

## Department of Architecture

In 1865, William Robert Ware, the first professor of architecture at MIT, wrote: “It is the aim of this School to do what it can, in its day and generation, to ensure that the Architecture of the future shall be worthy of the future.” This timeless mission statement has guided the [Department of Architecture](#) for over a hundred and fifty years and has helped us bring scholarship, research, and design to bear on the world’s great challenges.

Our highly ranked programs include master of architecture (MArch); master of science in architecture studies (SMArchS); master of science in art, culture and technology (SMACT); master of science in building technology (SMBT); and doctor of philosophy (PhD), with concentrations in building technology, design and computation, or history, theory, and criticism. Undergraduates can earn a bachelor of science in architecture (BSA or 4A) or a bachelor of science in art and design (BSAD or 4B). They can minor in the following: architecture; design; history of art, architecture, and design; and art, culture and technology. This academic year, the BSAD began accepting majors.

The department has evolved since its inception and today it comprises five discipline groups: Architecture and Urbanism (A+U); Building Technology (BT); Design and Computation (COMP); History, Theory, and Criticism (HTC) with the Aga Khan Program in Architecture (AKPIA); and Art, Culture and Technology (ACT). MIT Architecture also includes several labs: the Urban Risk Lab, POP Lab, Self-Assembly Lab, Sustainable Design Lab, Future Heritage Lab, and the Infrastructure Architecture Lab. We advocate ambitious collaborations across these areas within the department, school, Institute, and beyond. We are also committed to excellence across the six degrees offered in the department.

Our cohort promotes critical thinking and new knowledge production through creative and constructive acts, which make the world a better place. Our faculty and students are working in the fields of affordable housing, public infrastructure, disaster resilience, community spaces, displacement and migration, the environment, and architectural heritage. We often work at the intersection of academia, government, and industry, designing solutions for current and forthcoming problems on all scales. The timely and important nature of the department’s research, scholarship, and design work is continually inspiring.

The Department of Architecture is one of the four founding departments at MIT, and the oldest school of architecture in the United States. From fall 2018 to spring 2019 we celebrated the 150th anniversary of the first course in architecture offered at MIT. Our celebrations included symposiums, exhibitions, alumni events, and innovative classwork. The aim of celebrating the founding was not only to learn from and honor our history, but also to envision the future of architecture education at MIT and around the world.

## Recognition

MIT Architecture's standing has continued to increase in recent years, and the department is recognized as a leader in the field both nationally and internationally. The department has ranked number one or two in QS World University Rankings for Architecture/Built Environment over the last five years. For the second year in a row, MIT ranked number two for Art and Design. In addition to international QS ratings, the professional master of architecture program is consistently ranked in the top five schools nationally by DesignIntelligence. In last year's ratings of specific areas, MIT's graduate architecture program ranked first in computer applications, second in sustainability, and third in construction methods and materials. Furthermore, our distinguished doctoral programs consistently win their top choice PhD candidates, despite offers from better-funded competitors.

## Structure and Personnel

### Architecture Design and Urbanism

For clarity, personnel in Architecture and Urbanism are grouped below into Architecture Design (AD) and Urbanism (URB) based on their primary teaching roles in either the MArch, SMarchS, BSAD, or BSA studio sequence and programs, or the SMarchS URB program.

### *Architecture Design Personnel*

Professors Antón García-Abril (on leave fall), Sheila Kennedy, Andrew M. Scott, J. Meejin Yoon (fall only)

Associate professors with tenure Mark Goulthorpe, Ana Miljački, and William O'Brien (on leave fall)

Assistant Professors Brandon Clifford and Skylar Tibbits (AD/COMP joint appointment, on leave spring)

Associate professors of the practice Yung Ho Chang (on leave), Philip Freelon (on leave), Marc Simmons

Marion Mahony Emerging Practitioner Fellow Rosalyne Shieh

Pietro Belluschi Teaching Fellow Hans Tursack

Lecturers Lorena Bello Gomez, Yolande Daniels, Jeremy Jih, Axel Kilian, Jennifer Leung, and Cristina Parreño Alonso

Visiting professors Cherie Abbanat, Fabrizio Barozzi, Angelo Bucci, Linna Choi, Alexander D'Hooghe, Rami el-Samahy, Florian Idenburg, Christoph Kumpusch, Robert Mohr, Tarik Oualalou, Pratik Ravel, Susanne Schindler, Dan Wood, and Yao Zhang

Undergraduate lecturers Jen Ashman, Marcelo Coelho, Glen Cummings, Ben Fry, Christophe Guberan, Lee Moreau, Paul Pettigrew, and Jessica Rosenkrantz

Technical instructors Christopher Dewart and Jennifer O'Brien

Teaching fellows Maroula Bacharidou, Sam Ghantous, Zain Karsan, Maya Shopova, and Danniely Staback

Research scientist John Klein

### **Urbanism Personnel**

Professors Adèle Naudé Santos, Hashim Sarkis, Anne Whiston Spirn (joint appointment with the Department of Urban Studies and Planning), and James Wescoat (joint appointment with HTC/AKPIA/URB)

Associate professors without tenure Rafi Segal, Rania Ghosn, and Miho Mazereeuw

Principal research associate Reinhard Goethert

### **Art, Culture and Technology**

Professors Judith Barry and Renée Green

Associate professor with tenure Gediminas Urbonas (on leave)

Associate professor without tenure Azra Akšamija

Assistant professor Nida Sinnokrot

Professor without tenure (retired) Joan Jonas

Lecturers Lara Baladi, Mario Caro, David Joselit, Sung Huan Kim, Tobias Putrih, Rasa Smite, and Raitis Smits

### **Building Technology**

Professors John Fernández (on leave, director of the MIT Environmental Solutions Initiative), Leslie Norford, John Ochsendorf (on leave, director of the American Academy in Rome), and Christoph Reinhart

Assistant professor Caitlin Mueller (on leave spring)

Professor post-tenure Leon Glicksman

Lecturers Josephine Carstensen and Benjamin Markham.

### **Computation**

Professors Terry Knight and George Stiny

Associate professors with tenure Takehiko Nagakura (on leave fall) and Lawrence Sass

Assistant professor Skylar Tibbits (AD/COMP joint appointment, on leave spring)

### **History, Theory, and Criticism of Architecture and Art, with the Aga Khan Program in Islamic Architecture**

Professors Mark Jarzombek (on leave spring), Caroline Jones, Nasser Rabbat (AKPIA), and James Wescoat (joint appointment with HTC/AKPIA/URB)

Associate professors with tenure Arindam Dutta and Kristel Smentek

Associate professors without tenure Timothy Hyde and Lauren Jacobi

Lecturer Christian Hedrick

## Leadership

J. Meejin Yoon stepped down as department head in summer 2018 to assume the deanship of Cornell College of Architecture, Art, and Planning. Andrew Scott became the interim department head and Leslie Norford continued on as the associate department head. Academic program directors were Ana Miljački (MArch), Leslie Norford (undergraduate), Terry Knight and Timothy Hyde (SMArchS), Judith Barry (SMACT), and Christoph Reinhart (SMBT). Nasser Rabbat served as chair of the Committee on Graduate Students as well as the graduate officer. Our discipline groups were led by Judith Barry (ACT), Ana Miljački (MArch AD), Sheila Kennedy (SMArchS AD), Nasser Rabbat (AKPIA), Christoph Reinhart (BT), Leslie Norford (spring BT), Lawrence Sass (COMP), Kristel Smentek (HTC), and Rafi Segal (URB). James Wescoat was also the co-director of the Norman B. Leventhal Center for Advanced Urbanism.

## Faculty Promotion and Appointments

We celebrated the promotions of the following faculty. Azra Akšamija, Timothy Hyde, and Rafi Segal achieved tenure, and Assistant Professors Skylar Tibbits and Mariana Ibañez were promoted to associate professor without tenure. In addition, Assistant Professor Brandon Clifford was named the Class of 1958 Career Development Chair.

Our two new fellows, Hans Tursack (Pietro Belluschi Fellow) and Rosalyne Shieh (Marion Mahoney Fellow), have done well this year and are both continuing in their positions through AY2020.

## Funding

Collectively, our faculty are increasing the scope and impact of their research. Incoming sponsored research has substantially increased over the past few years, which has given our students additional financial support and opportunities.

Mark Goulthorpe received a \$300,000 grant through the MIT Energy Initiative (MITEI) for carbon research sponsored by Exxon.

Shelia Kennedy continued work on her MQDC grant with Professor Michael Strano (Chemical Engineering).

John Klein received a \$310,000 grant from the US Department of Agriculture for work on mass timber affordable housing.

Miho Mazereeuw and the Urban Risk Lab received a new grant from Broward County, Florida, for work on real-time flood mapping and sea-level rise planning. She also continued work with FEMA on designing risk reduction and disaster preparedness into urban planning and public spaces, as well as with the Singapore University of Technology and Design for design with the developing world.

Caitlin Mueller received a grant for \$334,000 from the National Science Foundation to research the partnership of human and machine intelligences for the design of engineering systems and infrastructure.

Takehiko Nagakura continues his work on the sustainable built environment through the support of the Singapore University of Technology and Design.

Christoph Reinhart received a \$90,000 grant from the Portuguese Science and Technology Foundation for continuing research. His ongoing grants are from the King Abdulaziz City for Science and Technology for research on water, food, and energy use in urban dwellings; the North American Philips Corporation for research on the development of urban worker personas; and the Exelon Corporation for the Chicago Energy Bazar.

Skylar Tibbits continues work on his previous grants including projects with the Advanced Functional Fabrics of America (AFFOA) for shape-shifting, climate-adaptive garments; the Defense Advanced Research Projects Agency for instant and reversible barriers through granular jamming; and SNCF Mobility for continued research in his Self-Assembly Lab.

James Wescoat received two grants this year. The National Science Foundation sponsored his research on equitable resilience, while the grant from the Masdar Institute of Science and Technology was for research into water and energy use.

### **Master of Science in Architecture Studies Program**

The SMArchS program is organized into six areas of study according to the department's discipline groups. Hyde replaced Reinhart as the program co-director with Knight. Their main goals continue to be strengthening the program's visibility outside MIT, fostering research across discipline groups, and further increasing student funding.

This year, the SMArchS students reported a decreased sense of community and requested more cross-discipline activities and interactions. In response, department funds were allocated for weekly social hours with coffee and cookies, and for semester dinners with SMArchS alumni, which will begin next fall. In addition, spring thesis reviews were held in an open space (the Media Lab), instead of the separate classrooms we have used in the past.

### **Master of Architecture Program**

The MArch program is a professional degree program that integrates critical thinking and design with advanced technical tool sets to prepare students to contribute meaningfully to the architectural field, be it through practice, teaching, or research. This past year, Ana Miljački directed the program.

The program has been steadily increasing in visibility (as of 2019, it is ranked number three by the DesignIntelligence survey, following programs in Harvard's Graduate School of Design and Columbia University's Graduate School of Architecture, Planning and Preservation (GSAPP), leading to a spike in the 2018 and 2019 yield in admissions. We are halfway through our eight-year accreditation from National Architecture Accrediting Board. While there were no major changes to the MArch curriculum this academic year, we focused on implementing improvements from past years.

## Undergraduate Programs

The department offers two undergraduate majors: the bachelor of science in architecture and the bachelor of science in art and design. The former long-standing major is a broad nonprofessional degree program that prepares students for either a graduate professional degree program in architecture or further education and employment in related fields. The latter, approved a year ago and informally known as the design major, focuses on design as a discipline and with applications beyond architecture. The department also offers four minors: Architecture; Design; History of Architecture, Art, and Design (Humanities, Arts, and Social Sciences [HASS] minor); and Art, Culture and Technology (HASS minor).

Leslie Norford continued his position as the Course 4 undergraduate officer. Terry Knight coordinates the design major and minor programs, with curricular assistance from Skylar Tibbits. Jennifer O'Brien continued to coordinate the undergraduate architecture design studio sequence, providing guidance on pedagogy and selection of instructors. Faculty members who served as undergraduate advisors included: Akšamija, Fernández, Knight, Mueller, Norford, O'Brien, Sass, Smentek, Anne Whiston Spirn, Stiny, Tibbits, and Wescoat. Manager of Special Projects Paul Pettigrew and director of Student Services Renée Caso also served as undergraduate advisors. Norford, Pettigrew, and Sass additionally offered advising seminars to first-year students.

There were no significant changes to the undergraduate curriculum this year, but the department is working to better coordinate the BSA curriculum with BSAD and MArch programs.

## Department of Architecture Admissions and Enrollments

For the second year, the department replaced the fall Open House with three online web forums, using the Building 9 Office of Digital Learning rooms. This format enabled prospective students to learn about Architecture's degree programs and meet our current students without the prohibitive costs of visiting campus. Online sessions were offered on three dates, each at its own time, to accommodate people from differing time zones. Participation in the online forums were marginally higher than previous years' in-person sessions and the percentage of attendees who applied remained the same. The online open houses are more cost efficient and increase international participation, while leading to similar admissions outcomes, therefore, the department intends to continue them in the future.

Admissions applications for the SMArchS program were up by 14% from last year, with selectivity and yields roughly consistent with previous years. The diversity statistics show continuing high international student numbers (85% international applications, 69% international enrolled) and approximately equal gender ratios. Application numbers of students from underrepresented minority groups remain extremely low, with 15 total applications (3% of total applications), and two applicants accepted and enrolled.

For the MArch program, admissions were highly competitive, with a large number of applicants and an acceptance rate of 11% (502 applications, 24 targeted, 56 admitted, and 34 enrolled). Diversity statistics show high international student numbers (55%

enrolled), with a good ratio of men and women (19 men to 15 women), and 12% from underrepresented minority groups.

In AY2019, one student graduated from the BSAS program and four from the BSA program. The new BSAD program (an approved revision of the 4B/BSAS) started accepting majors in AY2019. A total of 40 students were enrolled in all undergraduate programs (28 BSA, one BSAS, and 11 BSAD).

The design minor, launched by the department in AY2017, had enrolled 54 students as of February 2019, with numbers that are comparable to the mathematics and music minors and are second only to computer science.

As of fall 2018, Course 4 counted a total of 26 undergraduate majors (17 BSA; and one BSAD), 51 undergraduate minors, and 225 graduate students. Graduate students were enrolled as follows: 107 MArch, 52 SMArchS, five SMBT, 11 SMACT, 39 resident PhD, and 11 nonresident PhD.

### 150 Year Celebration

This past academic year marked 150 years of architecture education at MIT, as the first class of students enrolled in fall 1868. From fall 2018 through spring 2019, our community celebrated this milestone to reflect on our past and present and to imagine new futures for architecture education at MIT.

In the fall, the department organized the 4.S14 [Experiments in Pedagogy](#), which included many students engaging with 15 explorations of new models, formats, and topics of learning, design, and research over the course of days and weeks. Conversations on Practice, three mini-symposia on contemporary issues impacting the future of practice, were held over the course of the semester and featured both faculty and external speakers.

In the spring, the MIT Museum hosted *Drawing, Designing, Thinking: 150 Years of Teaching Architecture at MIT*, an exhibition designed by Ibañez Kim, featuring the history and future of MIT Architecture. We wish to give special thanks to both Mark Jarzombek and Irina Chernyakova for all their work in bringing the exhibition to fruition—and to Mariana Ibañez for designing it.

The [Turning Points in Architecture, Design, and Research Symposium](#) took place in April, convening students, faculty, and alumni to share and discuss current research and work of the community through the lens of turning points in the field.

As an integral part of celebrating our 150th, the department arranged three alumni events in Hong Kong, San Francisco, and New York City. Alumni reconnected with the department and each other at these gatherings, to reflect on how MIT Architecture impacted their personal and professional lives.

### Lectures, Conferences, Symposium

In fall 2018, the department lecture series hosted numerous events in conjunction with 150th celebrations. Brandon Clifford exhibited the *Janus* sculptural performance. The

4.S14 Experiments in Pedagogy organized lectures and workshops by students and faculty, including Ann Lui, Mimi Zeiger, Luke Bulman, Wendy Jacobs, Sara Hendren, Garnette Cadogan, Dorothea Lasky, Aimi Hamraie, Felicity Scott, Mark Wasuiuta, Liam Young, and Kathryn Firth. Nader Tehrani presented the 24th Pietro Belluschi Lecture and Laurent Ney presented the Edward and Mary Allen Lecture in Structural Design.

The department lecture series also included Marie Law Adams and Dan Adams, Dan Wood, and Michael Sorkin in the spring. The Ahmad Tehrani Symposium with Iwan Baan and Michael Maltzan was postponed to fall 2019, and both the Amanda Leveté and Junya Ishigami lectures were cancelled. The AKPIA group ran a conference in May called “Reconstruction as Violence: The Case of Aleppo.” In collaboration with the NOMAS (National Organization of Minority Architecture Students) chapter, we hosted Bryan C. Lee.

The Architecture Student Council presented the Dinner with the In-Laws series. Fall sessions included Switch, with Brandon Clifford, Axel Kilian, Caitlin Mueller, moderated by Carlos Sandoval Olascoaga; Pro-Paranoia, with Mark Jarzombek, Eliyahu Keller, Jonah Susskind, moderated by Lisa Parks; and Transfer, with Rafi Segal, Anne Spirn, Morgan Augillard, Alex Bodkin, moderated by Stephanie Lee and Ellen Shakespear. Spring sessions included Sleep Dream Memory, with Jennifer Leung, Matt Wilson, Eliyahu Keller, moderated by Adam Haar Horowitz; Work, with Jana Cephas, Rodrigo Escandon Cesarman, and Sam Pepper, moderated by Joseph Swerdlin; and Dinner is Served, with Maria Rondeau, Laura Knott, Christoph Reinhart, moderated by Hadley Piper.

### Departmental Publications and Exhibitions

Manager of Publications and Exhibitions Irina Chernyakova oversaw seven exhibitions in Keller Gallery. These included *Architectural Assemblies* (May 2018–September 2018); *Paranomasiac*, with Sarah Hirschman (October 2018–November 2018); *Agit Arch Experiments*, with Ana Miljački and the Critical Broadcasting Lab (November 2018–January 2019); Hans Tursack’s *Pietro Belluschi Fellowship Exhibition* (February 2019–March 2019); *The Past is in the Present*, with Mahony Fellow Rosalyne Shieh (March 2019–May 2019); *Architectural Assemblies* (June 2019); and *Part Objects*, a representation of student work from Hans Tursack’s seminar of the same name (June 2019–September 2019).

The Department collaborated with the MIT Museum on *Drawing, Designing, Thinking: 150 Years of Architecture at MIT*, on display from February to August 2019.

Teaching fellows Danniely Staback and Maroula Bacharidou, together with Gerard Patawaran, completed the exhibit of undergraduate work, *Design on Display*, in Rotch Library.

The book, *Architecture and Action*, edited by J. Meejin Yoon and Irina Chernyakova, was released by SA+P Press in July 2019.

### Student Departmental Awards

Each year, we recognize the accomplishments of our continuing and graduating students with awards. This year, the department honored the following students:



Melissa Gutiérrez Soto—Julian Beinart Research Award  
 Elizabeth Brown and ElDante’ C. Winston—Schlossman Research Fellows  
 Michael Stradley—Louis C. Rosenberg (1913) Travel Fellowship  
 Sarah Wagner and Alexandre Beaudoin-Mackay—Ann Beha Travel Fellowship,  
 Marvin E. Goody Award, Rosemary D. Grimshaw Award  
 Huma Gupta—Raab Family Fund Award  
 Carlos Casalduec Rivera, Isadora Dannin and Stratton Coffman, Nare Filiposyan,  
 Melissa Gutiérrez Soto, Ruth Blair Moyers, Nof Nathansohn, Jung In Seo and  
 Dalma Foldesi, and Gil Sunshine—NuVu Prize  
 Michelle T. Xie—William Emerson Prize  
 Justin David Lueker—Tucker Voss Award  
 Nathan Collin Brown—TODA Award  
 Caroline Elizabeth Murphy and Courtney Lesoon—Kristen Ellen Finnegan  
 Fund Award  
 Jeffrey Landman—Sydney B. Karofsky ’37 Prize  
 Charlotte D’Acierno—Marjorie Pierce (1922) / Dean William Emerson  
 Fellowship Award  
 Stephanie Lee and Joseph Swerdlin—Alpha Rho Chi Medal  
 Alexander Kobald—Special Faculty Recognition Award for Design Excellence  
 Alexander Bodkin—Special Faculty Recognition Award for Academic Excellence  
 Anne Graziano—Arthur Rotch Prize  
 Mackenzie Muhonen—Course 4 Thesis Award  
 Daniel Marshall—Imre Halasz Thesis Prize  
 Ammar Ahmed—AIA Henry Adams Medal and Certificate of Merit  
 Nitzan Zilberman, Ingrid Dobloug Roede, and Malcolm Rio—Master of Science  
 in Architecture Studies Prize for Thesis  
 Malcolm Rio—Arthur Rotch Special Prize

External organizations also recognized our students with awards and prizes, including the following:

Taeseop Shin—The Kohn Pederson Fox Travelling Fellowship, Honorable Mention

Huma Gupta was recognized by MIT as a Graduate Woman of Excellence, primarily for her work with the Graduate Student Council around family support and housing.

We are extremely proud of the work our students and faculty take on, both in the classroom and out in the world. It is my privilege to share below the full breadth and depth of our community’s collective pursuits, news, and achievements. The information includes personnel, faculty activities, and notes from each discipline and program group.

## Architecture and Urbanism Discipline Group

Over the last two years, the Architecture and Urbanism group has become more unified by organizing strategic planning meetings throughout the semester as well as sharing studios and electives among the faculty, lecturers, and visitors. Four degree programs reside within the Architecture and Urbanism discipline group: master of architecture (professional program); SMArchS architectural design; SMArchS architecture and urbanism; as well as bachelor of science (BSA) in architecture. Miljački was director of the A+U group, and of the MArch program. Kennedy coordinated the SMArchS architecture program, while Segal coordinated SMArchS urbanism, and O'Brien directed the BSA.

The Architectural Design and Urbanism faculty has transformed through several promotions and key departures. Segal was promoted to associate professor with tenure. Ibañez and Tibbits have been promoted to associate professors without tenure. Our former head and member of A+U, Meejin Yoon, left to take on the prestigious post of dean of the Cornell School of Architecture. Alexander D'Hooghe left his tenured position to pursue his practice in Europe, though he continues to act as a lecturer within the department, and Joel Lamere accepted a position at Miami University. Visiting fellows Rosalyne Shieh and Hans Tursack quickly became key contributors to the MArch program and the department more broadly. The recent departures and promotions have made it necessary for us to launch faculty searches at the end of the summer 2019.

Both SMArchS AD and urbanism programs draw substantial interest, with an acceptance rate of 2% for SMArchS AD, and 10% for SMArchS urbanism. With additional funding parallel to the SMArchS urbanism program, the SMArchS AD program could substantially increase in size.

In addition to the growing interest in its programs, A+U's faculty continue to develop new and cutting-edge research in their field. This year, Miljački's work was published in *Docomomo*, *Avery Review*, and *Second World Postmodernisms*. Her exhibition, *Agit Arch Outpost*, was on display in the Keller Gallery in December 2018. She was elected as a member of the editorial board for *Faktur* and the *Journal of Architectural Education*. Miljački also participated in multiple lectures and conferences across the world. For example, this past year she presented her research at the Association for Slavic, East European, and Eurasian Studies convention in Boston; the Society of Architectural Historians Annual Conference; e-flux; Rhode Island School of Design; Florida Atlantic University; and MIT.

For their work on the Transart Foundation buildings in Houston, Shieh and her firm, SCHAUM/SHIEH, have been recognized with an Emerging Voices Award from the Architectural League of New York and a Building of the Year Award from *Architect's Newspaper*. Their work has been featured in an exhibition at the University of New Mexico's Rainosek Gallery. In addition, Shieh is a MacDowell Colony Fellow.

Kennedy and her firm KVA continued their high-profile projects this year, with an installation at the Cooper Hewitt National Design Museum and the opening of the Global Flora Collection in the Margaret C. Ferguson Greenhouses at Wellesley College. The collection won a North American Design Excellence Prize from the LafargeHolcim

Foundation. Previous projects have also received recognition, such as the Harvard Language Learning Labs, which received the AIA Design Award in 2018. The firm was also a Finalist for the 2016 Harleston Parker Award for their work on the Tozzer Anthropology Building. Kennedy also continues to present her work at lectures and conferences.

Rania Ghosn and her firm DESIGN EARTH have received recognition with an A|N Design Honor Award for the *Blue Marble Circus* and *Cosmorama*, as well as an MIT HASS Award for *Earth on Display*. She published *GeoStories: Another Architecture for the Environment* with her partner, El Hadi Jazairy, as well as multiple articles in journals such as *Domus*, *Icon*, *MONU*, and *Ed*.

Clifford's work has been recognized this year with a TED Fellowship, A|N Design Award for *Cyclopean Cannibalism*, and a PRINT Design Award for *The Cannibal's Cookbook: Mining Myths of Cyclopean Constructions*. He was also a finalist in the MoMA PS1 Competition. In addition, he has collaborated with composer Ashley Fure on *Filament*, exhibited the *Janus* sculptural performance at MIT and the American Academy in Rome, and built *Walking Assembly*, a prototype for mega concrete masonry units.

Cristina Parreño Alonso's work on transtectonics has received recognition with Awards from HASS and the Council for the Arts at MIT, as well as funding from Roboticom, Precision Stone, and Biesse America. She was published in the *Journal of Architecture Education* and has been exhibited at Art Omi and the MIT International Design Center.

Jeremy Jih completed construction on an art gallery in Boston's South End with transformable and translucent walls. He has also begun construction on three houses and a pool house in the Boston area.

### **Art, Culture and Technology Discipline Group**

The MIT Program in Art, Culture and Technology is a discipline group and academic program within the Department of Architecture, and a center for artistic research and practice within the School of Architecture and Planning. ACT is led by distinguished artist-professors and supported by a dynamic cast of practitioner graduate students and staff, visiting lecturers, fellows, affiliates, and guests. Through an integrated approach to pedagogy, public programming, exhibitions, and publication, ACT builds a community of artist-thinkers around the exploration of art's complex conjunctions with culture and technology. The program's mission is to promote leadership in critical artistic practice and deployment, developing art as a vital means of experimenting with new registers of knowledge and new modes of valuation and expression. ACT continually questions what an artistic research and learning environment can be and what it can do. Judith Barry is the director of the ACT group.

Over AY2019, ACT hosted seven lectures as part of its Monday Night Lecture Series, eight talks in the New Media and Civic Arts Series, and five Artistic Research Luncheons.

In March, David and Nina Fialkow provided a foundational gift of \$1 million for the creation of the Institute-wide Transmedia Storytelling Initiative. Judith Barry is part of the Transmedia steering committee and ACT is the steward of the funds.

Faculty were active domestically and internationally, giving lectures and producing work for group and solo exhibitions.

The SMACT program did well in admissions; of the 81 applicants, seven were accepted and the fall 2019 entering class will comprise five students.

### **Building Technology Discipline Group**

Building Technology (BT) offers students the opportunity to explore critical topics for the future of the built environment and natural resources. Our program explores ways to use design and technology to create buildings that contribute to a more humane and environmentally responsible built world. Christoph Reinhart was the director of the Building Technology group.

BT faculty continue to attract support from the larger MIT funding ecosystem, including the MIT Energy Initiative, the Center for Complex Engineering Systems at MIT and King Abdulaziz City for Science and Technology, the Hong Kong University of Science and Technology–MIT Research Alliance Consortium, and the Environmental Solutions Initiative. In addition, industry fellowships from leading architecture firms—such as Arup, Behnisch Architekten, and HOK—continue to strengthen the program’s traditional ties to industry. Norford and Reinhart are each working on projects with Exelon. Reinhart has been awarded a new one-year project with Shell Germany and is further being funded through the MIT Portugal program as the area coordinator for smart cities. Leon Glicksman has begun a new project to develop evaporative food storage systems for East African farmers supported by the MIT Abdul Latif Jameel Water and Food Systems Lab. Norford continues to supervise a research team in the Singapore-MIT Alliance for Research and Technology. Mueller was awarded a three-year National Science Foundation LEAP-HI grant, together with Professors Maria Yang and Sang-Gook Kim of Mechanical Engineering, to develop new human-computer creative design methods using artificial intelligence and machine learning.

Building Technology faculty are also active in the community through lecturing and conference participation. In September 2018, Reinhart served as the keynote speaker for the International Building Performance Simulation Association (IBPSA) conference in South America and, in September 2019 will deliver a keynote speech at the IBPSA World Conference in Rome. Caitlin Mueller was a keynote speaker at the New England Symposium on Graphics in April 2019. In July 2018, Mueller and John Ochsendorf co-chaired the 600-person annual symposium of the International Association of Shell and Spatial Structures at MIT.

New curricular changes in BT’s various programs have also been in development. For professional MArch degree students, 4.401/4.464 Environmental Technologies in Buildings, has become a required subject. MITEI is supporting its conversion to a Massive Open Online Class (MOOC) under the edX umbrella. The subject will be part of a micromasters on energy, with additional subjects coming from MIT Sloan School of Management and other departments.

In November 2018, the second volume of the *Daylighting Handbook* (authored by Reinhart) was released during the Solemma Symposium at Cornell University.

PhD student Irmak Turan has been awarded a Martin Fellowship for AY2020.

Josephine Carstensen has been offered a full-time, tenure track appointment in the Department of Civil and Environmental Engineering starting July 2019.

Professor John Fernández completed his fourth year as director of MIT's Environmental Solutions Initiative, continuing his leave from the department.

Professor John Ochsendorf completed the second year of a three-year professional leave from MIT to serve as the director of the American Academy in Rome.

### **Design and Computation Discipline Group**

The goal of the Design and Computation group is to extend the boundary of research and education in computation and spatial designs, especially in collaboration with relevant industries and academic entities. Lawrence Sass served as group director.

The [MIT Virtual Experience Design Lab](#) was launched through the efforts of PhD student Cagri Zaman, with Professors Knight and Nagakura, as well as with assistance from alumnus Eytan Mann.

George Stiny and Terry Knight hosted the second half of a two-part workshop at MIT on grammar-based methods of design with students from Universidad Adolfo Ibáñez in Santiago, Chile.

Knight was very active in lectures and conferences this year: she was a keynote lecturer at CAAD Futures in South Korea, a session co-organizer for the Shape conference led by the Association for Women in Mathematics in Houston, as well as a session co-organizer for the Design, Technology, and Society conference led by Design Research Society International.

This past year Takehiko Nagakura conducted a series of workshops bringing light to ancient buildings and landscapes found in Machu Picchu, Turkey, and China through computer-generated movie making. His work is an in-depth exploration of computer scanning, reconstructive 3D modeling, and high-quality visualization.

Lawrence Sass has constructed a series of very large physical models that served as part of an exhibit on affordable housing sponsored by the Norman B. Leventhal Center for Advanced Urbanism. His figures were generated using a new method of 3D modeling software that creates two-dimensional, puzzle-like elements from 3D CAD models.

Skylar Tibbits received a grant from DARPA on granular jamming for reversible construction, and from AFFOA on active, self-transforming textiles. His work was exhibited at the XXII Triennale di Milano, *Broken Nature: Design Takes on Human Survival*, in Milan; the Fiskars Art and Design Biennale, in Helsinki; and the MAK Exhibition and Ars Electronica Exhibition, in Vienna.

## History, Theory and Criticism Discipline Group

The History, Theory and Criticism of Architecture and Art (HTC) program aims to produce leading-edge scholars and intellectuals in the field of art and architectural history. The group places a strong emphasis on historiography and analytical methodologies. Faculty members explore the history of art and architectural works, the shifting attitudes toward their interpretation, and the geopolitical pressures on their appearance, preservation, and disappearance. This year, HTC faculty continued to teach, publish, and participate in key departmental and Institute events in their field. All of the faculty traveled widely across the world to deliver lectures, chair conference panels, and serve as editorial board members. Kristel Smentek served as the director of the group.

Arindam Dutta was the director of the MIT Infrastructure Architecture Lab. He also taught a studio and a required subject at Columbia GSAPP in the fall, in addition to teaching two required subjects at MIT.

Timothy Hyde published his book, *Ugliness and Judgment: On Architecture in the Public Eye*, and was promoted with tenure as of July 1, 2019.

Lauren Jacobi published her book, *The Architecture of Banking in Renaissance Italy: Constructing the Spaces of Money*.

Mark Jarzombek continued his work with the Mellon Global Architectural History Teaching Collaborative, which held a conference in Miami, FL and sponsored another in Ahmedabad, India. Jarzombek also led the curatorial team for the exhibition, *Drawing, Designing, Thinking: 150 Years of Teaching Architecture at MIT* at the MIT Museum. He served on the Architecture 150th Advisory Committee and ran one of the department's 4.S14 Experiments in Pedagogy.

Caroline Jones continued to serve on the School of Architecture and Planning's Arts Initiative, and will lead the new Transmedia Storytelling Initiative as its director. The project will build on MIT's tradition of arts education, research, production, and innovation in media-based storytelling—from film through augmented reality. The initiative will bring together faculty from the Schools of Architecture and Planning and Humanities, Arts, and Social Sciences; the Program in Comparative Media Studies/Writing; and the Computer Science and Artificial Intelligence Laboratory, to create a new hub for pedagogy and research in time-based media

Kristel Smentek worked on her forthcoming book, *Objects of Encounter: China in Eighteenth-Century France*. She was also an invited professor at the labex TransferS/ Institut d'histoire moderne et contemporaine of the École normale supérieure in Paris in January 2019.

HTC candidates Duygu Demir and Rixt Woudstra spent the year as Distinguished Dissertation Research Fellows from the Center for European Studies at Harvard University.

## Aga Khan Program for Islamic Architecture

The Aga Khan Program for Islamic Architecture (AKPIA) at MIT is an academic leader in the study of architecture and urbanism in the Islamic world. AKPIA continued to

recruit promising students and postdoctoral researchers and improve the curricular content of their two programs of concentration in Islamic architecture and urbanism in the SMArchS program and the PhD program in the HTC section. The group sponsored various activities in the department, including a lecture series (“An Evening With”), a postdoctoral program, and a travel-grant program. AKPIA also funds students in the SMArchS urbanism and master in city planning program whose work bears directly on urbanism in the Islamic world. Nasser Rabbat continues to serve as the director of AKPIA.

Three years ago, AKPIA initiated a research group on issues of upheaval, refugees, and reconstruction in the Middle East with the title “Ethics of Intervention.” Seeking to work with colleagues at MIT and beyond, the program aimed to develop an ethical, practical, and dynamic framework for all projects whose purpose is to alleviate the plight of victims of armed conflicts in the Middle East today. Concurrently, faculty and students are directing AKPIA’s strengths in historical geographic research toward a deeper understanding of contemporary crises, comparative analysis of long-term urban and regional upheaval, and a creative interpretation of historical interventions. Several postdocs and research assistants have been recruited to work on these topics. This past year, AKPIA organized workshops focused on historical geography, heritage, and conservation, and launched the symposium, *Reconstruction as Violence: The Case of Aleppo*.

Nasser Rabbat published a book in Arabic on the dead cities in Syria, with the Hamad Bin Khalifa University Press in Doha, Qatar. He taught a course on Islamic architecture at New York University Abu Dhabi. He has published several essays on heritage, reconstruction, and modern Arab art. He recorded a podcast with Finjan—a Saudi platform—on Islamic art and culture, which was seen more than 30,000 times. In AY2019, he gave keynotes and public lectures in Beit al-Hikma, Tunis; Bonn University, Germany; the Institute for the Study of Muslim Civilizations, London; Duke University; Yale University; Cambridge University; the Aga Khan Museum, Toronto; and the American University in Beirut, Lebanon. He also continued work on his collaborative research project, *Ethics of Intervention*, which strives to frame the debates on the preservation of heritage and in the planning for reconstruction within ethical frameworks. He taught a new seminar on the subject, *4.617 Urbicide: History of a Violent Practice*, which attracted students from various degree programs. In June 2019, he returned to his fellowship at Annemarie Schimmel Kolleg at the University of Bonn, where he worked on his book on *al-Maqrīzī*. He is also serving on the Aga Khan Award Steering Committee for the 2018–2020 cycle.

James Wescoat was recognized as an American Society of Landscape Architects Fellow. The society also honored him with a Distinguished Member Award. In addition, his projects are being supported by the National Science Foundation and the MIT Tata Center for Technology and Design. His work has been published in a number of respected journals and books including: *Environment*; *Journal of Water, Sanitation and Hygiene for Development*; *Urban Flooding*; *Water Security*; *Water Histories: The Materiality of Liquescence*; and *Geomorphology*.

**Andrew Scott**  
**Interim Department Head**  
**Professor of Architecture**