollment for internship courses, and the concerns by academic departments that the past summer tuition charges (up to \$2,900 for undergraduates; up to \$5,600 for graduate students) was too high for students and the departments. Moving to a per-unit calculation (\$540 per unit) will be much more affordable and will encourage more academic programs to create internship/experiential learning subjects in their curriculum to the benefit of our international students.
- **Enhancement of ISO website resources in support of the MIT Community:**
 - ISO [“Major Immigration Updates” webpage](#) – resources for the Institute in response to Executive Orders and additional government regulatory and policy changes.
 - publication of all ISO written documentation to ISO website to enhance availability and access of advising resources during and outside of office hours;
 - create greater transparency of regulatory and policy information;
 - increase consistency of advising amongst all advisors using same resources;
 - provide access to MIT academic departments and administrators to same information provided to students;

- continue transition of application processes to web resources and iMIT/Sunapsis E-form submissions to make for ease of communication between students and ISO (and convenience of 24/7 access to materials and resources). Approximately 85% of service requests can now be done online by students via [iMIT](#).
- **Contributions to Institute Committees and their recommendations to the MIT Administration:** ISO Staff have served on OVC and Institute Committees, Working Groups, and Cross-Functional Teams, including Chancellor’s Working Group on Post-Election Federal Law and Policy, the Graduate Alumni Working Group, the Institute Committee on Discipline, The Engine Visas for Entrepreneurs Working Group, the Office of Vice Chancellor Leadership Team, OVC Values Working Group, OVC Council on Diversity and Inclusion, International Students of Color Orientation and Onboarding Team, MIT Tax Workshops, as well as other cross-Institute collaborations in support of our community.
- **Education and Outreach to the Institute Community on Federal Regulation/Policy Issues:** Focus on making resources available to the community through the [ISO Major Immigration Updates webpage](#), information sessions, advising documents, and collaborative administration communication to the MIT community on the extensive federal regulation and policy changes over the past year (including Executive Orders/Presidential Proclamations and court proceedings regarding the Travel Ban, US Department of Homeland Security enforcement initiatives, and changes in US Department of State policy and procedures impacting visa issuance). ISO served as the host institution for the SUNAPIS Users Conference, October 7-11, 2017 in Cambridge, MA: Hosting workshops, conference sessions, activities, and a new “live coding” event for the new version of the software. Over 250 representatives from institutions who current use, or are considering use, of the SUNAPIS international student management software were in attendance.

Notable Statistics / Data

International Student Community: from 132 countries, including US

- Undergraduate = 470 (10.46%)
- Graduate = 2,868 (42.20%)
- Non-Degree (calendar year 2017)
 - Special and Exchange = 128
 - Visiting Students = 970

Post-Degree Employment (on MIT student visa sponsorship – as of June 15, 2018)

- F-1 Optional Practical Training = 582
- F-1 STEM OPT Extension = 442

- J-1 Academic Training = 29

ISO Service Usage (07/01/2018-06/30/2018)

- Walk-Ins/Appointments - FY2018 = 15,117
- FY2017 = 13,660

Awards and Recognition

- Emily Cheng, ISO Assistant Director for Operations and Advising – MIT Managing for Excellence Participant; Session Presenter, NAFSA Region XI (New England) Conference; Local Arrangements Coordinator, SUNAPSIS Users Conference
- Sylvia Hiestand, ISO Assistant Director for Advising Outreach - Session Presenter, NAFSA Region XI (New England) Conference
- Dana Riechman, ISO International Student Programming Administrator & Advisor - Session Presenter, NAFSA Region XI (New England) Conference
- David Elwell, ISO Associate Dean and Director – Keynote Speaker, SUNAPSIS Users Conference; Session Presenter, NAFSA Region XI (New England) Conference

Looking Ahead

- Expand engagement with Institute administrators regarding growth and complexity of regulatory compliance issues pertaining to international students at MIT.
- Identify and implement outreach resources to enhance communication, connectivity, services, and support to newly admitted and current international students and alumni. Resources could include online webinars and presentations, and videos.
- Partner with MIT Alumni Association, Admissions, and other Institute stakeholders, to explore capacities for direct programs and outreach abroad to newly admitted and current international students and their families, and alumni and friends of MIT.

Minority Education

The [Office of Minority Education](#) (OME) promotes academic excellence, builds strong communities, and develops professional mindsets among students of underrepresented minority (URM) groups, with the ultimate goal of developing leaders in the academy, industry, and society. The OME supports MIT's academic mission, while also serving the nation's need to increase the number of URM students pursuing careers in STEM disciplines.

Key Accomplishments

- This spring, the OME launched a new signature program focused on enhancing the overall success of undergraduate men of color called The Standard. Twenty-two first-year students were inducted into the inaugural cohort. To date, the young men have participated in workshops and seminars on self-care, health and well-being, goal setting, time management, etc. They also participated in a retreat at the MIT Endicott House to help develop and solidify the new connections and the community the men are establishing. Upper-level undergraduate men, alumni, faculty (faculty liaisons are Ceasar McDowell, Jaime Péraire, and Larry Sass), and staff from various offices have partnered with the OME on this new initiative.
- This spring, the OME partnered with MITx and the Office of Digital Learning to launch a pilot with Interphase EDGE that is currently underway. Through this pilot, the MITx online curriculum is being integrated into the on-campus physics and mathematics courses taught by Interphase instructors this summer.
- The OME's Laureates and Leaders program was created to encourage and support highly motivated and talented URM students in their pursuit of graduate degrees in STEM; specifically PhDs and dual MD/PhDs. Seventy-three students participated this academic year, including 18 graduating seniors.
- Thirty-nine protégés and 38 mentors (MIT faculty, staff, post docs, and graduate students) participated in the OME's Mentor Advocate Partnership program. Eighty-five percent of protégés reported, in the end-of-year survey, that, "my mentor really cares about me" (51% response rate).

Notable Statistics / Data

- Increasing access to OME services and resources will always be of the utmost import. We are now able to track our progress in this specific area through Tableau. In AY2017, there were 1,612 student visits to the OME with 352 unique users; 68% URM. For AY2018, there were 2,092 student visits to the OME with 440 unique users; 67% URM. These numbers indicate that the OME is being accessed by a wide range of students, the majority of whom are URM but not exclusively.
- The Interphase EDGE program supports 140 students each year (70 first-year and 70 second-year students) by offering advising and other academic and professional development resources. Interest in the program is increasing with ~140 applications this

year (for 70 slots) compared to 129 applications in 2017. In fall 2017, only 11% of the IP17 cohort (n=70) received a 5th week flag with an 88% recovery rate. For the entire MIT first-year class, 12.3% received 5th week flags with a 77% recovery rate. In spring 2018, 20% of the IP17 cohort received a flag with an 86% recovery rate. For MIT, 14.6% of the first-year class received flags; however, the class recovery rate was 67%.

- The recovery rate for students who took a Seminar XL/LE class in a flagged subject was 88% in the fall and 75% in the spring. In contrast, the overall recovery rate for AY2018 was 77% in the fall and 67% in the spring. The recovery rate for URM students who took a Seminar XL/LE class in a flagged subject was 89% in the fall and 100% in the spring.
- In AY2018, 92% of students who used the Talented Scholars Resource Room (TSR²) academic resource services passed the class in which they sought assistance. The breakdown by service is as follows: 94% pass rate for students who attended a TSR² exam review, 92% pass rate for students who attended a p-set night, and 88% pass rate for students that engaged in a one-on-one with a TSR² TA.
- Seventy-eight percent of the 18 graduating seniors from the Laureates and Leaders program will begin STEM graduate school programs this fall. From those, 64% will pursue PhDs in STEM, 21% will pursue a MEng, and 14% will pursue an MD/PhD. Also, 50% of these students received NSF Graduate Research Fellowships.

Awards / Recognitions

- The OME was awarded a \$10K MindHandHeart Innovations Grant to launch The Standard. Article found at: <http://news.mit.edu/2018/mit-program-the-standard-supports-men-of-color-0618>
- The OME's Momentum program received a \$40K grant through a special partnership with Microsoft that enabled 35 first and second-year students to participate in an IAP course on virtual reality. Video on the program here: <https://youtu.be/11fls3xqJEU>
- Laureates and Leaders' senior Jasmin Joseph '18, was profiled in MIT News <http://news.mit.edu/2018/student-profile-jasmin-joseph-0410>. The research project of Laureates and Leaders' junior, Andrew Rouditchenko '19, was highlighted in MIT News <http://news.mit.edu/2018/ai-editing-music-videos-pixelplayer-csail-0705>.
- The OME's Associate Dean and Director, DiOnetta Jones Crayton, received national recognition when she was awarded the Inclusive Culture and Equity Award by the Women in Engineering Proactive Network (WEPAN) for her sustained commitment and service to diversity, inclusion, and equity efforts in STEM. Locally, Dean Crayton also became the first recipient of the 2017 Ayida Mthembu Award given by MIT's Black Women's Alliance (BWA) student organization.

Looking Forward

- The pilot with MITx/Interphase will eventually yield a hybrid online/campus-based Interphase EDGE model. We hope to launch in summer 2019. This will enable the OME to serve more students through Interphase. Currently, we turn away ~50% of applicants.

Registrar's Office

The [Registrar's Office](#) fosters curricular innovation and educational community building; ensures the integrity of academic information; and develops and maintains a robust infrastructure that is responsive to the evolving needs of students, faculty, staff, and alumni.

Key Accomplishments

- Piloted recipient-owned digital diplomas that are verified against the blockchain in September 2017 and February 2018. Fully deployed the system in June 2018, with all graduates being offered the opportunity to obtain a digital diploma.
- Developed a website redesign that merges multiple website domains and provides an updated look and feel that is both accessible and consistent.
- Deployed major system upgrades in the areas of curriculum proposal and cross-registration. These improvements are built on a new data structure that supports the ever-evolving needs of curricular requirements. In addition, replaced an outdated process for collecting final exam requests from instructors and departments.
- With the Provost's Office, the International Students Office, and the Office of the Vice Chancellor, introduced a new policy for students undertaking internships during the summer. Tested and implemented changes to the tuition assessment process to accommodate this policy.
- Facilitated the following curricular changes:
 - Course 11-6 — new undergraduate degree.
 - Course 1-ENG SB — change of name.
 - Course 2-OE SB — introduced a junior-level lab experience and capstone CI-M.
 - Course 2-A SB — introduced more exposure to linear algebra.
 - Course 4-B SB and design minor—introduced more structure, and revisions to minor to align the introductory studios for the three programs. Change of name.
 - Course 5 — flexible track leading to SB.
 - Course 10 and 10-B SBs — increased flexibility by modifying Integrated Chemical Engineering (ICE) capstone and topics subjects.
- Conducted analysis for the New Engineering Education Transformation (NEET) pathway.
- Oversaw changes to the degree audit process to accommodate LAB requirement changes.
- Reviewed subject evaluation data to identify subjects for which students reported spending significantly more time than would be expected, based on assigned units. Notified departments of these subjects and worked with the chair of the CoC to develop and implement a more accurate algorithm for them.
- Made updates to schedules for Who Teaches What (WTW) and subject evaluations to reflect changes to the Academic Calendar for sub-term subjects.
- Facilitated the nominations and awarding of four new MacVicar Fellows. Partnered with the vice chancellor in the development of the MacVicar Day symposium: "Inclusive Pedagogies: Building a Vibrant Community of Learners at MIT."

- Successfully changed the proposal process for the d'Arbelloff Fund for Excellence in Education from a two-phase selection process to a more efficient, single-phase process.
- Completed the renovation of lecture room 35-225; began renovation of lecture hall 1-190.
- Provided data and analyses for several Institute studies undertaken by faculty committees, departments, and the administration. In particular, we worked closely with staff from the Designing the First Year class and the CUP subcommittee that assessed choice of major.
- The Registrar's Office staff participated in a yearlong educational program on unconscious bias.

Notable Statistics / Data

Highlights

- We issued 1,149 digital diplomas, including 848 to June 2018 graduates, since the initial pilot in June 2017.
- The dynamic nature of MIT's curriculum was illustrated by the addition of 135 subjects (89 undergraduate; 46 graduate), coupled with revisions to 924 existing subjects (483 undergraduate; 441 graduate). In addition, 105 subjects were removed from the catalog, and four were reinstated. MIT begins AY2019 with a regular curriculum that boasts 5,126 subjects (46.2% undergraduate, 53.7% graduate).
- The CoC, which our office supports, reviewed 216 applications for double majors, 25 REST Requirement petitions, and four Institute Laboratory petitions.
- The d'Arbelloff Fund for Excellence and the Alumni Class Funds financed 20 projects, totaling \$634,000.
- Students completed 38,783 evaluations across eight evaluation windows in AY2018. 2,111 subjects and 4,438 instructors were evaluated; 42 departments (unique subject prefixes) participated.

AY2018 Registration and Degree Data

Student Enrollment

- 11,466 total students (11,376 in AY2017)
- 4,547 undergraduates (4,524 in AY2017)
- 6,919 graduate students (6,852 in AY2017)

International Enrollment

- 3,413 total international students
- 11.5% of undergraduates and 41.8% of graduate students
- Citizens of 129 countries
- Students with permanent resident status are counted with United States citizens.

Women's Enrollment

- 4,483 total women students (4,412 in AY2017)
- 2,092 undergraduates (2,086 in AY2017)
- 2,391 graduate students (2,326 in AY2017)
- In September 2017, 506 first-year women enrolled, representing 46% of the class.

Minority Student Enrollment (self-reported)

- 3,864 minority students (3,794 in AY2017)
- 2,438 undergraduates (2,086 in AY2017)
- 1,426 graduate students (1,387 in AY2017)
- 569 African Americans (non-Hispanic)
- 145 Native Americans
- 19 Native Hawaiians or other Pacific Islanders
- 904 Hispanic Americans
- 2,227 Asian Americans
- In September 2017, 616 minority students enrolled, representing 56% of the class.

Degrees Awarded

- 3,490 total degrees awarded (3,533 in AY2017)
- 1,045 bachelor's degrees
- 1,788 master's degrees
- 12 engineer's degrees
- 645 doctoral degrees

Awards / Recognitions

- Genevieve Filiault and Kathleen MacArthur, along with their colleague Rudy Mitchell of the Teaching and Learning Laboratory, received a 2018 Infinite Mile Award for Communication and Collaboration for their work on the CUP Study Group on Undergraduate Majors Selection.

Looking Ahead

- We will support anticipated curricular changes with flexibility and efficiency, while at the same time maintaining the integrity of our position as steward of academic policies and records.
- The OVC will seek d'Arbeloff Fund and Alumni Class Funds proposals that will address efforts to improve the first-year experience and major selection for undergraduates.
- We will continue to work with the administration on potential changes to the date of Commencement.

- We will continue to engage in the discovery process to create a viable technology roadmap, specifically as related to the Learning Management System, student dashboard, pre-registration and degree audit systems.
- We will enhance the teaching and learning environments through renovation, updated technology and a comprehensive stewardship model.

Reserve Officer Training Corps Programs (ROTC)

Military training has existed at MIT ever since the Institute opened its doors in 1865. More than 12,000 officers have been commissioned from MIT, of whom more than 150 have reached the rank of general or admiral. Students who are United States citizens or who have applied for citizenship, are of good moral character, and are medically qualified for military service, may enroll in the programs for leadership training. Non-citizens who fulfill naturalization requirements for citizenship prior to graduation may enroll and participate in the two-year non-scholarship programs.

Air Force Reserve Officer Training Corps (AFROTC) Detachment 365

The mission of the [Air Force Reserve Officer Training Corps](#) (AFROTC) is to develop leaders of character for tomorrow's Air Force. Our staff of five (including an MIT admin assistant, an AF Active Duty (AD) non-commissioned officer (NCO) and three AF AD officers) trains a growing number of cadets, from MIT as well as Harvard, Tufts, and Wellesley. Our cadets organize and execute a weekly Leadership Laboratory (LLAB) in addition to a multitude of special events throughout the academic year (i.e., Dining In, Military Ball, Field Training exercises, notable guest speakers, Commissioning, etc). Additionally, our officer cadre members teach academic courses based on the AFROTC curriculum. Notably, a generous budget increase from MIT allowed us to continue to provide quality, formative opportunities to cadets, despite a continuing large increase in the number of cadets.

Key Accomplishments

- This year we were able to expand our integration and presence in the MIT community. Cadre members led or assisted in leadership training for the MIT football team as well as the Undergraduate Advisors. Additionally, for the first time, Cadre taught a stand-alone freshmen advising seminar, "Leadership for Young Professionals."
- We were also able to leverage MIT resources and relationships to provide great opportunities for the cadets, to include tours of Lincoln Lab and Haystack Observatory as well as cadet-only follow-on events during the visits to Course 16 of Dr. Will Roper, director of DoD Strategic Capabilities Office and Col. 2Fish Fisher, an astronaut recently returned from the International Space Station. We also made extensive use of AF officers attending MIT for graduate school or as Fellows to bring a variety of AF experience direct to the cadets.
- We proudly commissioned four new 2nd lieutenants this year. Three of them (all Course 16) were AF Distinguished Graduates – an honor reserved for the top 15% of graduates in all of AFROTC. Two are headed to pilot training. Another will complete her PhD here. The fourth officer is heading overseas to Japan where she will immediately be supervising Airmen in the logistics and readiness mission.
- One of the most formative opportunities for the cadets is experiencing Air Force operations first hand. This year the cadets visited an ANG base in RI for their first-year orientation. Other cadets were able to participate in aerial refueling on a trip to a base

in NJ. Five lucky cadets hopped in the back seats of T-38s in TX to experience part of the Introduction to Fighter Fundamentals. Possibly coolest, many cadets were able to travel to Andrews AFB outside DC to be hosted by Wing Commander Brig. Gen. (sel) John Teichert, an alum of Course 16 and Det. 365.

- Due to the unique nature of our Detachment, our program's enrollment has been consistently driven by the award of full-tuition scholarships. Unfortunately, despite consistent engagement with our HQ, it looked like we would have fewer full-tuition scholarships awarded this year to cadets admitted to MIT. However, Dr. Sheila Widnall personally engaged the U.S. secretary of the AF and we now look forward to our largest class in over 20 years this fall!

Notable Statistics / Data

- Our cadets had the highest average physical fitness test scores in all of AFROTC
- They also had the highest average GPA
- Total enrollment was 29 in June 2017 and 48 in June 2018. With next year's freshmen class, we hope to be 60+ next year!

Awards / Recognitions

- Det. 365 was recognized with AFROTC's highest award, Right of Line, for the second year in a row
- Cadet (now Lt.) James was recognized as AFROTC's Cadet of the Year, also Det. 365's second consecutive win
- Cadets were recognized with multiple national-level awards, including the Society of Military Engineers and the Daedalian Scholarship
- Capt. Hubbard was recognized with MIT's Infinite Mile award
- Det. 365 was AFROTC's Northeast Region Team of the Quarter (3rd quarter)
- Capt. Dela Cruz was AFROTC's Northeast Region Operations Flight Commander of the Year

Looking Ahead

- We are advocating for a second NCO from ROTC, in light of our rapid expansion.
- In the next year, we hope to settle some of the turmoil of the previous years due to short-notice personnel changes. This will allow us to pursue some longer-term goals, like better contact with our alumni network.
- Once the ROTC curriculum overhaul is complete, we will also consider a more academically rigorous augmentation to the standard ROTC curriculum, possibly in partnership with relevant MIT faculty and departments.

Army Reserve Officer Training Corps

The mission of the [Army Reserve Officers Training Corps](#) (AROTC) is to select, retain, train, and commission cadets from MIT, Harvard, Tufts, Lesley, Wellesley, Salem State, Gordon, Gordon-Conwell, Endicott, and the New England Conservatory in a 2, 3, or 4-year program in order to prepare them for future leadership roles in the US Army, the nation, and the world. Our vision is to develop agile and adaptive leaders who utilize critical and creative thinking skills to solve complex, ambiguous problems.

Accomplishments

We commissioned 10 officers this year. Three cadets earned the honor of “Distinguished Military Graduate,” which placed them in the top 20% of all cadets nationwide. As of May 1, 2018, 58 students were enrolled in the Army ROTC program. Over \$2,005,000.00 was awarded in scholarships for all students in the consortium, a notable increase from last year. The graduating Class of 2019 is expected to commission 14 officers, which means we will meet the Army-directed commission mission for the first time in the last three years. The Classes of 2020 and 2021 as well as the incoming Class of 2022 have seen significant growth from previous years, particularly with regards to MIT students. The Class of 2021 currently has seven MIT students on full ROTC scholarship and the Class of 2022 is expecting 10 MIT students with full scholarships.

Year-End Enrollment for Army ROTC, as of May 1, 2018

| | Freshmen | Sophomores | Juniors | Seniors | Total |
|------------------|----------|------------|---------|---------|-------|
| MIT | 7 | 8 | 4 | 0 | 19 |
| Harvard | 5 | 2 | 4 | 2 | 13 |
| Wellesley | 2 | 2 | 2 | 0 | 6 |
| Tufts | 0 | 2 | 1 | 2 | 5 |
| Other Affiliates | 3 | 1 | 5 | 6 | 15 |
| Total | 17 | 15 | 14 | 10 | 58 |

Our cadets continue to achieve excellence academically, physically, militarily, and morally/ethically. In April 2018, one of our cadets was the winner of the Military Historical Society of Massachusetts annual essay competition. The winner was an MIT first-year cadet who received a \$4,000 prize - \$2,500 awarded directly to her and \$1,500 to her host program. The second place finisher was also an MIT cadet, and the third place finisher was a Harvard cadet.

At the annual Cadet Leader Course conducted at Fort Knox, Kentucky—attended by more than nearly 5,000 rising seniors nationwide—our cadets exceeded local, regional, and national averages in nearly all measurable areas, as they do every year. We have sent nine cadets to West Point throughout the year to participate in the Student Council on US Affairs; the National Conference on Ethics in America; the West Point Negotiations Conference; and the West Point Mission Command Conference. Seven cadets, one of whom is an MIT student, were selected to participate in the Cultural Awareness & Leadership Program and Project Global Officer

programs over the summer, spending up to two months abroad in Mozambique, Paraguay, Honduras, Madagascar, Morocco, Vietnam, and Taiwan. We have two had two cadets selected to attend air assault school this summer. Three of our cadets will serve with an active-duty unit during the summer and shadow an officer as part of the Cadet Troop Leadership Training program.

Our instructors continue to excel at classroom leadership instruction and hands-on training of cadets and of non-ROTC students here at MIT. Army ROTC continues to be a preeminent source of high-quality leadership instruction at MIT. During the fall semester, Army ROTC taught a Freshman Advising Seminar made up entirely of non-cadet MIT students. During IAP, our cadre participated in its 16th consecutive year facilitating a capstone exercise for 90 students in the Sloan School of Management's IAP course, Leadership Lessons Learned from the Military. We also hosted a Leadership Development Workshop during IAP, providing two days of conceptual and hands-on leadership development training to 16 members of the MIT Community including undergraduates, graduate students, fellows, athletic staff, IS&T employees, and others. We have partnered with the MIT football team to host a team leadership workshop in the fall, and mentorship training for team leaders in the spring. We also have worked with the Office of Minority Education to facilitate a class for "The Standard" and help develop the program's vision and way forward.

In this past academic year, MIT Army ROTC conducted the following major events: New Cadet Orientation in September; field training exercises at Joint Base Cape Cod in September and at Fort Devens in April in conjunction with the ROTC Programs at Boston University, Northeastern, and the University of Maine; a formal Dining-In in November; a military ball in March; a battlefield staff ride at Lexington and Concord in April; and commissioning ceremonies at MIT, Harvard, Tufts, Gordon, Salem State, and Endicott.

[Staffing Changes](#)

The Army assigned three new full-time instructors during the past year: Captain Joe Swain (executive officer), Master Sergeant Martin Peters (senior military science instructor), and Sergeant First Class (promotable) Sean Kirk (military science instructor). Ms. Lisa Morin was also hired as the MIT administrative assistant for the program. We will welcome the new visiting Professor of Military Science, Major David Stalker, to the program in August.

[Challenges and Plans for the Future](#)

MIT Army ROTC's continued challenge is to remain viable by increasing the number of cadets in the program, especially from MIT. Acceptance rates into MIT for ROTC Scholarship applicants have increased in the last three years, which have resulted in much larger incoming and outgoing first-year classes. This bodes extremely well for the continued viability of the MIT Army ROTC Program. The Army ROTC program plans to continue giving back to the MIT community by providing more leadership training opportunities.

Naval Reserve Officer Training Corps

The [Naval Reserve Officer Training Corps](#) (NROTC) program, hosted by MIT, develops and provides full-scholarship opportunities to midshipmen aspiring to become ensigns in the U.S. Navy or second lieutenants in the Marine Corps. The mission of NROTC is to prepare them morally, mentally, and physically, imbuing them with the highest ideals of duty and loyalty. Graduates possess a basic professional background, are motivated toward careers in the Navy and Marine Corps team, and are devoted to the service of our nation. They embody the potential for future development in mind and character in order to assume the highest responsibilities of command, government, and citizenship.

NROTC midshipmen enroll in eight different naval science courses during their time at MIT, including naval engineering, history, doctrine, operations, leadership, and ethics. The curriculum is nationally recognized, centrally supported, and taught at over 65 universities nation-wide.

Guest speakers are invited to enhance course relevancy with evolving trends in technology, national policy and development, and geo-politics. Coursework is further tailored by the instructors to reflect their individual operational experiences and is monitored by the visiting Professor of Naval Science, Captain Michael Savageaux.

NROTC officers and staff are committed to ensuring that every midshipman balances their time and energy in order to realize the tremendous benefits of an education from MIT, Harvard University, or Tufts University. Midshipmen complement their rigorous NROTC commitments with extracurricular activities such as varsity athletics, fraternity and sorority leadership positions, leadership conferences, and other school events. Others take an active role in community involvement such as volunteering, counseling, and mentoring.

The NROTC staff is responsible for mentoring and instructing students, while midshipmen build hands-on leadership skills running the day-to-day operations of the NROTC battalion. They are involved in the planning and implementation of numerous military and civic activities and events, including the weekly leadership labs, the Joint Service Ball, field-training exercises, sailing regattas, and tri-service competitions.

Notable Statistics

| Year-end Enrollment in Naval ROTC as of June 2018 | | | | | |
|--|-----------------|-------------------|----------------|----------------|--------------|
| | Freshmen | Sophomores | Juniors | Seniors | Total |
| MIT | 6 | 8 | 5 | 4 | 23 |
| Harvard | 2 | 6 | 3 | 4 | 15 |
| Tufts | 3 | 1 | 1 | 3 | 8 |

| | | | | | |
|--------------|-----------|-----------|----------|-----------|-----------|
| Total | 11 | 15 | 9 | 11 | 46 |
|--------------|-----------|-----------|----------|-----------|-----------|

Accomplishments

During summer 2017, midshipmen patrolled undersea aboard submarines, flew in Seahawk helicopters, piloted aircraft carriers and guided missile destroyers, and conducted amphibious landings ashore with the Marines. A total of 32 successful midshipman summer cruises were conducted globally.

AY2018 was the third year that the MIT NROTC unit enjoyed the use of two new simulators in Building W59 at MIT. The Conning Officer Virtual Environment (COVE) ship simulator, which was installed initially at only five universities nationwide, offers midshipmen a highly realistic immersive experience to enhance training during navigation and naval operations courses.

Additionally, midshipmen used the Joint Military Simulator (JMS) Lab to conduct operational decision-making exercises and leadership scenarios.

The winter semester concluded with the commissioning of two Navy ROTC students at MIT. Ensign Faith Huynh will serve in the submarine warfare community and Ensign Steven Holcomb was selected to train as a Navy pilot and serve in the aviation community. Our academic year wrapped up on June 8 with the commissioning of two Navy ROTC students and four Air Force ROTC students on board the *USS Constitution*. Rear Admiral David Hahn, Chief of Naval Research was the guest of honor and presented commissioning scrolls to all of the new officers. MIT Vice Chancellor Ian Waitz also provided congratulatory remarks. Ensign Jasmine Lennert will become a nuclear engineer for Naval Reactors in Washington, DC, and Ensign Ellen Mule is heading to Charleston, SC, to start training at the Navy's nuclear power school. She will graduate and serve in the submarine warfare community.

NROTC hosted numerous high-profile visits and distinguished guests during AY2018, including:

- RADM David Hahn, USN, Chief of Naval Research
- BGen Dana Born, USA (ret.), Co-Director Center for Public Leadership, HKS
- RADM Peter Marshal, USN (ret.), Former Vice Commander of NAVFAC

Staffing Changes

MIT NROTC bid fond farewells to Captain James Horten as well as to class advisors Lieutenant Ryan Wielgus and Lieutenant Greyson Geer.

This year, NROTC welcomes Captain Michael Savageaux as the Commanding Officer, Lieutenant Alex Goodwin and Lieutenant Blane Butcher as incoming class mentors and advisors. Additionally, the MIT NROTC team welcomed Ms. Clare Duffy as our supply technician.

The NROTC program eagerly looks forward in AY2019, to increased student numbers and a growth of its family of superbly qualified individuals at MIT, who continue to maintain and teach the highest standards of excellence.

Student Financial Services

[Student Financial Services](#) (SFS) makes the dream of attending MIT a reality by providing students and families the resources necessary to meet their financial obligations.

Key Accomplishments

- In AY2018, MIT awarded \$119.7M in need-based institutional grants to 2,629 undergraduates with an average family income of \$106,378. The median grant was \$51,111, nearly 80% of the cost of tuition, fees, room and board.
- More than 30% of MIT undergraduates received an institutional grant sufficient to allow them to attend the Institute tuition-free. The average total family contribution (not including student term-time work) for those receiving the institutional grant was \$16,193.
- Over 58% of the 4,489 undergraduates received need-based financial aid from the Institute. Eighteen percent received Federal Pell Grants, which are typically awarded to U.S. students with family incomes below \$60,000.
- Sixty-nine percent of undergraduates (3,076 students) earned wages totaling \$10.7M from on-campus employment and employment under the Federal Work-Study program, including both on- and off-campus programs.
- The percentage of undergraduates taking out loans in AY2018 decreased to 12% from 16% in AY2017. Among seniors graduating in 2018, 72% graduated with no debt; of those with debt to finance their education, median indebtedness at graduation was \$14,840.
- Building on the spring 2017 launch of Touchnet, the online billing and student information software that powers MITPAY, we implemented the MITPAY integrated monthly installment payment plan. In the spring term, 137 families used MITPAY to pay \$2.5M in charges.
- We enhanced the automated solicitation process for students who are eligible for VA benefits. This outreach ensures that these students receive the support and assistance they are entitled to as we assist in the processing and certification of benefits.
- The SFS customer service team received 10,153 calls and 32,146 emails over the course of the year.
- Tuition and fees for the Institute totaled \$688,496,949 in AY2018. Graduate tuition was \$413M or 60% of total tuition. Undergraduate tuition was \$221M or 32%; and non-degree tuition and fees were \$54M, just under 8%.

Awards / Recognitions

- Associate Director for Operations Eric Sacca was an OVC recipient of the Infinite Mile award.

- Dean of Admissions and Student Financial Services Stuart Schmill '86, won the MIT Gordon Y. Billard Award recognizing “special service of outstanding merit performed for the institute.”

Looking Ahead

- We anticipate welcoming a new Director of Student Receivables after Mark Waters accepted a position at Embry-Riddle Aeronautical University.
- We are currently redesigning our website to better serve current and prospective students and their families.
- We are evaluating the financial aid award letter with an eye toward improving the clarity of offered aid.
- We are enhancing the loan exit counseling experience to systematically ensure that students receive comprehensive and timely updates specific to their lender obligations when they separate or graduate.
- We will upgrade our accounts receivable software to the cloud-based Banner 9, allowing for single sign-on integration with MIT’s Kerberos, among other features.

Teaching and Learning Laboratory

The [Teaching and Learning Laboratory](#) (T+LL) partners with MIT educators to create engaging and supportive learning environments. We do this by:

- sharing research-based strategies for lesson, subject, and program design and development;
- educating others about student-centered pedagogies;
- collaborating and consulting with MIT educators to brainstorm opportunities and solutions for their teaching contexts;
- collecting data through the evaluation of educational innovations and assessment of student outcomes to provide constructive, practical, informative feedback to educators.

Key Accomplishments

Teaching and Learning

- Provided a spring and a summer offering of our flagship [Kaufman Teaching Certificate Program](#) (KTCP). The KTCP is designed for graduate students and postdocs who wish to develop skills to support their teaching at MIT and/or are preparing for future faculty careers. The program consists of seven two-hour sessions, and microteaching opportunities. Participants are assigned to one of six sections, with ~20 participants/section. Each section is taught by a separate instructor (T+LL staff, members of the MIT teaching community and/or external partners). In 2018, 216 participants (103 graduate students and 113 postdocs) completed all requirements of the program and received their certificates of completion. [Read more.](#)
- Expanded our offerings to support new TAs across the Institute through the creation of [TA Days](#), a two-day series of workshops on the following topics: Mitigating Implicit Bias and Stereotype Threat; Fostering a Growth Mindset; Understanding Title IX Policies and TA Responsibilities; Standing Up Instead of Standing By: Being an Active Bystander; Supporting Students in Distress; Using Active Learning Techniques + Classroom Practice Q&A; Facilitating Office Hours and Tutorials; Presenting and Planning a Class Session.
- Organized and facilitated monthly meetings of a 17-member faculty-instructor cohort. The Faculty Cohort (The Dean's Action Group for Dissemination of Evidence-based Teaching Practices) was funded by a grant from the Association of American Universities (AAU) and funds from the former Dean of Undergraduate Education, Professor Dennis Freeman. AY2018 was the second year of funding. In the monthly meetings, members of the cohort shared case studies of how they have implemented evidence-based teaching practices in their courses and participants discussed how practices could be adapted in disparate subjects across the Institute. More details are in the [MIT News Article](#).
- Supported the development and delivery of 2.S991 Designing the First Year at MIT.
 - Generated over 100 pages of [original resources for the class](#). Resources included descriptions and citations for: skills, beliefs, and behaviors associated with student success; and high-impact practices to support the development of those skills and behaviors. In addition, T+LL undertook an environmental scan of

- colleges and universities across the world, and identified noteworthy programs and practices of potential relevance to the redesign of MIT's first year;
- Facilitated three class sessions during the semester, and met one-on-one with students in the class, as requested;
 - Coordinated with eight Institute offices to secure relevant data for the past eight in-coming cohorts of first-year students. These data served as the foundation for a series of interactive data visualizations and were made available (via a secure site) to students in 2.S991. Students in the class used these visualizations to inform their recommendations for the redesign of the first year at MIT.
 - Designed, implemented and taught a biology course-based undergraduate research experience (CURE) module for [6.A01 Mens et Manus: Building on the Science Core](#). This is part of a new effort to provide students with more options for exploration during the first year.
 - Designed two new workshops: growth mindset workshop for promoting growth mindset in the classroom (previous workshops and course were aimed at promoting growth mindset in individuals); and facilitating office hours for use in TA training and related workshops.

Assessment and Evaluation

- Completed [evaluation of the experimental subject 6.S064 Circuits and Electronics](#) on edX. Evaluation included the integration of surveys, class records and registrar data from the spring 2017 offerings of 6.S064 and 6.002, as well as information gathered from interviews with students. A final report was submitted to the CUP.
- Collaborated with an external evaluation firm, Applied Curiosity, on a series of studies of OGE's efforts to develop communications-focused professional development opportunities for graduate students at MIT. In partnership with Applied Curiosity, a T+LL assessment and evaluation expert conducted assessments of two live-format offerings [communications-focused professional development opportunities](#) taught by Tony Eng, lecturer in electrical engineering and computer science (EECS). T+LL conducted focus groups on educational materials ([comics](#) and podcasts) and assessed a gamified version of an online class. The work produced a final report that included recommendations regarding communications-focused professional development; and considerations for graduate student professional development in general.
- Contributed to the CUP study group on the selection of major (lead by Professor Jeffrey Grossman) by conducting interviews with first-year students during AY2018. A set of 34 students was interviewed in both fall 2017 and the spring 2018. The goal of the interviews was to supplement the information obtained from a set of five surveys administered to a larger subset of first-year students, in order to gain a deeper understanding of the sources of information, processes and conditions that impact first-year students' decisions about their courses of major at MIT. Each interview was 35-40 minutes in length and centered on a small set of open-ended questions. The interviews were conducted informally in a conversational format. The transcripts of these interviews are currently being coded and analyzed.

- Conducted a program evaluation of IMPACT, an NIH-funded training program developed and implemented by Professor Martha Gray in EECS. The program provides training to fall and spring cohorts, each of which consisted of doctoral and post-doctoral students.
- Extended discussions of an evaluation of UROP to include the additional offices within the newly created OEL to ensure a streamlined evaluation process of the new office.

Notable Statistics / Data

In FY2018 T+LL received over \$160,000 in non-base funding for programs and projects, including:

- IMPACT Grant (funding for assessment and evaluation) \$32,882;
- Kaufman Teaching Certificate Program (funding from Vice President for Research \$28,672, and from OVC \$26,013);
- Dean’s Action Group for the Dissemination of Evidence-based Teaching Practices (funding from Association of American Universities (AAU) and OVC) – year two: \$20,000;
- 6.A01 Mens et Manus: Building on the Science Core FAS (instructor funding the biology course-based research module) \$18,325;
- Fly-by-Wire (funding for the Project Lead): \$17,850;
- Narrowing the Gap Study – Sloan (funding for administrative support and assessment and evaluation) \$24,109;
- Alumni Class Funds (funding for assessment & evaluation of faculty grants): \$5,963;
- TA Days (supplemental funding from OVC) \$1,300;
- D’Arbeloff Funds (funding for assessment and evaluation of faculty grants): \$1,171.

In addition, in FY2018:

- One staff member left T+LL and MIT;
- Two searches were opened and are underway;
- T+LL’s [DUET Speaker Series](#) brought national expert on stereotype threat to campus, Stanford University Professor Greg Walton;
- T+LL was visited by International contacts from 19 countries (Argentina, Cape Verde, China, Colombia, France, Germany, Iceland, India, Israel, Japan, Mongolia, Nigeria, Norway, Singapore, Somalia, Spain, Sri Lanka, Uganda, UK).

Awards / Recognitions

- Dr. Rudy Mitchell received an OVC Infinite Mile Award for his collaborative work with Genevive Filiault and Kathleen MacArthur in the Registrar’s Office on the CUP Study Group – Selection of Major Study.

New funds awarded in FY2018 (~\$130,000)

- Together with Mathematics Professor Gigliola Staffilani, T+LL submitted and received an MITx – Express Explorations grant (\$19,500) for: “Better blending, an example-based approach.” Funds will be used to create a suite of resources to support better-blended

learning experiences through interactive case studies and videos of real and simulated classrooms. The primary goals of the project are to:

- Increase the effectiveness of blended learning on the MIT campus;
 - Lower the barrier for new faculty to adopt blended learning;
 - Provide models of effectively facilitating interactive learning for TAs across MIT and beyond.
- Submitted and received a grant (\$9,850) from MindHandHeart to expand T+LL's efforts in promoting effective and inclusive teaching through the creation and dissemination of videos and supplemental resources to train teaching assistants, instructors, and faculty to use evidence-based classroom practices that promote growth mindset.
 - Received funding (\$90,000) for Project 180° - Flipping Failure, a campus-wide initiative designed to help build resiliency in the face of academic challenges by helping students see that their peers and faculty have struggled at some point academically and professionally, and by sharing strategies to help them overcome mistakes and failures. Using digital storytelling and an Institute-wide event celebrating challenges as part of the learning experience, the goal of Project 180° is to help students flip their view of struggle and failure, from something to be ashamed of to something that is normal and that can be a learning experience.
 - Received funding (\$12,000) for MITeaches: Inclusion, Resilience and Belonging, daylong set of workshops and activities to help MIT faculty, instructors, and teaching assistants teach for equity and academic belonging. In workshops throughout the day, participants will learn and share specific and actionable ways to support diversity and inclusion in classrooms and other academic environments across MIT. In partnership with other offices on campus, T+LL will offer seminars and workshops on: academic belonging, growth mindset, mitigating implicit bias and stereotype threat, as well as other topics tailored to fill specific, temporal needs of the MIT teaching and learning community.

Looking Ahead

- We are excited to work on the grants and projects funded in FY2018 (described above).
- In addition, we look forward to contributing to projects that serve the strategic priorities of the vice chancellor and advance T+LL's mission. Examples of this work include:
 - Support for initiatives related to first-year undergraduate advising;
 - Needs assessment of graduate advising practices with faculty and student perspectives;
 - Collaboration on the (re)design of advising interventions and the assessment their outcomes;
 - Collaboration on initiatives to enhance opportunities for graduate student professional development;
 - Support for the CUP experimental study to Evaluate Options for Promoting Exploration in the First-Year Undergraduate Experience;
 - Support for discussion of the evaluation of faculty contribution to teaching;
 - Additional projects planned for 2019 are described [here](#).

Undergraduate Advising and Academic Programming

The mission of the Office of [Undergraduate Advising and Academic Programming](#) (UAAP) is to provide excellent services and programs that catalyze student exploration and promote the academic success and personal development of undergraduates. UAAP programs enrich and support undergraduate education at the Institute, including:

- New Student Programming (e.g. Orientation) and first-year advising
- Undergraduate Research Opportunities Program (UROP)
- Committee on Academic Performance (CAP)
- Distinguished Fellowships
- Assistive Technology Information Center (ATIC)

Notable Data/Statistics

- 92% of the Class of 2021 was advised or mentored by faculty during their first year at MIT.
- In the fall 2017 semester, 12.3% of the Class of 2021 was flagged; 77% of flagged students recovered and passed their flagged subjects. In the spring 2018 semester, 14.6% of the class was flagged; 67% of flagged students recovered and passed their flagged subjects.
- 91% of Class of 2018 first undergraduate degree recipients participated in UROP at least once during their undergraduate years.
- Summer 2017-Spring 2018: 54% of the MIT undergraduate population participated in UROP, with 58% of UG women and 49% of UG men participating. In this same period, \$9.7M was allocated to support undergraduates engaged in UROP (\$4.6M of which was allocated directly from the UROP Program).
- ATIC lab space renovation helped staff collaborate more effectively, which has resulted in 109 reviews this year, including seven accessibility customer service reviews; two Usability and Accessibility Evaluations; 30 Usability Evaluations, and 70 Accessibility Evaluations—a 55% increase over last year, which underscores the need for a consistent accessibility policy at MIT.

Key Accomplishments

- Recognizing that both advisors and advisees most closely associate advising with “class picking” versus broader mentoring, goal-setting, and reflection, we worked with both advisors and advisees at the start of the year to encourage broader discussions about personal and academic goals. The effort was well-received.

- We have initiated several activities, including changes to our first year advising; a five-year meta-analysis of student survey data from Institutional Research; and a partnership with the UA, our Teaching and Learning Laboratory, and the MindHandHeart Department Support Project to catalyze change within departments. We are also looking forward to the recommendations of the First Year Experience Design class, as enhancing the first year has been identified as one of the three most important areas for improvement.
- UROP implemented a number of new programs to help students learn more about research opportunities at MIT. Staff offered targeted presentations and programming to first year students, first generation college students, and underrepresented minority students, and collaborated with departments to offer discipline-specific UROP programming.
- MIT had our first Mitchell Scholar in over a decade, and three Knight-Hennessy Scholars in its first year of offering.
- ATIC Lab Assistive Technology Consultations assisted 91 users (21 undergraduates, 21 graduate students, 44 employees, and five others), and facilitated 137 loans of hardware/software – primarily for RSI, learning disabilities, and temporary injuries.
- ATIC staff also actively engaged in course material conversions with 1,700 pieces of course materials converted into accessible formats for 9 students.
- ATIC staff have also worked diligently to advance the IT Accessibility Policy and Guidelines across MIT, including presenting to the IT Governance Committee and at subsequent meetings.

Awards / Recognitions

This year, MIT Distinguished Fellowships staff advised and mentored scores of undergraduates helping our students achieve numerous prestigious scholarship awards, including two Rhodes, three Marshall, one Mitchell, five Schwarzman (one withdrawing in favor of the Rhodes), three Knight-Hennessy Scholars (one withdrawing to accept a doctoral position at MIT), eight Fulbright, and one Gates Cambridge Scholarship.

Each spring, we present awards to celebrate the outstanding contributions of first year students, their advisors, and associate advisors, as well as those of outstanding UROP mentors.

2018 First Year Student Award Recipients

- **An Jimenez**, Performing Arts
- **Grace Moore**, Academics/Research
- **Iris Abrahantes Morales**, Leadership

- **Meghan Davis**, Service
- **Kelvin Green II**, Diversity & Culture
- **Kylie Gallagher**, Athletics
- **Keith Shepard**, Athletics

2018 First Year Advisor Award Recipients

- **Creative Advising Activity Award:** Dr. Paola Rebusco, Experimental Study Group
- **Outstanding Rookie Advisor Award:** Dr. Peter Kempthorne, Department of Mathematics
- **Alan J. Lazarus Award (1953) Excellence in Advising Award:** Professor Raul Radovitzky, Department of Aeronautics & Astronautics
- **Excellence in Mentoring Award:** Professor David McGee, Department of Earth, Atmospheric, & Planetary Sciences
- **Student Champion Award:** Professor Leon Glicksman, Department of Architecture
- **Innovative Seminar Award:** Professor Dennis Freeman, Department of Electrical Engineering & Computer Science

2018 Outstanding Associate Advisor Award Recipient

- **Sarah Stern, Class of 2019, Biology**

2018 Outstanding UROP Mentor Awards Recipients

- **Prof. Canan Dagdeviren** - Assistant Professor of Media Arts and Sciences, LG Career Development Professor of Media Arts and Sciences
- **Alex Hanson**, EECS Graduate Student, Research Lab for Electronics (RLE)

Looking Ahead

- Due to reorganization efforts within the OVC, UAAP is being disbanded and a new Office of the First Year is being created. Consequently, some UAAP programs are moving to other divisions/offices. ATIC is moving to the Dean for Student Life under the Office of Student Wellbeing and Support. The Undergraduate Research Opportunities Program office will join the new Office of Experiential Learning and Distinguished Fellowships will join Career Advising and Professional Development.
- First-year advising staff have provided support to the First Year Experience class and will be working closely with faculty and student leaders to implement recommendations and continue to enhance the first-year experiences of our undergraduates, including working with the FYE team to initiate pilots and experiments around exploration for the Class of 2022.

- Office of the First Year staff will also be expanding programming for early declared sophomores and choice of major selection.
- UROP goals for the coming year include: expanded programming and support, with particular focus on first year students, first generation college students, underrepresented minority students, and women in STEM fields. In addition, planning has begun for events in AY2020, which marks UROP's 50th anniversary.
- ATIC goals for the coming year include:
 - Having MIT approve an IT Accessibility Policy and Guidelines so that accessibility is integrated into planning for websites and IT applications;
 - Hosting presentations on assistive technology and productivity tools that can benefit students with or without disabilities; and
 - Increased outreach and presentations on web accessibility and accessible IT procurement to departments and campus groups.