# MIT Open Learning

MIT Open Learning (OL) reports to Professor Sanjay Sarma, the vice president for open learning and the Fred Fort Flowers (1941) and Daniel Fort Flowers (1941) Professor of Mechanical Engineering. It includes the following units:

- The Office of Digital Learning (ODL), which includes the Dean for Digital Learning (whose role encompasses leading Digital Learning in Residential Education, MITx, OpenCourseWare, MicroMasters, and the Digital Learning Lab, as well as MIT xPRO, Horizon, Bootcamps, and MIT Video Productions

- The MIT Integrated Learning Initiative, a cross-disciplinary, Institute-wide effort that fosters quantitative and rigorous research on teaching, learning, and education systems

- The Abdul Latif Jameel World Education Lab, which funds applied research on learning and convenes a global community of collaborators for sustainable, high-impact transformation in education

- Open Learning Research and Projects, which conducts applied research on learning via the Teaching Systems Lab and other projects

- MIT Open Learning supporting units, which provide functional support

The mission of MIT Open Learning is to transform teaching and learning at MIT and around the globe through innovative use of digital technologies. It fulfills this mission by:

- Supporting MIT faculty and students in bold experiments to enhance our residential education

- Promoting and enabling quantitative, rigorous, interdisciplinary research on teaching and learning

- Providing platforms for digital education

- Sharing research and best practices by convening and partnering with schools, universities, companies, nongovernmental organizations, and governments

- Extending MIT's knowledge and perspectives to the world

MIT Open Learning's goals are as follows:

- Enhance support for faculty, making it easier for them to experiment and succeed in online learning

- Continue to promote financial sustainability

- Continue innovation and agile operations while attracting, retaining, developing, and motivating staff and building community

- Support strategic initiatives, new research on teaching and learning, and innovation

- Enhance our ability to measure impact as a means of ensuring continual learning

## Highlights

The initial focus of AY2020 was convergence: leveraging the shared strength of Open Learning by developing new offerings that combine traditional products from OL business units and meet learner needs, building synergies across OL, and extending OL audiences. In the late winter, when the campus closed due to the Covid-19 pandemic, OL was instrumental in supporting MIT's efforts to bring all residential classes online to students who were now scattered across the globe, and in envisioning what MIT would look like post-pandemic.

## Responses of Open Learning Business Units to Covid-19

- Digital Learning in Residential Education played a key role in transitioning approximately 1,250 of MIT's normally residential classes online, to reach MIT students who could no longer attend classes on campus due to the pandemic. The team worked with Information Systems and Technology (IS&T) and the Teaching and Learning Lab to identify and implement needed tools, including Zoom, Slack, Piazza, Gradescope, and Canvas; developed resources and training for instructors, including the TeachRemote website, which provided curated information and an open forum site that allowed practitioners to share tips and ask questions; hosted numerous workshops and webinars; provided around-the-clock support for faculty; and identified and shared best practices through teaching vignettes. Additionally, Residential Education hired and trained 45 students as learning technologists over the summer months to work in departments across MIT helping faculty and instructors build Canvas sites for the fall semester. Residential Education also supported two lightboard studios and technology-enabled learning spaces and five classrooms with automated lecture capture to help faculty create classroom videos and arranged for online advanced standing exams.

- MITx ran an extra call for proposals to allow faculty to work rapidly to develop online modules. Overall, four proposals were funded. MITx also saw a sizable increase in enrollment in its courses during the pandemic, with over 780,000 enrollments from mid-March through the end of June.

- The Digital Learning Lab (DLL) was instrumental in bringing residential courses online and providing training sessions on best practices in remote learning, helping hundreds of faculty and instructors teach remotely for the first time.

- Bootcamps pivoted quickly, as in-person camps were no longer feasible and seven bootcamps needed to be canceled. The team worked with Engineering and Business Operations to develop and prototype an online bootcamp, launched as a pilot in April 2020. They also prepared to scale online bootcamps in FY2021.

- With the cessation of normal, on-campus activity, much of the regular role of MIT Video Productions (MVP) in supporting and capturing events also ceased. MVP pivoted and was instrumental in developing the technology and providing support for MIT's Institute-wide online events during the pandemic, including producing MIT's commencement ceremony and shows before and after the event entirely online, and hosting numerous Institute-wide events for students, faculty,

staff, and all members of the community. MVP also supported faculty producing videos for their remote teaching.

- The Abdul Latif Jameel World Education Lab (J-WEL) transitioned its normally in-person J-WEL Week to an online, extended format. The first event, held in March and April 2020, attracted more than 300 participants from 26 countries.

- The pK-12 Collaborative launched Full STEAM Ahead, an online resource hub that provides curated teaching and learning content to pre-Kindergarten through grade 12 students, teachers, and parents. Full STEAM—initially conceived as a resource for science, technology, engineering, arts, and math learning while in-person schooling was unavailable—included 10 custom-created interactive preK–12 learning packages as well as resources for higher education and workforce learning.

- Engineering and Technical Operations rapidly refocused its operations on supporting new needs due to remote and virtual work. The team quickly built a platform that supports online bootcamps and provided an integration of ProctorTrack, which was used for online advanced standing exams delivered via the Residential MITx platform. Also, they shifted hosting of videos to MIT's Online Video System, which allows worldwide viewing of content, and developed the open channel for TeachRemote that allows practitioners to exchange best practices.

- Business Operations conducted a zero-based budgeting exercise in the spring to update the FY2021 plan to account for the pandemic, added new sections to the OL website to provide resources for remote teaching to the world, and supported new procedures in finance, human resources, and space.

Additionally, various members of OL actively participated in and led campus-wide groups. Krishna Rajagopal, dean for digital learning and William A. M. Burden Professor of Physics, led the academic continuity working group on remote teaching and learning, and Sheryl Barnes, director of Residential Education, was an active participant. Sanjay Sarma served on the Team 2020 planning team. Also, Sarma and Rick Danheiser, chair of the faculty, kicked off Task Force 2021 and Beyond (which they will co-chair) to plan for MIT beyond the pandemic. Rajagopal, Lisa Schwallie, and Marine Brown are members of the task force, the former two co-leading working groups.

## Ongoing Operations of Open Learning Business Units

- Residential Education continued to operate the Residential MITx course platform, creating 100 course sites with 10,352 active MIT student enrollments. A total of 109 faculty taught these courses, and 99% of current MIT undergraduates have taken a class that used the platform. Also, Residential continued outreach with the MIT community through xTalks, the Festival of Learning, and the Teaching with Digital Technology Awards.

- MITx launched 114 online courses (12 new courses and 102 reruns) on edX. Nearly half a million unique learners from more than 200 countries enrolled in these courses. MITx also awarded grants for 21 funded projects in addition to four special Covid-19 grants.

- The Open Learning Library published 30 new courses, five of which are the first in which learners can access content without signing in. More than 6,000 unique users registered for Open Learning Library.

- OpenCourseWare (OCW) published 46 courses (22 new courses and 24 updates) and five new supplemental resources. Twelve of these courses had OCW Educator Instructor Insights pages, and five had full video lectures. With more than 5,800 videos and over 2.6 million subscribers, OCW's YouTube channel is the most subscribed .edu channel in the world. OCW began working on its next-generation platform, including a modernized mobile-responsive website, an enhanced user experience, and upgraded internal tools and workflows that will keep OCW a vibrant and current reflection of MIT's perspectives and pedagogy.

- MicroMasters continued to run its existing four programs (Principles of Manufacturing; Data, Economics, and Developmental Policy; Statistics and Data Science; and Supply Chain Management) and prepared for the launch of a fifth program, in finance, this autumn. Enrollment in these programs exceeded 850,000, with more than 12,000 individual course certificates awarded. A total of 1,051 learners earned MicroMasters credentials, and 63 graduated from the blended master's programs at MIT. New credit pathways were established with nine universities in five countries.

- The Digital Learning Lab expanded slightly to include six DLL scientists, 15 DLL fellows, and two DLL research fellows. DLL members worked with faculty to develop and run 75 massive open online courses (MOOCs), eight of which were new. Seven DLL members presented their work at five national and international conferences.

- MIT xPRO ran 45 public courses and programs and five small private online courses, enrolling over 14,000 learners. Of the public programs, eight were new, 37 were reruns, 35 were part of multi-course programs, and 10 were standalone. In addition, xPRO expanded its sales function and developed a customer success offering to support business-to-business (B2B) sales.

- Horizon is a new business-to-business subscription content library with content on emerging technologies. Horizon signed 18 new customers and completed four topic areas: Additive Manufacturing, Artificial Intelligence (AI), Robotics, and Cybersecurity. In addition, two new topic areas, Internet of Things and Augmented/Virtual Reality, were launched.

- Bootcamps delivered six camps (five in person and one online) that supported 154 participants. One bootcamp alum was admitted to MIT.

- Bootcampus began to explore ways to scale Bootcamps, both by offering bootcamps more broadly and by expanding services to mentorship.

- MIT Video Productions provided video support for 429 projects for 143 clients across the Institute. In addition, the team completed the documentary *From Controversy to Cure: Inside the Cambridge Biotech Boom* and supported numerous events across the Institute.

- MIT Integrated Learning Initiative (MITili) continued to advance the five-year Reach Every Reader program, convened the Science of Reading symposium with over 150 stakeholders, and expanded outreach.

- The Center for Advanced Virtuality completed seven projects, including an immersive art installation for the new Hip Hop Museum and a project (*In Event of Moon Disaster*) to illustrate the potential of deep fakes. Also, the center developed immersive learning on important subjects such as anti-racism, sexism, and misinformation.

- The Refugee Action Hub (ReACT) secured a gift to support the third cohort for the certificate program in computer and data science.

- The Abdul Latif Jameel World Education Lab increased its membership to 30 institutions. The October J-WEL Week attracted 130 attendees from 24 countries. In addition, J-WEL awarded 26 education innovation grants totaling $1.2 million.

## Research and Projects

- The Playful Journey Lab continued to support the Woodrow Wilson Academy of Teaching and Learning and conducted projects with funding from Schmidt Futures, J-WEL and other groups.

- The Projects group began work on CoLAB (Community Innovators Lab), supporting the Universidad Tecnologica del Uruguay (UTEC). Also, a team from Open Learning engaged with the government of Belize on the conceptual design of a Science Technology Engineering Art and Mathematics (STEAM) laboratory school.

## Open Learning Supporting Units

- Engineering and Technical Operations continued to support and enhance xPRO's online platform, launched seven new public channels on MIT Open, and began to develop a next-generation platform for OCW.

- The Business Operations group continued to support Open Learning with strategic planning, marketing, communications, finance, human resources, administration, and space.

- Resource Development brought in $4 million in gift revenue in FY2020. The group continued to lead Open Learning's work in the Campaign for a Better World and hosted the MIT Corporation in an open house in December.

## MIT Open Learning Finances and Funding

In FY2020 MIT Open Learning's revenues were $31 million, down from $45 million in FY2019. There was a $17 million decrease in gifts and investment income, from $21 million in FY2019 to $4 million in FY2020; the decrease was due in part to the J-WEL annual pledge expiring in FY2019 and in part to an increasingly challenging fundraising

environment during the pandemic. Conversely, external fees increased from $7 million in FY2019 to $9 million in FY2020. Non-degree tuition remained flat at $11 million, and provost funding was also flat at $13 million. Open Learning drew $3 million down on a loan from the provost to support the launch of Horizon.

Total expenses increased from $47 million in FY2019 to $50 million in FY2020. This increase was largely in staff, as MIT Open Learning continued to expand, primarily in MIT xPRO and Horizon. Non-personnel expenses were largely flat, as expenditures on travel, food, and office supplies ground to a halt in March with the stay-at-home orders, counterbalancing increases earlier in the year. Additionally, revenue distribution to faculty members, departments, and the Office of the Provost remained steady at $4 million, and departmental support remained at $10 million.

MIT Open Learning ended FY2020 with a net deficit of $2 million, as compared with a net surplus of $10 million in FY2019. The table below summarizes financial results for the year.

**Summary of FY2020 Open Learning Income and Expenses**

| Income or expenses | Total (in millions) |
|---|:---:|
| Sponsored revenues | $3 |
| External fees | $9 |
| Non-degree tuition revenues | $11 |
| Internal fees | $1 |
| Gifts and investment income | $4 |
| Transfers | $3 |
| **Total revenues** | $31 |
| **Total provost funding** | $16 |
| **Total income** | $47 |
| Salaries and benefits | $21 |
| Department support | $10 |
| Revenue distribution | $4 |
| Other expenses | $12 |
| **Total direct expenses** | $47 |
| **Total indirect expenses** | $3 |
| **Total expenses** | $50 |
| **Net surplus (deficit)** | -$2 |

## Staffing

Figure 1 shows the overall organizational structure of MIT Open Learning as of June 30, 2020. The leadership team is listed below.
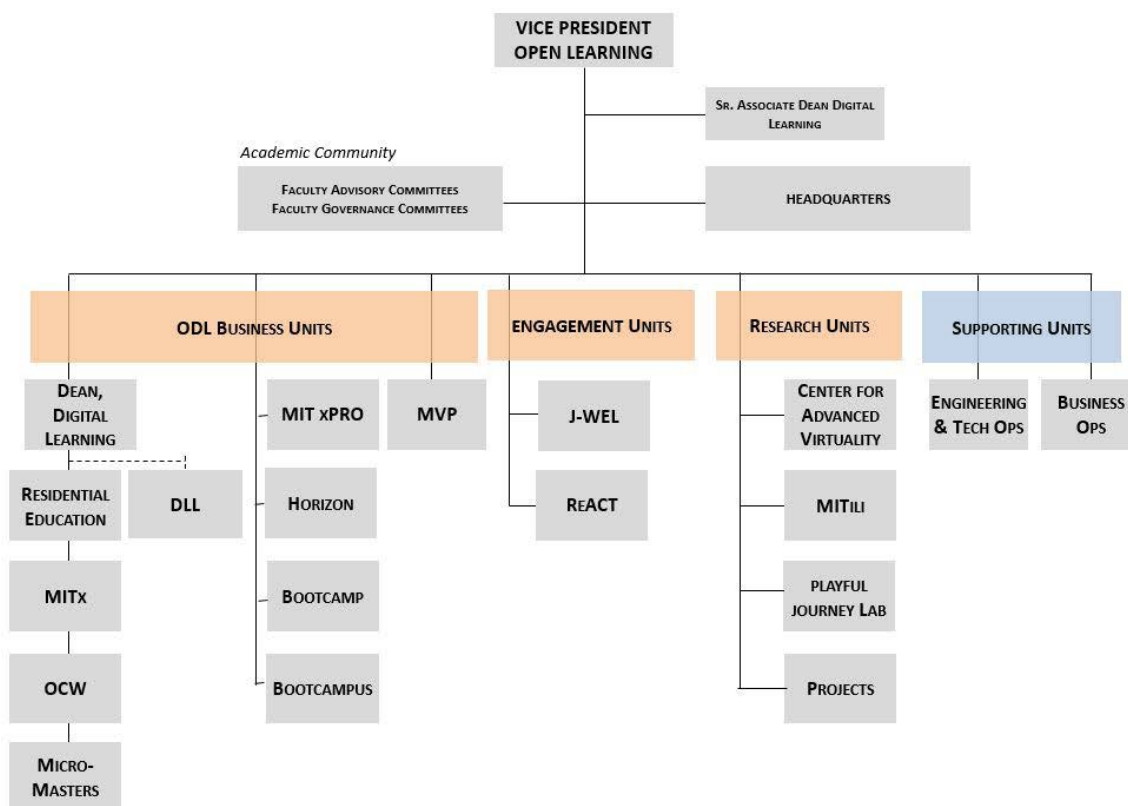
*Figure 1. Open Learning organizational structure as of June 30, 2020.*

## Open Learning Management Team as of June 30, 2020

Sanjay Sarma, Vice president for open learning

Krishna Rajagopal, Dean for digital learning

Isaac Chuang, Senior associate dean

Shigeru Miyagawa, Senior associate dean

Erdin Beshimov, Lecturer and senior director of Bootcampus

Vijay M.S. Kumar, Associate dean for open learning and executive director of J-WEL

Eric Klopfer, Director of the MIT Scheller Teacher Education Program

Ferdi Alimadhi, Director of Engineering

Lawrence Gallagher, Senior producer/advisor to the vice president for open learning

TC Haldi, Senior director, MIT xPRO

Lisa Schwallie, Executive director, Business Operations

Tom Smith, Senior director, Development and Strategic Initiatives

Across Open Learning, there were 30 hires for new positions in AY2020, six replacement hires, and five departures with no replacements in place.

## Office of Digital Learning

### Digital Learning in Residential Education

The mission of the Residential Education team is to empower MIT faculty to use digital technologies to augment and transform how they teach, with the goal of making MIT education more effective and efficient for degree-seeking students. We do this by collaborating with faculty to instigate, explore, test, and institutionalize pedagogical models that enhance on-campus and remote education through the use of digital technology.

Our key strategies are to:

- Support digital learning experiments at MIT with technical expertise, consultation, facilities, funding collaboration, and training

- Encourage wider institutional adoption of pedagogical approaches enabled by digital learning tools by capturing and sharing our faculty innovations

- Collaborate with faculty, departments, the Office of the Vice Chancellor, and others to encourage and enable faculty to use digital teaching and learning tools, to help departments grow their course production capacity, and to support mechanisms that leverage existing Institute resources and synergies with other initiatives across MIT

In pursuit of these strategies, Residential Education provides the following services:

- Science of learning, learning analytics, and blended course design consulting

- Support of experimental/innovative learning spaces including lecture capture and lightboards

- Management of the MIT-wide rollout of the Canvas learning management system and the Panopto video platform, provision of technical and pedagogical support for these new tools, and integrations with other tools (e.g., Zoom, Gradescope, Piazza)

- Outreach and events (e.g., xTalks, Festival of Learning, newsletter) to promote innovative teaching and learning practices

#### *Summary and Highlights*

The Residential Education group sustained success in supporting faculty use of the Residential MITx course platform, creating sites for 100 courses with 10,352 active MIT student enrollments. More than 100 faculty members taught these courses, and 99% of current MIT undergraduates have taken a class that used the platform. MIT educators have developed many kinds of sophisticated auto-graded online assessments—and more than 35,000 unique problems—for their on-campus students' homework, quizzes, and tests. Residential Education successfully sustained participation in its Institute-wide Festival of Learning, drawing 300 community members, including 40 to 50 faculty and instructors. It also continues to update the Residential Digital Innovations section on the Open Learning website, which now highlights 90 cases of innovative teaching practices at MIT, 16 of which relate to remote teaching. Beginning in March 2020, the Residential Education team (together with colleagues in IS&T) took a leadership role in the rollout of the Canvas platform as an update to the Stellar system, which has been in use at MIT

for more than a decade. In addition, multiple other tools were rolled out and supported at the MIT-wide level in support of remote teaching and learning.

### Accomplishments

During AY2020, key accomplishments in support of residential education included:

- Worked closely with the academic continuity working group, and especially with the Teaching and Learning Lab and IS&T, to support all spring 2020 MIT classes in the emergency transition to remote teaching and learning, including the rollout of two key websites (http://teachremote.mit.edu/ and https://open.mit.edu/c/teachremote) and a number of tools and supports

- Led the MIT-wide transition from Stellar to the Canvas learning management system in conjunction with colleagues in IS&T

- Hosted five xTalks in fall 2019 with approximately 100 attendees, of whom one quarter were faculty/instructors

- Supported lecture capture in five classrooms and assisted those self-recording from home

- Supported 137 Residential courses on the ODL Video Service with 2,200 videos

- Managed Open Learning's Teaching with Digital Technology Awards, which are co-sponsored by the Office of the Vice Chancellor

- Contributed learning sciences, instructional design, and learning analytics expertise to foster teaching innovation for 15 MITx grants

- Facilitate the Science of Learning journal club in collaboration with MITili

- Developed five learning sciences and learning analytics projects with DLL and other groups

- Successfully collaborated with faculty and staff at the Sloan School of Management on implementing the school's flipped classroom model

- Supported two lightboard studios and an innovative technology-enabled learning space and its infrastructure
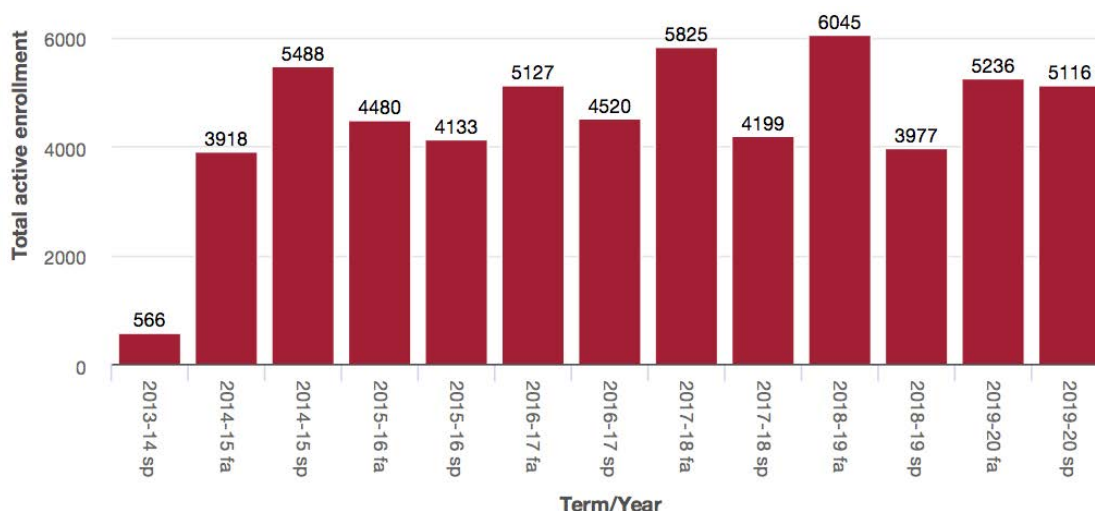


*Figure 2. Use of the Residential MITx platform for MIT courses: AY2014–AY2020.*

## MITx

MITx on edX is the Institute's interactive learning initiative that offers online versions of MIT courses on the edX platform, a collaboration in online education between MIT and Harvard University. MIT instructors teach MITx courses to learners around the world. MITx courses feature multimedia and video content, sophisticated auto-graded online problem sets similar to those encountered by MIT students, embedded quizzes with immediate feedback, online laboratories, and peer-to-peer discussion forums. The opportunity to learn from MITx courses is available for free to all learners. Learners who wish to demonstrate their mastery can verify their identity and then earn certificates of completion after paying a fee and, typically, successfully completing summative assessments.

The MITx platform is also used in on-campus MIT courses to bring advanced digital learning technologies to residential education. These digital learning resources have become even more important to MIT students and faculty as MIT has pivoted to remote teaching and learning. MITx residential modules support online assessments with rapid feedback, active learning classrooms, flexibility in course delivery, and other emerging teaching and learning innovations. More than 35,000 unique problems on the Residential MITx platform have appeared in MIT students' homework, quizzes, and tests. Many faculty develop digital learning content first on the Residential MITx platform to support the learning of their students and later, building upon this experience and student feedback, transform their course for use on edX by global learners.

### *Summary and Highlights*

- Offered 12 new MOOCs and 102 MOOCS that had been offered in prior semesters. We enrolled 1,387,336 learners from more than 200 countries, among whom 129,322 explored more than 50% of the course (or courses) in which they enrolled.

- Provided additional support for 22 small private online courses and Digital Learning Solutions courses.

- Generated $5.5 million in revenue through ID-verified certificates and licensing arrangements ($5.4 million from ID-verified certificate fees and $123,000 from MicroMasters comprehensive final exams); $209,000 of the $5.5 million (part of the revenue from the Data, Economics, and Development Policy MicroMasters and CCx) was transferred to edX.

The cumulative worldwide impact of MITx since its inception in 2012 is as follows.

- Total enrollment (clicked enroll): 9.7 million (4.1 million unique learners)
- Total participation (viewed courseware): 5.4 million
- Total exploration (viewed more than half of a course): 849,000
- Certificates earned: 236,000

### *Covid-19 Impact on Enrollments and Identification and Verification Certificate Purchases*

There was an increase in enrollments and identification and verification certificate purchases since mid-March that we believe is related to the Covid-19 pandemic.

Learners may have registered due to their own schools closing, having more free time due to quarantines, and/or a desire to prepare for a new job. Week-by-week increases in both enrollments and certificates were remarkable, with each increasing by about 50% in a single week in early April. Between March 1 and June 30, we had 787,122 enrollments in MITx courses and 61,837 purchases of certificates, as compared with 345,348 and 16,462 during the same period last year.

### *Goals and Objectives*

- Refine methodology for supporting faculty, centered around customized support and course strategies

- Help to pilot the MIT Open Learning Library in conjunction with OCW

- Develop synergies and improve efficiencies and communications with other Open Learning units, the MIT community, and external resources

### *Accomplishments*

- Held three calls for proposals for the MITx Grant Program, resulting in 25 funded projects from 48 proposals submitted by 16 academic departments and programs

- Launched 30 MIT Open Learning Library modules in conjunction with OCW and piloted the Open Access feature

**New MITx on edX Courses: AY2020**

| Course | Title | Instructor(s) |
|---|---|---|
| 6.86x | Machine Learning with Python: From Linear Models to Deep Learning | Regina Barzilay, Tommi S. Jaakkola |
| 8.02.3x | Electricity and Magnetism: Maxwell Equations | Robert P. Redwine, Krishna Rajagopal, Kerstin Perez |
| 14.750x | Political Economy & Economic Development | Abhijit Banerjee, Benjamin A. Olken |
| DS.CFx | Capstone Exam in Statistics and Data Science | Devavrat Shah |
| 11.304x | Site Planning Online | Gary A. Hack |
| 4.464x | Sustainable Building Design | Christoph Reinhart |
| 15.480x | The Science and Business of Biotechnology | Andrew W. Lo, Harvey F. Lodish |
| 0.SolveX | Business and Impact Planning for Social Enterprises | Admir Masic |
| 0.503x | Becoming a More Equitable Educator: Mindsets and Practices | Justin Reich |
| DS.PAx | Statistics and Data Science—Assess Your Readiness | Devavrat Shah |
| 21L.010x | Global Shakespeare: Producing the Merchant of Venice | Diana Henderson |
| 8.03x | Vibrations and Waves | Yen-Jie Lee, Boleslaw Wyslouch |
| 11.S198x | Cybersecurity for Critical Urban Infrastructure | Lawrence E. Susskind |
| 11.550x | Leveraging Urban Mobility Disruptions to Create Better Cities | P. Christopher Zegras |
| 2.02.2x | Mechanics of Deformable Structures: Part 2 | David Moore Parks |

Additionally, MITx offered 90 previously run modules, for a total of 137 reruns in FY2020. These modules were from Courses 2, 3, 4, 6, 7, 8, 10, 11, 12, 14, 15, 16, 17, 18, 20, 21G, 22, 24, Comparative Media Studies/Writing, and the Center for Transportation and Logistics. Twenty-four of these rerun courses were associated with MicroMasters programs, and 15 were first-year science, technology, engineering, and mathematics (STEM) courses.

### Administrative Accomplishments

- An MITx team was presented the MIT Infinite Mile Award. According to the selection committee, "This incredible team supports MIT faculty in making MITx MOOCs, going beyond delivering what people need, building trust and relationships."

- Jace Kirschner, a senior educational technologist, was added to the MITx team.

- Lana Scott transitioned from manager of MITx Media Services to assistant media development director/media services manager of MITx.

- Doug McLean transitioned from MITx senior media specialist to MITx assistant media services manager.

### Service and Support

- MITx held a faculty Special Interest Group event to bring the digital community together to share best practices and innovations.

- Shira Fruchtman worked on research on engagement in self-paced versus instructor-paced courses. In addition, Fruchtman provided expert assistance on the residential pilot of ProctorTrack.

- MITx released a special grant call for rapid development projects to respond to current world issues (the call for proposals included mention of the global pandemic and systemic injustice) and funded four projects.

- MITx collaborated with the Alumni Association to begin offering all MIT alumni a 15% discount on MITx courses.

- The MITx Media team designed new studio protocols for the Covid-19 era by turning the Jupiter conference room into the new Open Learning studio. In addition, the team created at-home filming equipment kits, support documentation, and training services. These kits and the support provided by the Media team allow MIT faculty who are working from home to continue building their MOOCs and to develop videos for asynchronous use in their MIT teaching.

### Professional Development

- Mary Ziegler presented "Where Accessibility Meets Accommodations in Online Learning" with MIT associate dean Kathleen Monagle at the 2019 Association for Higher Education Equity and Excellence Conference.

- Lana Scott and Brad Kay Goodman participated in the Susan Vogt Leadership Fellows Program.

- Lana Scott spoke in a panel discussion and delivered one of three keynote presentations, "Finding Our Way: MIT and Teaching in the Time of Corona," at the Virtual Media and Learning Conference in June.

### *MITx Faculty Advisory Committee*

The purpose of the MITx Faculty Advisory Committee (FAC) is to provide oversight and guidance for MITx courses. The committee:

- Offers clear guidelines on topics related to MITx and is responsive to the MIT faculty with regard to MITx governance

- Provides oversight on subjects or modules produced for MITx, including consideration of benefits to MIT residential education, department strategies, and sharing of a broad and diverse cross section of the best of MIT with learners around the world

- Promotes innovative approaches to an MIT education, including evaluating new approaches proposed for MITx courses and experiments in digital learning and helping MITx bring innovative digital learning to the education of MIT students

The committee's chair is Hazel L. Sive, professor of biology. Members are as follows:

- Bill Aulet, professor of the practice, Sloan School of Management

- Martin Bazant, professor, Department of Chemical Engineering

- W. Craig Carter, professor, Department of Materials Science and Engineering

- Isaac Chuang, professor, Department of Electrical Engineering and Computer Science, and senior associate dean of digital learning

- Michael Cuthbert, associate professor, Music and Theater Arts

- Rick Danheiser, chair of the faculty and professor, Department of Chemistry

- Denny Freeman, professor, Department of Electrical Engineering and Computer Science

- Caspar Hare, professor, Department of Linguistics and Philosophy

- Shigeru Miyagawa, professor, Department of Linguistics and Philosophy; Kochi-Manjiro Professor of Japanese Language and Culture; and senior associate dean for open learning (ex officio)

- Krishna Rajagopal, professor, Department of Physics, and dean for digital learning (ex officio)

- Brent Ryan, associate professor, Department of Urban Studies and Planning (DUSP), and head of the City Design and Development Group

- Jessica Sandland, digital learning scientist and lecturer, Department of Materials Science and Engineering (ex officio)

- Sanjay E. Sarma, professor, Department of Mechanical Engineering, and vice president for open learning (ex officio)

- Susan Silbey, Leon and Anne Goldberg Professor of Humanities, Sociology and Anthropology; professor of behavioral and policy sciences, Sloan School of Management; and chair of the faculty

- Pawan Sinha, professor, Department of Brain and Cognitive Sciences

- Iain Stewart, professor, Department of Physics

- Ian Waitz, professor, Department of Aeronautics and Astronautics, and vice chancellor (ex officio)

- Mary Ellen Wiltrout, digital learning scientist and lecturer, Department of Biology (ex officio)

## OpenCourseWare

MIT OpenCourseWare provides free open-licensed educational materials from across the MIT curriculum, sharing the full spectrum of teaching in all five MIT schools and 33 academic units. OCW now has material from over 2,550 courses and supplemental resources, creating a resource of unparalleled depth and breadth. Educators use it for teaching and curriculum development, while students and self-learners draw upon the materials for self-study or supplementary use.

### Summary and Highlights

#### Publication Highlights

OCW published 46 courses (22 new courses, 24 updates) and five supplemental resources, 11 with full video lectures and 18 with OCW Educator Instructor Insights pages, including five new video interviews. In addition, we processed or cleared 1,750 intellectual property objects during the year.

OCW publication metrics as of June 30, 2020, are as follows.

- Courses on OCW website: 2,482

- Supplemental resources on OCW website: 71

- Full video lecture series: 150

- Exemplary (partial) video lecture series: 64

- Total sites with audio or video lectures: 230

- Open textbooks: 73

- Courses with Instructor Insights content: 225

- Courses with Instructor Insights video interviews: 34

- Courses archived in DSpace: 1,125

OCW FY2020 new publications by school are listed below.

- Architecture and Planning: four courses

- Engineering: seven courses, one supplemental resource

- Science: 17 courses, two supplemental resources

- Humanities, Arts, and Social Sciences: 15 courses

- Sloan: one course

- Other: two courses, two supplemental resources

The OCW Educator podcast Chalk Radio, featuring interviews with OCW-involved faculty about their teaching, launched in February 2020.

### Use and Impact Highlights

During the past year, the OCW website had 22.5 million visits from over 11 million unique users. Beginning with the declared public health emergencies and school shutdowns on March 13, traffic to OCW rose dramatically. During April visits were up 75% globally, with traffic from some countries up well over 100% (see Figure 3).
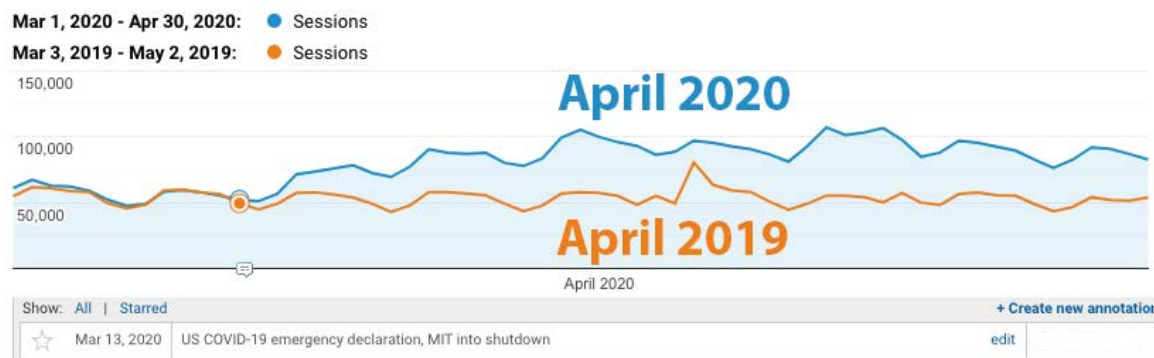


*Figure 3. OCW website daily visits, March and April 2020 versus March and April 2019.*

With more than 2.5 million subscribers, OCW has the most subscribed .edu channel on YouTube. OCW's 6,100 YouTube videos have been viewed nearly 230 million times since November 2007, with overall viewing exceeding 1.3 billion minutes (see Figure 4).



*Figure 4. Total views of OCW videos on YouTube and total subscribers.*

Professor Patrick Winston's videotaped lecture "How to Speak," a supplementary resource on OCW, has been viewed more than 2.2 million times in the nine months since its release.

A total of 430 mirror drives has been shipped to institutions that lack reliable Internet service.

### NextGen OpenCourseWare

The design and development of NextGen OCW continued during FY2020 with engineering and senior learning systems designer Daniel Seaton. This work included strategy, prototyping, user experience design, and legacy content migration. The new platform, expected to be released in FY2021, will include a modernized mobile-responsive website, an enhanced user experience, upgraded content authoring tools, and streamlined workflows.

### Goals and Objectives

OCW's formal goals for FY2020 included the following:

- Publish courses and supplemental resources from across the MIT curriculum and include substantial video content in at least 15% of each publication

- Produce OCW Educator Instructor Insights for at least 25% of new courses and launch podcasts featuring interviews with MIT faculty about their teaching

- Continue to refine workflows and teamwork, as all content authoring and course maintenance are done by in-house OCW staff

- Ensure that content and the website comply with accessibility requirements, including video captions and screen reader best practices

- Collaborate with OL Engineering to maintain OCW's existing technical infrastructure and support incremental site enhancements until the next-generation platform is developed

- Maintain responsive outreach programs in user feedback, awareness building, and support of under-resourced populations

- Build on annual giving, corporate underwriting, and capital campaign programs

### Other Accomplishments

#### OCW Educator

Through a portal webpage and publications (Instructor Insights), OCW Educator shares MIT teaching approaches and helps education professionals navigate the vast library of open educational resources available through OCW.

Key results over the past year include the following:

- Published 18 Instructor Insights sections (three updates), five of which had new video instructor insights. One section also included insights from a student and teaching assistant.

- Produced and released the 11-episode first season of Chalk Radio, OCW's podcast about inspired teaching at MIT. Episodes were downloaded over 90,000 times on podcast platforms and heard more than 105,000 times on YouTube.

- The OCW Educator portal received over 215,000 visits, with 480,000 page views of Instructor Insights content.

- The senior manager for Open Educator and Strategic Initiatives continues to collaborate with MITx to create MITx Educator content for the MITx YouTube channel and MOOCs.

### Open Learning Library

Consistent with its publication mission, OCW has begun producing new Open Learning Library (OLL) courses from Residential MITx source content. These "OLL-by-OCW" courses have the OCW Creative Commons license and are discoverable on the OCW website search and browse interfaces. The first OLL-by-OCW course was published in August 2020.

### Technology

The OCW website and publishing infrastructure (e.g., content management system) is maintained by the Open Learning engineering team. This year, the team changed the global content delivery network service from Akamai to Fastly as a cost savings measure and upgraded content sync technology for mirror drives from rsync to AWS.

### Content Maintenance

The OCW program includes a range of ongoing content maintenance tasks:

- Maintaining course lists on the featured topics of energy, entrepreneurship, environment, introductory programming, life sciences, and transportation

- In previously published courses, identifying and repairing broken hyperlinks to readings and other off-site resources

- Periodically refreshing featured courses on the website home page, department pages, and course list pages

- Adding and maintaining links to related MITx and OLL courses on OCW course home pages to promote content from other open learning projects

### Communications and Outreach

OCW has a substantial external communications program with contributions from many staff. In FY2020, we:

- Sent 103 emails to an average of 137,000 subscribers with a 24% open rate (an increase of 2% from FY2019) and a 2.2% click-through rate (an increase of 0.4% from FY2019)

- Created 22 posts for the OCW blog, viewed over 118,000 times

- Processed more than 5,300 user feedback inquiries

- Engaged social media users on Facebook and Twitter (486,000 and 201,000 followers, respectively) and a new Instagram channel (4,000 followers)

### *Administrative Initiatives*

OCW continued to refine its work processes to maximize productivity, content quality, and user satisfaction. For example, methods and tools were improved to manage collective responsibility for pre-publication quality assurance as technical production staff are no longer available for this role.

Driven by the Covid-19 pandemic, the team adapted to 100% work from home beginning in mid-March. In response to the time and schedule challenges faced by several OCW staff who are parents of school-age and younger children, the team stepped up its flexibility and collaborative spirit to ensure that course production and publication stayed on track.

Staff changes during the year were as follows:

- Stephanie Hodges was hired as a data systems specialist.

- Elizabeth DeRienzo was promoted from publication manager to senior publication manager.

- Sarah Hansen was promoted from OCW Educator project manager to senior manager for Open Educator and Strategic Initiatives.

- Brett Paci's title was changed from video production manager to media production manager.

### *OCW Faculty Advisory Committee*

OCW's Faculty Advisory Committee meets twice per year, advising on policy, sustainability, and relations with the MIT faculty and academic departments. In FY2020, the committee focused on plans for NextGen OCW and the possibility of an experiment with more open forms of Creative Commons licenses.

Committee members in FY2020 were as follows:

- Hal Abelson, Class of 1922 Professor, Electrical Engineering and Computer Science

- Noam Buckman, graduate student, Mechanical Engineering

- Eric Grimson (chair), professor of computer science and engineering and chancellor for academic advancement

- Valerie Karplus, assistant professor, Sloan School of Management

- Eric Klopfer, professor and section head, Comparative Media Studies/Writing, and director of the Scheller Teacher Education Program

- Vijay Kumar, associate dean for open learning and J-WEL executive director (ex officio)

- Antonella Masini, undergraduate student, Mechanical Engineering

- Haynes Miller, professor, Mathematics

- Shigeru Miyagawa, senior associate dean for open learning and professor, Linguistics and Philosophy (ex officio)

- Caitlin Mueller, assistant professor, Architecture and Civil and Environmental Engineering

- Krishna Rajagopal, dean for digital learning and professor, Physics (ex officio)

- Jeffrey S. Ravel, professor, History

- Michael Short, associate professor, Nuclear Science and Engineering

- Hazel Sive, professor, Biology, and J-WEL faculty director of higher education

### MIT Open Learning Library

The MIT Open Learning Library is a selection of archived MITx courses, course materials from OpenCourseWare, and teaching materials developed by MIT faculty for our students on the Residential MITx platform. The OLL platform is built on OpenEdX, meaning that we can incorporate the interactive auto-graded assignments that are the hallmark of MITx courses and of what we offer MIT students via the Residential MITx platform. Everything in OLL is available to the public at no cost for an unlimited period. The OCW material in the Open Learning Library takes advantage of the OLL platform's capabilities versus the OCW platform. The purpose of this project is to broaden our reach and better realize our mission of sharing MIT with the world. OLL does not offer any certification or live support for learners.

Courses on the site originating from MITx retain much of the same functionality, although some features and tools have been removed to better suit publication as a library resource. Most notably, features such as the discussion forums, open response assessments, and downloadable versions of videos will not be included. As for MITx courses on edX, however, Open Learning Library learners will be able to do auto-graded assessments and keep track of their progress as they work their way through a course.

This year we piloted open access for some courses. Until this year, learners needed to register in order to access all material—this registration made it possible for them to track their progress. Starting in April 2020, several courses are now open access, meaning that learners can view and interact with the material without registering or logging in but will not be able to keep track of what they have completed.

### MicroMasters

### Summary of Accomplishments

- Continued to run the existing four programs (Supply Chain Management [SCM]; Data, Economics, and Development Policy (DEDP); Principles of Manufacturing; and Statistics and Data Science) and successfully launched a new program in finance. Enrollments in these programs exceeded 850,000 learners. More than 12,000 individual course certificates were awarded, along with 1,051 MicroMasters credentials. Thirty-nine SCM and two Principles of Manufacturing MicroMasters credential holders graduated from their corresponding MIT master's programs (22 DEDP credential holders will graduate from MIT in August 2020).

- Built 35 new credit pathways with nine schools from five countries and one new pathway program with an existing pathway school.

## *Goals, Objectives, and Priorities*

- Ensure a successful launch of the MicroMasters program in finance

- Support faculty and departments in developing new MicroMasters programs

- Build interdepartmental synergy on sharing best practices in running MicroMasters

- Collaborate with marketing and departments to drive MicroMasters enrollment

- Enhance MicroMasters global credit pathway success and build new credit pathways for the MicroMasters program in finance

- Seek new business opportunities through units within and outside OL, including B2U for bulk opportunities

- Further enhance the MicroMasters ecosystem through collaborations across MIT teams and leveraging of global partners and explore opportunities to bring employers into the ecosystem

- Explore collaborations with other OL revenue-generating units on shared market strategies

- Facilitate implementation of alumni affiliate status for MicroMasters credential holders and leverage the opportunity to earn this new status to increase learner engagement and credential completion

- Systematically explore opportunities for convergence between MicroMasters and Bootcamps; the Leadership Academy for Scientists, Engineers, and Researchers (LASER) program; and Horizon

- Generate market intelligence from course survey analyses and portal discussion forums

### Digital Learning Lab

The MITx Digital Learning Lab is a joint program between MIT Open Learning and MIT's academic departments. The lab is composed of scientists and fellows who play a critical role in advancing digital learning initiatives across MIT by working closely with faculty. Lab members are experienced subject matter experts in their various fields who are also well versed in the latest teaching and learning theories and technologies.

Digital Learning Lab scientists generally hold lecturer appointments and serve as leaders within their departments in developing a digital learning strategy alongside faculty. They manage a team, often including one or more DLL fellows (who are typically postdoctoral scholars), that seeks to develop and deliver innovative digital content as MOOCs for a global audience and in residential courses. Digital Learning Lab members also facilitate general advances in online learning through tool development, educational research, and other projects. The lab currently has two PhD candidates under Professor Isaac Chuang; they hold the title of digital learning research fellow.

Members of the Digital Learning Lab work together as a community to support and share innovations across MIT as well as externally. The DLL community meets biweekly to share updates, best practices, and trends and to hear from guest speakers from MIT and beyond. They also support each other in developing tools and techniques for course development. The Digital Learning Lab is at the center of a larger community that includes others at MIT whose work intersects with digital learning and who participate in the biweekly meetings.

### Digital Learning Lab Scientists

Ana Bell, Department of Electrical Engineering and Computer Science

Jennifer French, Department of Mathematics

Jessica Sandland, Department of Materials Science and Engineering

Simona Socrate, Department of Mechanical Engineering

Michelle Tomasik, Department of Physics

Mary Ellen Wiltrout, Department of Biology

### Digital Learning Lab Fellows

Alex Shvonski, Department of Physics

Aidan MacDonough, Department of Physics (junior fellow)

Monika Avello, Department of Biology

Darcy Gordon, Department of Biology

Meghan Perdue, School of Humanities, Arts, and Sciences

Kristin Kurianski, Department of Mathematics

John Liu , Department of Mechanical Engineering

John Harrold, Department of Materials Science and Engineering

Joey Gu , Department of Chemical Engineering

Cosmo Grant , Department of Linguistics and Philosophy

David Grimes , Department of Chemistry

Inma Borello, Center for Transportation and Logistics

Karene Chu, Institute for Data, Systems, and Society

Aditi Joshi, Department of Mechanical Engineering

Arnav Sheth, Sloan School of Management

### Digital Learning Lab Research Fellows

Curtis Northcutt, Department of Electrical Engineering and Computer Science

Martin Segado, Department of Mechanical Engineering

### *Goals and Objectives*

The mission of the Digital Learning Lab is to partner with MIT academic departments to learn, collaborate, and innovate with digital learning on campus and beyond. Overall goals are as follows:

- Support academic departments in developing and deploying digital learning strategies that include both residential and global initiatives

- Lead the development of innovative course content and tools that faculty can use on campus and in MOOCs

- Conduct and publish research that advances MIT's mission to advance education through technology

- Create a robust MIT digital learning community by conducting biweekly meetings, hosting and participating in talks and presentations around campus, and sharing best practices and innovations

DLL's major objectives and priorities during FY2020 were:

- Add new Digital Learning Lab positions in key departments around MIT

- Build DLL's reputation as an organization and grow a robust community of practice

- Support professional development and career advancement for fellows and scientists

- Continue to create and deliver innovative digital course content both on campus and for global learners

### *Accomplishments*

- Worked with faculty to develop and run 75 MOOC modules (eight were new)

- Supported 10 DLL members in attending national and international conferences or special training programs, with five of them presenting their work while attending

- Submitted a set of collaborative research projects to the 2020 American Educational Research Association annual meeting that, although not accepted, continue to be developed further

- Participated in and helped to shape a full-day lab retreat that included sessions on conflict management, communication, and what skills DLL members need to develop

- Continued to hold an ex officio membership on the MITx Faculty Advisory Committee (held this year by Jessica Sandland), which allows DLL to have more voice in the direction and strategy of MITx

Importantly, since March 2020 Digital Learning Lab scientists and fellows have been playing critical central roles in supporting faculty and departments as MIT has turned abruptly toward fully remote learning and teaching. DLL members utilized their

expertise in digital learning to rapidly develop training and resources to support faculty and instructors, running dozens of workshops and helping hundreds of faculty and instructors teaching remotely for the first time.

Led by Sheryl Barnes, who directs Open Learning's Digital Learning in Residential Education group, MIT has largely pivoted to using Canvas as its learning management system. This was made necessary by the transition to remote learning (and the inadequacies of Stellar, MIT's 20-year-old learning management system) and was executed with exceptional speed over two months rather than the two-plus years that this would have taken in normal times. Many DLL scientists and fellows were critical to this effort, as they were rapidly able to come up to speed themselves and then ran Canvas workshops within their own departments.

Departments that have members of the Digital Learning Lab working within their communities have relied upon their expertise and their efforts in new and multiple ways since March. Their value to MIT was not in doubt, but it has become apparent to many faculty, including department leaders, who previously had had little interaction with them or with digital learning.

## MIT xPRO

MIT xPRO develops and delivers online, fee-based programs targeted to adult learners who wish to expand their knowledge and build their skills primarily in the context of professional education. MIT xPRO was formed in spring 2015 in response to market demand for MIT professional education, especially in rapidly changing technology and business disciplines, where MIT is recognized as a leader.

### *Goals, Objectives, and Priorities*

- Launch a new MIT xPRO platform

- Grow the product portfolio, developing and launching six new online courses

- Increase the number of rerun courses

- Grow the sales function (B2B)

- Explore channel and distribution partnerships

- Generate $13.0 million in gross revenues from B2B and business-to-consumer (B2C) sales

- Collaborate across the Institute to develop integrated, interdisciplinary offerings

- Support the Online Professional Education Governance Committee

- Pursue customer-driven product development processes

### *Accomplishments*

- Transitioned off of the edX platform and created a new platform so that MIT xPRO could own the entire end-to-end customer experience; also built out new business capabilities and functions, including a marketing site, e-commerce engine, accounts receivable, customer support, and contracts.

- Launched nine new online courses generating 5,212 enrollees and approximately $2.7 million in gross revenue: US Navy Model-Based Systems Engineering for Program Managers; Drug and Medical Device Development; Understanding Organizational Strategy and Capabilities (developed in partnership with Boeing); Negotiating and Applying Influence and Power (developed in partnership with Boeing); Leading Change in Organizations (developed in partnership with Boeing); Discovering and Implementing Your Leadership Strengths (developed in partnership with Boeing); Machine Learning, Modeling, and Simulation Principles; Applying Machine Learning to Engineering and Science; and Negotiating to Create Value: The Mutual Gains Approach.

- Piloted four new online courses developed in partnership with Boeing. The purpose of the pilot was to collect customer insights on course content and learner experience. The pilot was run with select learners from Boeing, Refinitiv, Global Foundries, Standard Chartered, J Crew, and Disney.

- Reran 41 existing online courses that generated 9,339 enrollees and approximately $6.4 million in gross revenue.

- Hired our first sales rep, who closed $1.5 million in B2B deals.

- Signed a translation deal with Global Alumni.

- Generated $9.1 million in total gross revenue with 14,600 enrollments and a 94% certificate completion rate.

- Worked with Sloan and the Department of Urban Studies and Planning to develop and pilot the LASER program.

- Pursued customer-driven product development processes based on learner assessment instruments and customer feedback loops.

### Horizon

MIT Horizon is a B2B subscription content library that helps large organizations educate their workforces on emerging technologies such as AI, additive manufacturing, and blockchain. We offer customers up-to-date, accurate educational content together with an enterprise-friendly platform, usage analytics, ongoing user engagement support, and various professional services to ensure their success.

Content is developed for both technical and non-technical learners and focuses on micro-assets (e.g., articles, videos, podcasts) that our customers can stack into custom educational paths or courses. Although much of MIT Horizon's content is developed in-house, we also license and include content from a number of MIT publishers (e.g., The MIT Press, the *Sloan Management Review*, and MIT xPRO).

This is the first product of its kind from a university and fills an important unmet need in the corporate learning market. We continue to believe that the market and our product can support a run rate of $50 million or more per year and generate substantial profits for MIT while expanding the Institute's educational reach to millions of working professionals.

MIT Horizon started in August 2018 and launched its beta product in June 2019.

### Goals for FY2020

- Continue to validate the product and market opportunities

- Sign 15 new customers

- Establish a path to break even in FY2022

- Reach $1 million in annual recurring revenue (missed due to Covid-19 demand reduction)

- Complete 200 educational content assets

- Launch product to 50,000 learners (missed due to Covid-19 demand reduction)

### Accomplishments

- Signed and launched with 18 new customers (up from three in FY2019), including Accenture, the Central Intelligence Agency, Aetna, Cisco, P&G, BJ's, and Raytheon. We have since launched with nine more.

- Launched two new products: Horizon Plus (a collection of intermediate-level educational videos from MIT xPRO) and Expert Sessions (short faculty/expert-led virtual learning events).

- Completed four topic areas (Additive Manufacturing, AI, Robotics, and Cybersecurity) and launched two new areas (Internet of Things and Augmented/Virtual Reality).

- Expanded our content partnerships with The MIT Press, the *Sloan Management Review*, and MIT xPRO.

- Established internal partnerships to provide Horizon accounts to over 2,000 students and participants in MIT programs including MIT Solve, the MIT Innovation Initiative, MIT Professional Education, MIT Bootcamps, and J-WEL.

- Increased our annual recurring revenue from $40,000 to $400,000, with commitments to reach over $800,000 in quarter one and a goal of crossing $3 million in FY2021.

- Scaled back expansion plans in response to Covid-19, although we still remain on track to break even in FY2022 per our original projections. Covid-19 caused many customers to accelerate their internal launch but slowed new sales from March through June. We anticipate that demand will now be strong through 2021.

## Bootcamps

The MIT Bootcamps programs educate innovators worldwide on new technology, innovation, and entrepreneurship techniques developed and taught at MIT. A combination of synchronous and asynchronous delivery is used to create a rigorous and immersive learning environment that connects students globally. Since 2014, approximately 1,300 students from countries worldwide have created more than a hundred ventures that have raised over $70 million. Covid-19 made FY2020 a year of transition for MIT Bootcamps, shifting our focus from in-person to virtual programs.

### *Summary and Highlights*

FY2020 was set to be another big year for program innovations at MIT Bootcamps. In addition to maintaining and growing our core open admissions and private Bootcamps, we also had plans to launch new Bootcamp collaborations across MIT and introduce Guided Hackathons as a new innovation program. Covid-19 shutdowns forced us to postpone or cancel seven in-person programs between March and June 2020 and accelerate development of fully online bootcamps.

In fall 2019, MIT Bootcamps ran five new programs. In response to Covid-19 shutdowns, Bootcamps ran a pilot online innovation leadership bootcamp that ran for 10 weeks between April and July 2020. This successful pilot is the basis for future bootcamps, two of which will launch in October 2020: the MIT Innovation Leadership Bootcamp and the MIT–Harvard Medical School Healthcare Innovation Bootcamp. Open Learning Engineering developed a new marketing and admissions platform to support this transition to fully virtual bootcamps.

### *Goals and Objectives*

- Further develop collaborations across MIT with designX and IDM (MIT Bootcamps canceled two in-person bootcamps for FY2021 on future cities with designX and design with IDM)

- Further develop private programs for companies (Aetna/CVS Health), universities, and other customers (the Al Ghurair Foundation bootcamp was postponed and will be held in FY2021)

- Launch a "next-level" bootcamp for scaling ventures with MIT Sloan/Asia School of Business faculty

- Introduce new innovation programs such as the Guided Hackathon (Reykjavik, Iceland) and the Future of Learning Symposium (São Paulo, Brazil)

- Develop new Bootcamp curricula on impact entrepreneurship and systems change entrepreneurship (currently being piloted)

- Transition to fully online bootcamps

- Publish a book on the MIT Bootcamps approach to coaching (delayed to FY2021)

### *Accomplishments*

- MIT Sport Entrepreneurship Bootcamp, Sinsheim, Germany (1,174 applicants and 68 participants)

- MIT Venture Scaling Bootcamp, Cambridge, MA (986 applicants and 50 participants)

- Future of Learning Symposium, São Paulo, Brazil (200 participants)

- MIT-Aetna MiniBootcamps, Cambridge, MA (23 participants)

- Iceland Airwaves Guided Hackathon, Reykjavik, Iceland (20 participants)

- MIT Innovation Leadership Bootcamp, online pilot (13 participants)

## MIT Video Productions

MIT Video (MVP) Productions provides media production and publication services for academic programs, departments, and Institute initiatives in support of education, research, and outreach. MVP offers a variety of services on a cost-recovery basis, including video production, virtual event support, and post-production, in support of the MIT community.

### *Summary and Highlights*

In FY2020, MVP continued to provide video services to MIT's departments, labs, and centers; however, the disruptions to Institute operations and needs due to Covid-19 had a significant impact on MVP's cost recovery model. MVP pivoted to support online and virtualized services for academic needs as well as critical communications for MIT.

- We provided more than 12,000 billable work hours in support of 429 projects to 143 unique MIT community clients.

- We pivoted to supporting a remote and virtualized Institute for teaching and communications.

- We developed virtualized services for events to support ongoing MIT community needs, including the online commencement.

MVP storytelling and marketing content continued to provide opportunities to engage with a wide variety of clients. Highlights included a high-profile collaboration on the completion of MVP's documentary *From Controversy to Cure: Inside the Cambridge Biotech Boom*, a series of videos on the General Institute Requirement with the School of Science, Interphase 50 with the Office of Minority Education, a Title IX video for MIT Human Resources, a Woodie Flowers tribute video, and the McDermott Award video for the Center for Art, Science & Technology.

### *Goals and Objectives*

- Provide creative media services in support of MIT and Open Learning mission objectives including virtual services for capture and delivery of online content

- Groom an agile and efficient team of videographers, producers, and editors to produce client content on a timely and cost-effective basis

- Strengthen and build new relationships and collaborations with communication staff throughout MIT toward a common objective of having our collective work reach desired audiences, including alumni, potential applicants, funders, faculty members, the Institute community, peer institutions, and the greater global community

### *Accomplishments*

MVP continued to provide reliable, valued, and high-quality video production services to clients throughout the Institute. MVP pivoted this March to support many high-profile virtual events as the Institute moved to virtualized delivery of education and remote learning. Over the past year, MVP:

- Supported the capture of online and remote teaching for Courses 5, 6, 7, and 14

- Supported the delivery of 3.5 million minutes of streaming content to users from 192 different countries, with 117,736 unique views

- Completed the documentary *From Controversy to Cure: Inside the Cambridge Biotech Boom*

- Delivered video production services for MIT's first virtual commencement exercise with over 67,000 views

- Supported communication of MIT town halls to the remote MIT community

## MIT Integrated Learning Initiative

The MIT Integrated Learning Initiative (MITili) funds, connects, and shares research on learning effectiveness. This research ranges from scanning the brains of individual learners to improve assessment and instruction (Department of Brain and Cognitive Sciences) to applying large-scale data analytics aimed at guiding education policy decisions (Department of Economics). Studies address questions at the learner, instruction, and policy levels across one or more of three broad demographics: birth through preK–12, higher education, and workforce learning.

### Summary and Highlights

- Reach Every Reader: MITili drove Reach Every Readers' social media and external communication development and expansion. In a short timeframe, we are now able to reach thousands of readers and those interested in the science of reading.

- Playful Journey Lab: MITili secured funding from the Schmidt Futures Foundation to help develop a preK–12 re-engineering plan; a key outcome was helping fund the new Playful Journey Lab in fall 2019.



11 Research projects funded

≈$1.5M awarded

12 Affiliated faculty members
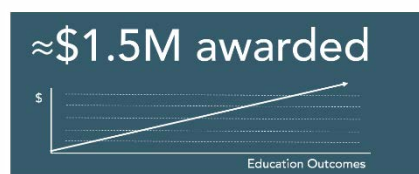
- Learning effectiveness research grant program: MITili is helping fund research in the Department of Brain and Cognitive Sciences through funding to Professor John Gabrieli's lab and in the Department of Economics through the School Effectiveness and Inequality Initiative.

- Expanded outreach: MITili is expanding outreach through conference presentations and co-sponsorships, membership in industry affiliations, and website/social media communications.

## Goals and Objectives

- Drive and support corporate, foundation, and government fundraising

- Lead and participate in the projects outlined below

- Publish frequently to the MITili website, social media, and email lists and attend and present at relevant conferences

## Accomplishments

- Reach Every Reader: MITili was instrumental in helping Reach Every Reader develop an external communication plan, securing vendors, and driving the rollout of the website and social media platforms. Reach Every Reader is currently reaching thousands of interested stakeholders in the field of literacy and assessment.

- Science of reading: Along with convening more than 150 stakeholders in literacy, including research scientists, practitioners, parents, and students, we published several Q&A blog posts with our many literacy experts. We also worked with Associate Professor Cynthia Breazeal from the Media Lab to finalize her work on computational modeling dialogic co-reading interactions to improve child-parent conversational turn taking. This work draws on MITili director John Gabrieli's study on the importance of conversational turn taking.

- Consortium for Advancing Adult Learning and Development: MITili continued to participate in this McKinsey-convened "new interdisciplinary network of leading thinkers and doers drawn together by the possibility of re-imagining how businesses and society approach adult learning and growth."

- Digital Learning Consortium: MITili continued to participate in this IBM-convened group, addressing elements of its mission to "agree on open standards to make things simple and interoperable among designers, vendors, content and delivery systems to influence the rest of the learning industry to align with them."

- Expanded outreach: MITili published to its website, social media, and email newsletter list. For example, we added 93 new articles and 47 new blog posts to our website. Also, we sent nearly 300 tweets to approximately 1,000 followers, posted content for our 614 Facebook followers (a total of 278 posts), and delivered 12 issues of our newsletter to 469 list members.

## Center for Advanced Virtuality

The MIT Center for Advanced Virtuality (MIT Virtuality) pioneers innovative experiences using technologies of virtuality—computing systems that construct imaginative experiences atop our physical world. Our approach to engineering and creative practices pushes the expressive potential of technologies of virtuality and simulates social and cognitive phenomena while intrinsically considering their educational, social, and cultural impacts. We support both creative projects and research endeavors through four components: studio, laboratory, salon, and hub.

The Center for Advanced Virtuality is directed by Professor D. Fox Harrell (Computer Science and Artificial Intelligence Laboratory and Comparative Media Studies) and includes affiliated faculty, researchers, graduate students, staff, and other affiliates.

### Accomplishments

### *Advisory*

We have convened powerful groups of advisors, including an advisory board (consisting of industry and academic experts), an advisory council (made up of philanthropic supporters and advocates), and a steering committee (consisting of MIT internal experts).

### *Projects*

- Immersive learning and cultural institutions: Focused on conversational narrative modeling and automated personalization, we have created an immersive art installation called *The [R]evolution of Hip Hop Breakbeat Narratives* in The Bronx that takes museum-goers on an interactive journey through the history of hip hop. Using a computational model of users' preferences and artificial intelligence technologies to drive interaction, the team of artists and computer scientists from MIT Virtuality collaborated with Microsoft and the Universal Hip Hop Museum to create customized virtual experiences for each visitor. In addition, we co-convened a virtual conversation with museums and institutions around the country including Tribeca, the Lincoln Center, the Universal Hip Hop Museum, and the MIT Museum. We discussed how to reach the public in innovative ways during a pandemic and reimagined the experience post-pandemic. Finally, we collaborated with Open Learning Bootcamps to plan the MIT-Grafenegg Forum on Art & Technology (postponed due to Covid-19).

- Synthetic media and combating misinformation: Led by Francesca Panetta, we created an art installation called *In Event of Moon Disaster* that aims to empower the public about deep fake technology with an alternative history of the moon landing. This project has won several awards, including the 2019 Special Jury Award for Creative Technology in the IDFA (International Documentary Film Festival Amsterdam) DocLab Competition for Digital Storytelling. It was a selection at the Cannes Film Festival, the Tribeca Film Festival, the Future of Storytelling Summit, and more (some of these events were postponed or held virtually due to Covid-19). Also, we have prepared an online curriculum on misinformation and deep fakes for use in higher education. Finally, we launched

the online version of *In Event of Moon Disaster*. Nearly one million people have watched the film in full or in part, and 83,000 have actively engaged on the website, which includes the film and contextual materials.

- Virtuality and social impact: Our anti-bullying and anti-aggression initiative, Project VISIBLE, is focused on creating, evaluating, and deploying a research testbed and experience for users to learn positive and productive sociability. Our aim is to produce both a novel simulation model and a prototype as a proof of concept. With respect to anti-racism, our Passage Home VR system models how people are socialized to perceive race. It both assesses how people are socialized to think about race and acts as an intervention to make people aware of bias. In addition, our Grayscale system addresses workplace sexism and has been built into OpenCourseWare.

- Virtuality and social distancing: We collaborated with Nieman to create Corona Diaries, an open source of audio stories from around the world where people can document the pandemic through personal stories.

- Virtuality and health: We are developing a novel virtual reality interface that allows educators to create immersive three-dimensional audio reconstructions of patient experiences. Medical students will experience the world as patients with specific diagnoses, increasing their understanding of distinctions between psychiatric diagnoses and empathy for patients.

### Selected Grants and Support

- A major gift from an Institute donor to support student engagement and research endeavors in addition to operating costs.

- A grant from NCSOFT for Project VISIBLE.

- A J-WEL higher education grant for Teaching Media Literacy in the Age of Deepfakes.

- A J-WEL preK–12 grant for Virtual Reality (VR) for PK-12 Anti-Bias Education.

- A grant award from Rutgers Biomedical and Health Sciences for innovations in education and teaching. The grant was jointly submitted by MIT Virtuality, Rutgers University, and Illinois State University.

### Student Engagement

- Served as a mentor to the VR/AR Club

- Advised the VR/AR Club on the recently released AR graduation app

### MIT Course Support

- 4.S52/CMS.627/CMS.827 Virtuality and Presence

- 2.S972 Making Virtual Reality and Immersive Experiences

## Refugee Action Hub

Since 2017, the MIT Refugee Action Hub (ReACT) has offered innovative blended learning programs for refugees and other forcibly displaced communities around the world. ReACT works closely with MITx and MIT faculty and students to combine online courses with in-person workshops focused on entrepreneurship, innovation, maker labs, and professional development. ReACT also partners with businesses and international organizations to provide students with paid, mentored internships. These opportunities create new professional pathways to complement the educational bridges that ReACT's programs build. ReACT currently offers a certificate program in computer and data science as well as tracks in a growing number of MITx MicroMasters programs.

Over the past year, ReACT:

- Engaged in ongoing partnership conversations with Open Learning and J-WEL

- Initiated conversations with multiple potential global collaborators and funders

- Secured a major gift to launch the third cohort for the certificate program in computer and data science

- Held an online graduation ceremony for the second computer and data science cohort, conferring certificates to 28 learners

- Hosted a virtual MIT Solve event on refugee education

- Launched applications for the third computer and data science cohort

## Abdul Latif Jameel World Education Lab

Established in May 2017, the Abdul Latif Jameel World Education Lab promotes excellence and transformation in education worldwide by leveraging MIT's educational innovation, practice, and research. J-WEL engages with educators, policymakers, societal leaders, employers, and employees through online and in-person collaborations, workshops, information-sharing events, and strategic projects to develop individual and institutional capabilities and capacity among our member organizations. Member organizations work with MIT faculty and staff to address global opportunities for scalable change in education through collaboratives for preK–12 education, higher education, and workforce learning.

### Organizational and Programmatic Capabilities

In FY2020 we refined our approach to member engagement, developing new programs and benefits supplemented by strategic use of wider Open Learning resources. We expanded our ability to engage with our members online, initially through planned webinars and workshops in the latter half of 2019 and then on an emergency basis in early 2020 as we transitioned a planned in-person J-WEL Week event to an online event we called J-WEL Connections.

## Events and Member Recruitment

J-WEL's membership has continued to grow, increasing from 25 at the end of FY2019 to 30 at the end of FY2020. New members include iPeople Inc. (Philippines) in preK–12, the Central University of Technology (South Africa) in higher education, and AB-InBev/ Anheuser Busch (Belgium) in workforce learning.

In FY2020, J-WEL hosted the following events and programs to engage with members:

- Our fifth J-WEL Week in October 2019, which brought together 130 representatives of member organizations from 24 countries. In March 2020, due to Covid-19, J-WEL made an emergency transition from our planned in-person J-WEL Week to J-WEL Connections, a five-week online event attended by more than 300 individuals from 26 countries.

- Two exchange/workshop programs: the two-week in-depth Blended Learning by Example online workshop (which attracted 30 participants) and an in-person workshop addressing 21st-century skills, Human Skills: From Conversations to Convergence (which drew 75 attendees). Three other planned workshops were canceled due to Covid-19.

J-WEL also held 15 webinars, more than double the number offered in FY2019. The webinars were recorded and archived on our website.

## MIT Community Involvement

J-WEL involves the MIT community in two primary ways: as presenters at J-WEL events and through our education innovation grant programs. More than 100 members of the MIT community participated in the J-WEL Week and J-WEL Connections held in FY2020. Also, J-WEL Week external participants visited programs across the campus such as BioBuilder and AppInventor, and the Edgerton Center.

## Education Innovation Grant Program

In FY2020, our three collaboratives awarded a total of $1,247,227 in grants ($389,733 through the pK-12 Collaborative, $423,716 through the Higher Education Collaborative, and $433,778 through the Workforce Learning Collaborative). The pK-12 Collaborative funded seven projects, including Michael Cima's Community for Partners in Invention Education (C4PIE). The Higher Education Collaborative funded 11 projects, including Teaching Media Literacy in the Age of Deepfakes, led by Professor Harrell. The Workforce Learning Collaborative funded eight projects, including Augmented Reality Instruction for Hands-on Manufacturing Skills, headed by Professor John Liu.

## Full STEAM Ahead

In spring 2020, J-WEL provided operational and financial support to launch Full STEAM Ahead, a hub of teaching and learning resources for K–12, workforce learning, and higher education, as a rapid response to the pandemic.

In the early days of the pandemic, Professor Eric Klopfer suggested the creation of an online resource hub with highly interactive hands-on learning. In just a few weeks,

the core team built the Full STEAM site in consultation with Cambridge public school teachers to meet state data privacy and security requirements. Content includes interactive programming languages such as Scratch and MIT App Inventor, high-quality videos from MIT BLOSSOMS, and course material such as OCW Highlights for High School.

During each of the 10 weeks between mid-April and late June, Full STEAM released a new themed learning package on topics such as spread of disease, artificial intelligence, and making music and sounds. During the 10-week release, the website received 130,000 page views from 45,000 unique learners in 150 countries.

## Initiatives Supported through Membership

### *Transforming Refugee Education towards Excellence*

In September 2018 we announced a major new initiative with J-WEL member Save the Children, Transforming Refugee Education towards Excellence (TREE), which aims to tackle education systems across the Middle East that are strained as a result of the conflict in Syria. TREE seeks to improve Jordanian teachers' well-being through the use of practical approaches that incorporate compassion and empathy into education-based systems thinking, drawing on the work of Peter Senge and Mette Miriam Boell. While some of the work of the TREE project was disrupted by the Covid-19 pandemic, Senge and Boell have continued teacher professional development activities.

### *CoLAB*

In May 2018, CoLAB, an alliance of Uruguayan educational organizations, launched a new program to build data science capacity in Latin America. The Program in Data Science includes online courses from MITx and several Uruguayan universities, synchronous online activities facilitated by J-WEL staff, and on-site workshops run by J-WEL and the MIT International Science and Technology Initiatives.

J-WEL successfully supported the first generation of program learners, demonstrating the efficacy of the model. In the first MOOC course, Probability: The Science of Uncertainty and Data, 57 of 58 learners successfully met the course requirements. In the second course (in the MicroMasters Program), Data Analysis for Social Scientists, students in the program finished with an even more impressive 100% completion rate. All 58 students who enrolled completed the course, despite most of them being employed full time and facing many of the same hurdles that drive low completion rates in most MOOCs.

At the completion of the work of the first generation of students, J-WEL transitioned support for the program to the Institute for Data, Systems, and Society, which has been running a similar program in Peru.

## Open Learning Research and Projects

### Playful Journey Lab

The MIT Playful Journey Lab aims to explore and research new forms of assessment with the goal of understanding the ways we can strengthen measurement of future-

ready skills for the 21st-century economy. Through the design of digital and non-digital tools, the lab conducts design-based research with learners and practitioners and a growing community of passionate educators. During FY2020, the lab included three researchers, three designers, one technologist, and two master's students.

### *FY2020 Goals and Objectives*

- Research and publish evidence on the science of learning implemented in the Woodrow Wilson Graduate School of Teaching and Learning

- Develop, validate, and disseminate embedded assessment tools for middle school maker curricula in collaboration with J-WEL

- Develop and validate the game-based Shadowspect assessment system and expand its usability by including teacher data visualization tools with support from the National Science Foundation

- Lead learning engineering meetings within the MIT preK–12 community to articulate the values and practices of learning engineering

- Present our work widely at conferences and other scholarly venues

- Develop new partnerships to disseminate our work more broadly

### *Accomplishments*

- We expanded the work of embedded assessment in making in collaboration with JWEL by helping Hong Kong STEM Camp teachers implement innovative assessment in STEM education. This work has been synthesized as a self-led online module.

- We have published all of our embedded assessment in making tools.

- Our game-based assessment system, Shadowspect, has been expanded to incorporate interactive data visualization tools for teachers.

- We just finished our five-year partnership with the Woodrow Wilson Academy of Teaching and Learning, and we have completed a white paper that illustrates how MIT has been applying sciences of learning principles in the implementations of the academy's curriculum.

- We presented our research at various domestic and international conferences including the American Educational Research Association annual meeting, the International Learning Analytics and Knowledge Conference, FabLearn, and the International Conference of the Learning Sciences.

- In collaboration with other faculty principal investigators such as Eric Klopfer and Cynthia Breazeal, the Playful Journey Lab will participate in the newly launched AI curriculum project with the Dubai Heights Academy.

- In collaboration with John Gabrieli and his lab, the Playful Journey Lab has developed a game-based assessment prototype that measures young adolescents' executive functions in stressful and non-stressful conditions as an illustrative example of MIT's learning engineering approach. The prototype was play tested through the peak of the Covid-19 lockdown and continues to be refined.

## Projects

The Projects team supports initiatives between MIT and other universities, foundations and trusts, nongovernmental organizations, and national governments in their efforts to advance and transform educational opportunity through digital learning. Through these initiatives, MIT is furthering its mission to advance learning worldwide.

### *Summary and Highlights*

In FY2020, the Projects group focused on three international efforts that shared MIT's expertise and approach to teaching and learning with K–12 students and teachers, university students, and faculty and lifelong learners. Projects promoted MIT's unique approaches to learning with several international audiences, as described below.

### *CoLAB*

CoLAB is a collaboration primarily involving Centro Ceibal and the Universidad Tecnológica del Uruguay in Uruguay to create a community of data scientists in the region and build capacity to teach data science at UTEC and other Uruguayan universities. Projects provides support for learners concurrently enrolled in a UTEC master's degree program and the MITx Statistics and Data Science MicroMasters program. The project involves workshops focused on data science, entrepreneurship, and study strategies as well as MIT-led recitation sections to support individual learning in the courses that make up the MicroMasters program. The initial cohort of 58 learners, with the support of Projects-led recitation sessions, completed three of the four required courses in the MITx program offered during FY2020 with a 96% pass rate.

### *STEAM Lab School*

With the Belize Ministry of Education, Youth, Sports & Culture, Projects developed a conceptual design for a new STEAM lab school in Belize. The lab school is envisioned as a combined high school and technical/vocational school in Belize City that will serve up to 300 students in four forms (grades), with enrollment beginning in 2022. Projects and the J-WEL preK–12 collaborative team conducted site visits and hosted a co-design workshop to collaboratively develop the implementation plan to design and build the school.

### *Open Learning Scholars*

Open Learning Scholars (OLS) is a collaboration between MIT and the Abdulla Al Ghurair Foundation for Education aimed at expanding access to and use of STEM digital learning environments for learners worldwide. The goal is to make some of the best STEM education in the world available to Arab youth through innovative online and blended learning offerings. OLS is leveraging digital (online) learning, especially for displaced populations, with an initial focus on the professionally focused MIT MicroMasters program. Projects has completed support for American University in Cairo and American University of Beirut faculty using course materials from sub-licensed MITx courses (6.00x, 7.00x, 7.28x, and 18.03x). Over the two-year period of the

project, MIT Open Learning supported 1,196 learner seats. In addition, the program supported the Al Ghurair Foundation's efforts to provide scholarships for MITx Supply Chain Management and Data, Economics, and Developmental Policy MicroMasters learners from the Arab world.

### *FY2020 Goals and Objectives*

- Execute on existing projects (CoLAB and Open Learning Scholars)
- Identify (and execute) new digital learning projects, including the STEAM lab school, in support of J-WEL, Open Learning, and the Institute
- Integrate science of learning findings into project activities

## Supporting Units

### Engineering and Technical Operations

The Engineering and Technical Operations group develops and maintains the technology infrastructure that supports the development and delivery of digital learning content and tools. The group also consults internally with other Open Learning units on technical matters.

During AY2020, the Engineering and Technical Operations team:

- Launched a completely revamped MIT Bootcamps website to support a rapid transition to online bootcamps due to the Covid-19 pandemic.
- Upgraded and expanded Residential MITx systems to support remote students and faculty during the pandemic. Also, we added support for virtual proctored exams to replace advanced standing exams.
- Expanded the ODL Video Service site, allowing faculty to record dozens of additional lectures before they were forced to leave the campus due to the pandemic.
- Launched seven new public channels on MIT Open, including Teach Remote, to build community among MIT instructors during the pandemic. We also added a new podcasting feature that provides the only complete listing of all podcasts across MIT.
- Delivered over 15,000 certificates to 27,000 learners on MIT xPRO across 59 courses and eight programs.
- Completed an integration between MicroMasters and the MIT Alumni Association, bringing alumni benefits to hundreds of MicroMasters credential earners. Also, we added a fifth MicroMasters program to the MITx MicroMasters portal.
- Exported all 2,140 OCW courses from the legacy content management system and began designing a new platform.
- Contributed code to Open edX to improve functionality and fix bugs.
- Maintained and upgraded bi.odl.mit.edu, including support for the new Bootcamps site.
- Presented our work at the September 2019 DevOps Days conference.

## Business Operations

Business Operations includes finance and accounting, human resources, marketing, communications, customer service, space, media strategy, and general administration. It provides support for the other sections of MIT Open Learning with respect to defining and implementing strategic, operational, and organizational improvements and facilitating ongoing operations. It also collaborates across the Institute to ensure that MIT Open Learning's work is in accord with MIT best practices and policies and that it aligns with the Institute's broader purpose.

Key accomplishments include the following:

- Continued strong delivery of services, including budgeting and finance, human resources, marketing, communications, customer service, space, and administration, to a growing organization

- Developed and improved scaling systems including HubSpot for customer relationship management, ZenDesk for customer service, and SalesForce for sales management and accounts receivables

- Provided extensive support during the pandemic, including zero-based budgeting for FY2021 in light of new revenue projections; new areas in the OL website to highlight resources for remote teaching; support for the launch of the Full STEAM website, which provides preK–12 resources for remote teaching; serving as the liaison to manage all access to our space during the campus shutdown, including working with the Institute to develop new protocols for studio shooting; and communication of new human resources, financial, and space policies to MIT staff

- Supported the execution of more than 60 legal agreements (e.g., membership agreements, sales contracts, termination of agreements)

- Supported emerging initiatives including MIT Open, xMinor (a series of undergraduate courses taken for a certificate), ReACT, and the Center for Advanced Virtuality

## Resource Development

Resource Development provides leadership in and complete operations of gift and revenue generation as well as donor relations. We work closely with the vice president for open learning, colleagues across Open Learning, and key faculty to develop and execute plans to secure support from individuals, foundations, corporations, and other organizations. The unit serves as a central coordinator and information source on all development activities. It also oversees the Strategic Initiatives unit within Open Learning, incubating new initiatives under the supervision of the vice president for open learning.

### *Summary and Highlights*

- Secured $4,402,337 in gift revenue

- Led Campaign for a Better World efforts for Open Learning

## Accomplishments

- Continued to drive the OCW and MITx annual giving programs. OCW brought in $430,814 with more than 2,412 donations. MITx raised $45,557 from 769 donations. Both programs participated in the Institute's fourth annual 24-Hour Challenge, garnering a total of 625 individual gifts from 576 donors.

- Drafted and submitted numerous proposals for prospective and current donors and foundations.

- Hosted scores of campus visits in addition to hosting and coordinating a range of donor- and alumni-facing events, including a salon on workforce learning, preK–12 working groups and retreats, the MIT Corporation visit, the Festival of Learning breakfast, and the first Open 2020 Working Group meeting. Digital events included two preK–12 network webinars, the OCW NextGen virtual playtest, and a ReACT virtual roundtable.

- Coordinated with Vice President for Open Learning Sanjay Sarma, OL team leaders, the Corporation office, and the administrative team to plan for and host the MIT Corporation visit, which included 35 Corporation members and led to connections with potential collaborators and supporters.

- Created a comprehensive OL brochure for the MIT Corporation visit and future distribution.

- Worked with Professor Breazeal to initiate a joint effort on AI and education among OL, the Media Lab, and the MIT Stephen A. Schwarzman College of Computing and launched aieducation.mit.edu.

- Initiated conversations with the MIT Industrial Liaison Program about apprenticeships.

- Created an alumni-facing preK–12 network with J-WEL. The first webinar welcomed 30 participants, and the second webinar on Full STEAM Ahead attracted 35 attendees.

- Drafted and submitted an application to the Reimagine Education Awards. The Supply Chain Management MicroMasters program was recognized with the regional prize and as the best distributed program for nurturing 21st-century skills.

- Led OL participation in #ShutDownAcademia and shared a statement of solidarity with donors.

- Served on the Branding Working Group, selected a brand agency, and delivered key collateral and data to assist the agency in its research on OL. In addition, we helped revise and refine the brand architecture for the next iteration.

## Administrative Accomplishments

- Continued to grow awareness of OL by distributing monthly newsletters to donors and staff from Resource Development, the Alumni Association, and school development offices. Monthly newsletters maintained steady open and click-through rates.

- Coordinated and collaborated with the associate director of communications to draft and publish several learner stories and blog posts highlighting the impact of OL programs.

- Continued improvement of stewardship efforts with donors, sending more than 2,800 acknowledgment letters, and continued digital annual and midyear impact reports, custom photobooks, and donor impact reports.

- Launched a new MITx webpage and supported MITx social media outreach with community engagement posts.

- Supported OL awareness with the OL social media planning group.

- Worked with Resource Development to gather more data on MIT alumni enrolled in MITx courses.

- Collaborated with the MIT Alumni Association on the 24-Hour Challenge and on regional events, along with alumni clubs in NYC and Austin.

**Sanjay Emani Sarma**
**Vice President for Open Learning**