

Department of Architecture

The MIT [Department of Architecture](#) is dedicated to a socially responsible, technologically sophisticated, environmentally sensitive, and culturally engaging vision of architecture. It is distinguished in that it includes within one department the many disciplines required for an architecture curriculum; more significantly, it creates the opportunity for each discipline to have specialized advanced degree programs. We incorporate outstanding research and teaching programs in each of these discipline groups: Architectural Design (AD); Building Technology (BT); Computation; History, Theory, and Criticism (HTC); and Art, Culture and Technology (ACT). Following its merger with the Center for Advanced Visual Studies in 2010, ACT is now a more autonomous entity within the School of Architecture and Planning. However, the academic component of ACT, including its subject offerings, is still under the administration of the Department of Architecture. Undergraduates can earn a bachelor of science in architecture studies (BSAD) with concentrations in one of five departmental discipline streams (architectural design; visual arts; building technology; history, theory, and criticism of architecture and art; or computation) and can minor program in architecture and history of art and architecture. Effective September 1, 2011, undergraduate degrees will carry the new names: bachelor of science in architecture (BSA) and bachelor of science in architecture studies (BSAS).

The commonly shared attributes of the department that cut across all of the discipline groups are our devoted and spirited teaching, the grounding of architecture in both social and material issues, interdisciplinarity, and the remarkable internationalism of faculty, students, teaching, and research. The faculty includes architects, landscape architects, urbanists, building technologists and engineers, historians of art and architecture, artists, and specialists in various areas of architectural research.

Arrivals, Departures, and New Roles

Professor of architecture Nader Tehrani's first year as department head began on July 1, 2010. He named associate professor of architecture Andrew Scott to serve as director of the Master of Architecture (MArch) program; in addition, he named associate professor of architecture J. Meejin Yoon as director of the undergraduate program, associate professor of computation Takehiko Nagakura as chair of the Committee on Graduate Students (COGS), and associate professor of the history of architecture Arindam Dutta as director of the Master of Science in Architecture Studies (SMArchS) program. The directors of these programs, as well as directors of each of the discipline groups, constituted a cabinet to meet monthly with the department head in an advisory and coordinating capacity. Professor of visual arts Krzysztof Wodiczko and professor of visual arts Joan Jonas retired effective July 1, 2011, and professor of architecture Jan Wampler retired effective January 1, 2011. Two new faculty members were appointed in the Program in Art, Culture and Technology, to begin in fall 2012: Renée Green as associate professor with tenure and Azra Aksamija as assistant professor.

Robert R. Taylor Fellowship

In the spring term, Walter Hood Jr. was named the first Robert R. Taylor Fellow, an honor that recognizes Taylor as an MIT alumnus and the first African American to have received an architectural degree in the United States. The fellowship is intended to bring distinguished visitors to campus to engage with our community through teaching, public lectures, and other activities.

Accreditation Update

The National Architectural Accreditation Board (NAAB) formally granted the maximum six-year term of accreditation of the MArch professional degree following its site visit in 2009, with the stipulation that a focused evaluation be submitted in two years to look at the causes of concern identified in the Visiting Team Report and the progress that has been made in those areas. Andrew Scott was appointed NAAB coordinator effective July 1, 2010, and assumed responsibility for submitting the focused evaluation by June 1, 2011. NAAB will respond to the focused evaluation during the summer of 2011.

Visiting Committee

On April 5–6, the department had a productive meeting with the MIT Corporation Visiting Committee, chaired by Marjorie Yang.

MIT150

The department was well represented during MIT's celebration of its 150th anniversary. Professor of the history of art Caroline Jones organized the kickoff event for the Festival of Art, Science, and Technology (FAST), a major component of the anniversary events. Curated by Yoon, FAST featured more than a dozen installations throughout the campus and along the Charles River that arose from innovative and experimental work by our students and faculty. Information about projects and participants can be found at the MIT anniversary archive [website](#). Dutta submitted a manuscript for a book aimed at reconsideration of the wide impact of MIT's Department of Architecture in the postwar period; it was titled *A Second Modernism: MIT, Architecture and the "Techno-Social" Moment*. Additionally, for three days in April the department held seminars, lectures, exhibits, a pecha kucha, and a "celebration social" that engaged all discipline groups.

Halo, Fab Lab, and Exhibit Space

With the opening up of Room 7-431, the fourth floor space around the dome—an area now dubbed the "halo"—became a seamless arcade of activity, accommodating reviews, lectures, meetings, and social events. The new fabrication laboratory opened up tremendous possibilities for design innovation and production on studio and other projects. Work began on a new centrally located exhibition space that will display work by students, visiting critics, and faculty.

Archiprix

In May, the department, under the direction of associate professor of architecture Alexander D'Hooghe, hosted Archiprix, a biennial competition of thesis projects in architecture, urban design, and landscape architecture. The resulting exhibit of some 300 top theses from 70

countries offered a rare opportunity to assess current trends in design education around the world. Participants were invited to MIT for a series of intensive workshops conducted by designers from leading schools of architecture in the United States.

The information below is organized by discipline and program group and includes mention of various academic activities, followed by individual topics that cross discipline areas.

Architectural Design

Faculty and Staff

Personnel listed in architectural design (AD) were professors Julian Beinart (on leave, fall), Yung Ho Chang (on leave), Michael Dennis, Adèle Naudé Santos, Anne Spirn (joint appointment with the Department of Urban Studies and Planning [DUSP]), Nader Tehrani, Jan Wampler (fall), and James Wescoat (on leave, spring); associate professors Alexander D’Hooghe (on leave, spring), Mark Goulthorpe, Andrew Scott, and J. Meejin Yoon (on leave, spring); assistant professors Ana Miljacki (on leave, spring) and William O’Brien Jr.; senior lecturer Shun Kanda; professors of the practice Philip Freelon (fall) and Sheila Kennedy; principal research associate Reinhard Goethert; visiting professor Walter Hood Jr. (spring); visiting associate professors Rodolphe el-Khoury (fall), Anton Garcia Abril (spring), and Ashley Schafer; lecturers Cheri Abbanat, Rients Dijkstra (spring), Nicholas Gelpi, Rania Ghosn (spring), Roisin Heneghan (fall), El Hadi Jazairy (spring), Joel Lamere, Debora Mesa (spring), Nashid Nabian (fall), Cristina Parreño, Paul Paturzo, Shih-Fu Peng (fall), Gilles Saucier (spring), Andres Sevtsuk (fall, with DUSP), Filip Tejchman, Skylar Tibbits, Marc Tsurumaki (fall), and Corinne Ulmann (fall); and technical instructor Christopher Dewart. Scott was named director of the Master of Architecture program effective July 1, 2011. Yoon expanded her role as director of the undergraduate program beyond only design components. Wampler retired effective January 1, 2011. O’Brien was named the Green career development chair for a period of three years, effective July 1, 2011.

Lectures

Miljacki and O’Brien took responsibility for the discipline group lectures in fall and spring, respectively. These events were held on Friday nights and typically were followed by a social event designed to keep the conversations flowing after the talk. Speakers in the fall were Amanda Reeser Lawrence and Ashley Schafer with Mark Pasnik and Chris Grimley, Sheila Kennedy, Michael Meredith, Cristina Parreno, and Alexander D’Hooghe and Yung Ho Chang with Hashim Sarkis, Kapil Gupta, Ralph Nelson, and Xiangning Li. Speakers in the spring were S. Jane Cee, Mark Goulthorpe and Larry Sass, Georgeen Theodore, David Benjamin, Florian Idenburg, and Hansy Luz Better Barraza and Beth Whittaker. In addition, the Architecture Student Council organized an evening each term focused on student research.

Core Curriculum

The core program, which consists of the first three semesters of the MArch program, was established three years ago and graduated its first class (admitted in 2007) in

January 2011. The core continued to be developed in several specific ways to ensure that each of the department's discipline groups has a bearing on the development of professional education in the MArch program. To this end, the first semester (Core 1) not only developed closer ties to building technology and the "geometric disciplines" drawing subject, but also established a vigorous platform through history and theory to understand current debates in architectural culture. The second semester (Core 2) established greater connectivity to computation through a new subject that introduces the component parts of the research discipline of computational design, resulting in some design exercises being interfaced with studio projects. The third semester (Core 3) has been radically rethought to bring a new level of systems integration and coordination with subjects taught in building technology. This was developed partially in response to NAAB conditions relating to buildings systems integration and comprehensive design. The new technological integration focus of this studio is aligned with design studies and discourses in energy, sustainability, envelope and material systems design, structural integration, and fabrication technologies.

In particular, a new subject taught in conjunction with MIT's Media Laboratory, *How to Build Anything*, was introduced to first-year MArch students during the Independent Activities Period (IAP) in January between their first and second semesters. The four-subject building technology sequence has become partially modular so that construction, structures, materials, energy, and envelopes are taught as integrated topics with each having a bearing on the other. The four-subject HTC sequence was restructured to include two required subjects (4.602 Modern Art and Mass Culture and 4.645 Selected Topics in Architecture: 1750 to the Present) followed by a restricted elective (one of three) and a full elective from the suite of HTC offerings. Also in response to NAAB comments, faculty members are called to adhere to a consistent format for communication of the pedagogy, content, and learning objectives for all studios.

After successful completion of the core, students engage in three semesters of "option" studios taught by visiting faculty, who are frequently practicing architects, as well as by MIT architectural design faculty. Studio topics relate to issues in practice and society that challenge the architectural profession and include offerings that vary in scale, context, and content.

Master of Science in Architecture Thesis

The thesis preparation subject taught in the sixth semester and the design thesis undertaken in the seventh semester have been reconceived as a yearlong process of introduction, research, development, and production of the selected thesis topic. Students are encouraged to explore the thesis at various scales and typologies of architectural production, as well as the potential to develop forms of inquiry around contemporary topics of architectural design research.

Studios

Studios benefited from international support and collaboration. Examples include the Harbin Institute of Technology, which helped fund an MIT research-oriented studio focused on the development of an athletic village for Harbin's upcoming bid for the Winter Olympics. As part of this effort, Tehrani traveled to Harbin for a series of lectures

and roundtables, and the option studio team led by Garcia and Mesa developed a dozen design strategies. Scott led a studio to the Galapagos Islands, an eco-tourist destination faced with a rapidly expanding population. The Universidad Tecnologica Equinoccial in Quito hosted the studio. The local government funded a research effort led by D’Hooghe and associate professor of urban studies and planning Alan Berger to study the waterfront district in Bilbao.

Admissions

Students in our professional MArch degree program are admitted at two levels: Level I for those whose undergraduate background includes studies in another area, and Level 2 for those who come from undergraduate programs in architecture and thus receive one year of advanced standing in our 3.5-year graduate program. In spring 2011, results for Level 1 were 417 applications, 60 admitted, 27 targeted, and 25 enrolled. Results for Level 2 were 145 applications, 15 admitted, 6 targeted, and 7 enrolled. (These figures reflect raw data as of April 2011; actual enrollment data, as detailed in the annual Yearly Enrollment Report released each October, can vary slightly.)

Faculty Activities and Achievements

Architectural Design faculty members who also practice as architects include Beinart, Chang, Dennis, D’Hooghe, Freelon, Goulthorpe, Kanda, Kennedy, Miljacki, O’Brien, Santos, Scott, Tehrani, Wampler, and Yoon. Faculty members lectured widely, entered and placed in competitions, conducted research, and served as guest critics and jurors. They were well represented in the architecture and popular media. Selected individual achievements are as follows.

Dennis received a Charter Award from the Congress for the New Urbanism for his design of the campus master plan for the University of Texas at San Antonio; the project also won an American Institute of Architects (AIA) Austin Design Award in 2010. He was honored with the Athena Medal for Lifetime Achievement from the Congress for the New Urbanism in recognition of a legacy of pioneers who laid the groundwork for new urbanism. His highly praised University of Miami Alumni Center opened in October.

D’Hooghe published *The Liberal Monument: Urban Design and the Late Modern Project* (New York: Princeton Architectural Press), described as “a provocative, accessible work of theory that challenges all of the accepted truths of urban design.”

Freelon received the F. Carter Williams Gold Medal from the AIA North Carolina chapter.

Kennedy’s Portable Light Project was one of 21 semifinalists in the 2011 Buckminster Fuller Challenge. Kennedy and her partner Frano Violich were part of a team that won the Minneapolis Riverfront Design Competition, the largest design competition in the city’s history.

O’Brien received a grant from the Graham Foundation for Advanced Studies in the Fine Arts for his book project, *Cycles*. He was also named one of this year’s six winners of the Architectural League Prize for Young Architects and Designers.

Tehrani began a new phase in his design practice through the establishment of a new Boston-based firm, NADAAA, that will serve as a platform for design investigation at a large scale through public, institutional, and private commissions. His exhibition “Pedagogical Practices: Practical Pedagogies” opened at the University of Melbourne in spring 2011. His work was featured in the book, *Material Design: Informing Architecture by Materiality* by Thomas Schropfer. Tehrani served as the Gehry chair at the University of Toronto in recognition of his winning of the competition for the new School of Architecture building. He was also named Donghia chair by the Otis College of Art and Design in Los Angeles.

Yoon and her partner Eric Howeler won an open competition to design the new headquarters for the Boston Society of Architects on Boston’s waterfront.

Wescoat’s activities are detailed below in the section on the Aga Khan Program for Islamic Architecture.

Building Technology

Faculty and Staff

Personnel listed in [Building Technology](#) (BT) were professors Leon Glicksman and Leslie Norford (on leave, spring), associate professors John Fernández and John Ochsendorf, lecturer Jaime Gagne (spring), and visiting scientist Marilyne Andersen. Fernández served as director of the group. Norford continued to serve as associate head of the department. While in Singapore, Norford completed his one-year term as the Singapore-MIT Alliance for Research and Technology (SMART) research professor of the built environment. A search committee composed of BT faculty and Andrew Scott selected a candidate to join the BT program. Discussions with the selected candidate are proceeding in the summer with the intent to bring his case to the faculty in the fall.

The scope of research and teaching interests of the group has expanded in recent years, including this past academic year. While traditionally the group has concentrated its efforts on the science and technology of buildings and their systems, it has established new research interests in urban scale work and comprehensive life cycle assessment.

New Curricular Activities

Ochsendorf cotaught a new subject on school design in developing countries (with mechanical engineering PhD candidate Stephen Ray) that focused on improving the design of government schools in Cambodia. There was a redesign of 4.42J Fundamentals of Energy in Buildings; it was turned into a design project and hands-on subject with support from the MIT Energy Initiative Education Task Force. It is one of two required subjects for the undergraduate energy minor in the applications area. Fernandez was awarded a \$10K grant from the MIT Class of 2011 funds for the development of demonstration setups illustrating building science phenomena for 4.401 Introduction to Building Technology. This subject is now being taught jointly with the graduate subject 4.461 Architectural Building Systems. The group is actively formulating a number of new subjects for the coming academic year, including reviving subjects in advanced materials for buildings and ecological construction and introducing a subjects on sustainable cities.

Faculty Research

Fernandez and Norford partnered with two professors at Boston University to win a four-year National Science Foundation (NSF) contract in the Emerging Frontiers in Research and Innovation program. Their project, in the Science in Energy and Environmental Design category, was one of 10 proposals that were accepted from over 200 applications for work on engineering sustainable buildings. The work focuses on developing methodologies by which smart, microgrid-enabled buildings can interact, individually and at community scale, with electric utility markets. As a result of this NSF award, Fernandez is organizing a workshop focused on the role of architects in science research, especially as related to issues of energy and resources in the built environment. The workshop will be held at MIT in the fall of 2011.

Fernandez is the lead faculty member for the Sustainable Built Environment Grand Challenge of the International Design Center (IDC). IDC is the research organization of the new Singapore University of Technology and Design (SUTD). Fernandez coordinates all research in this area and heads up a research group investigating the urban metabolism of rapidly growing cities in Asia and beyond. He also leads the curriculum development effort for the architecture and sustainable design “pillar” of SUTD. This involves the delivery of class material to the newly hired faculty of SUTD. Fernandez has also been the coordinator of the Sustainable Energy Systems focus area of the MIT Portugal Program (MPP). In its final year, MPP is under consideration for extension with an additional agreement with the government of Portugal for five more years.

Glicksman is a project leader in the new China/US Clean Energy Research Center focused on buildings. He will concentrate with his Chinese counterpart on natural ventilation to reduce or eliminate energy used for air conditioning. Glicksman and Andersen have developed designs for innovative natural ventilation and daylighting that will be used in a new energy-efficient building under construction in central Tokyo. Glicksman and Norford concluded a multiyear research project supported by the Masdar Institute in Abu Dhabi. The project included computational and laboratory work to quantify the performance of improved cooling systems for commercial buildings that are based on systems integration and optimal control. Lab tests showed 19 percent to 25 percent savings relative to conventional equipment.

Norford also is the lead investigator for the Center for Environmental Sensing and Modeling, an interdisciplinary research group within SMART. His work focuses on measurements and models that quantify the interaction of buildings and the urban environment, including the urban heat island effect, urban air quality, and the impact of the urban environment on building operation and energy use. The work is intended to improve building design and urban planning.

Concrete is used in larger quantities than any other substance except water. It is noted not only for its ubiquity but also for the fuel use and greenhouse-gas emissions associated with its production. Ochsendorf and Norford are principal investigators in MIT's Concrete Sustainability Hub, where their work focuses on the development and application of life-cycle analysis techniques for buildings and pavements that identify energy consumption and emissions during the operation of buildings and use of

pavements as well as the construction and demolition phases. The work will highlight opportunities to reduce life-cycle environmental impacts.

Ochsendorf published the book *Guastavino Vaulting: The Art of Structural Tile* in October 2010 with Princeton Architectural Press. Together with Michael Ramage (MArch '06) and South African architect Peter Rich, Ochsendorf won a 2010 Earth Award in the Built Environment Category.

History, Theory, and Criticism

Faculty and Staff

Personnel listed in History, Theory, and Criticism (HTC) were professors Stanford Anderson, Mark Jarzombek, Caroline Jones, Nasser Rabbat, and James Wescoat (on leave, spring); associate professors Arindam Dutta and David Friedman (on leave); assistant professor Kristel Smentek (on leave, spring); lecturer Yunxiang (Sam) Liang (spring); and postdoctoral fellow Laura Parodi (spring). Jones served as director of the group. Jarzombek completed a fourth year as associate dean. Dutta was named director of the SMArchS program effective July 1, 2011. Wang Yi was a visiting scholar from Tongji University in China.

Program Notes

HTC maintains a detailed history of its program, student activities, and alumni accomplishments. Selected highlights are included below.

HTC achieved a high ranking in the National Research Council's survey of doctoral programs in art and architectural history; the program ranked 2nd to 7th in the survey-based analysis and 5th to 26th in the regression-based indices among all surveyed art and architecture history programs across the United States.

A high priority remains raising support for graduate student packages to halt the growing disparity in funding levels between HTC and its peer programs (Princeton, Columbia, Yale, and Harvard). Although funding was secured for various HTC activities this year, other efforts failed (notably a grant to support summer language study and a new faculty fellowship). HTC will continue to look for more fruitful opportunities, including working with the dean for graduate studies.

HTC sustained its commitment to undergraduate education with a new subject open to undergraduates on Asian architecture; a revised survey subject based on Jarzombek's coauthored text, *A Global History of Architecture*; Jones' continued engagement with exhibition planning and production at the List Visual Arts Center and the addition of an undergraduate track in her graduate seminar on installation art; and Anderson's teaching of the required subject for undergraduate Course 4 majors (4.205 Analysis of Contemporary Architecture) this year.

HTC students continued to distinguish themselves and the program with conference presentations and organization, lectures, exhibitions, publications, and awards (for details, see the Student Awards and Fellowships section below). Six students were awarded \$178,653 in pre-doctoral research funds this year.

One HTC SMArchS and four PhD degrees were awarded this academic year.

The HTC [website](#) was increasingly employed for outreach to alumni and prospective students, with links to MIT Libraries for dissertation and thesis abstracts and a new initiative to post alumni news. Another outreach effort included a Facebook page that, although promising, faced difficulties in finding a focus for the publicity stream.

Admissions

In spring 2011, there were 95 applicants (75 PhD and 20 SMArchS). Faculty ranked 15 PhD applicants into three lines; five candidates were admitted, and four accepted admission for fall 2011. Five applicants from the SMArchS applicant pool were admitted, and four will enroll for the fall term. The MIT administration was not able to grant a request recommended by the 2009 Visiting Committee that the current PhD 9-month stipend be increased to a 12-month stipend (as in the sciences) to remain competitive in attracting the top students. However, despite funding disparities between MIT and its strongest competitors, HTC succeeded with three of its top-ranked admission offers, based on the recruitment efforts of faculty and students, the reputation of the program, and the achievements of its graduate students.

Program Activities

The HTC Forum hosted Clapperton Mavhunga, Daniel Barber, Rodolphe el-Khoury, and Juliet Koss in the fall term. In the spring term, the forum hosted Kurt Forster and Richard Wittman and a panel discussion with Sean Dockray, Ana Miljacki, and Antoni Muntadas. The seventh annual research in progress interdisciplinary graduate student conference, sponsored by HTC with funding from the Office of the Dean for Graduate Education, the department, and the dean, was held in March 2011. Also in March, HTC organized a conference, Shenzhen+China, Utopias+Dystopias, to explore the historical and transnational trajectories of contemporary Chinese society through a specific focus on the Shenzhen region. HTC continued its commitment to *Thresholds*, now a peer-reviewed journal, though funding constraints may limit its publication to once a year. Likely due to financial constraints, no students from Venice were able to participate in the seventh year of the exchange program between HTC and Istituto Universitario di Architettura di Venezia's Fondazione Scuola di Studi Avanzati.

Selected Faculty Activities and Achievements

HTC faculty conducted research, lectured, and presented papers worldwide, and their work was well represented in essays, book chapters, and catalogues. Anderson, Dutta, Jarzombek, Jones, and Rabbat played key roles in MIT's 150th anniversary celebration, including Dutta's submission of a manuscript, *A Second Modernism: MIT, Architecture and the "Techno-Social" Moment*. Jarzombek was director of the Lobby 7 Design Competition, an Institute-wide ideas challenge addressing the "empty" pedestals in MIT's entrance lobby. Anderson continued in his role, begun in 2006, as principal investigator for a research and teaching program on microubanism with colleagues from Tongji University and served as a juror for the Yangpu Waterfront Development Competition in Shanghai. The second edition of Jarzombek's textbook, *A Global History of Architecture* (with D.K. Ching and V. Prakash), was published (New York: Wiley, 2010). Friedman received two major grants, from the Graham Foundation and from the Kunsthistorisches

Institut. Selected activities of Rabbat and Wescoat are included below in the section on the Aga Khan Program for Islamic Architecture.

MIT Program in Art, Culture and Technology

The [MIT Program in Art, Culture and Technology](#) (ACT) focuses on art as a research practice, developing methods for critical design investigation and experimentation as well as models of collaboration in culture engagement. The unit resides outside the Department of Architecture, in the School for Architecture and Planning, and reports directly to the dean; however, the academic side of ACT continues to be administered through the Department of Architecture.

Faculty and Staff

Personnel listed in the program were associate professors Ute Meta Bauer and Gediminas Urbonas (on leave, spring); professor without tenure (retired) Joan Jonas (fall); visiting professor Antoni Muntadas (spring); and lecturers John Bell (spring), Mario Caro (spring), Andrea Frank (Adler), Oliver Lutz, Angel Nevarez, and Nitin Sawhney. Bauer served as ACT director. A search for a tenure-track assistant professor concluded with the appointment of Azra Aksamija, expected to start in fall 2011. In addition, the provost approved filling the target of opportunity line vacated upon Joan Jonas' retirement with the appointment of Renee Green as associate professor with tenure effective July 1, 2011. Urbonas was named the Mitsui career development chair effective July 1, 2011.

Program Notes

In the 2010–2011 academic year, several changes were made to the curriculum. The master of science in visual studies (SMVisS) degree was renamed master of science in art, culture, and technology (SMACT). Correspondingly, the Humanities, Arts, and Social Sciences (HASS) concentration was renamed Art, Culture and Technology, and a new minor of the same name began. The department has restructured its undergraduate major and no longer offers a BSAD. In the past, ACT offered a visual arts stream within the BSAD program. ACT is in discussions with the department about restructuring the Course 4B major into an art, culture, and technology major.

Even as enrollments remained steady or even rose, ACT offered fewer classes this year than last, primarily because of budget cuts combined with the loss of several of the teaching staff. Partly as a result of the reduced size of the faculty, a restructuring of the graduate student curriculum took place that dropped one thesis class from the regular lineup of subjects. The demand among undergraduates for visual arts subjects exceeds our resources. The subject 4.301 Introduction to Visual Arts was so popular that it had to be filled by lottery.

Slightly more than half of the 314 students taking ACT classes in AY2011 were undergraduates enrolled in one of the 15 undergraduate classes offered this year (13 of which were HASS-certified). Sixteen students were ACT art and design HASS concentrators (nine graduating in 2011 and seven continuing). An ACT HASS minor was available for the first time in AY2011. Already one student has completed a minor

and two others have applied to become minors. A \$40,000 d'Arbeloff grant was awarded to Bauer and Sawhney for a new subject, *Art as Intervention: Creative Responses in Contested Spaces, Conflict and Crisis*, created to enhance the MIT undergraduate experience in service learning through the arts and to address the new General Institute Requirement in the arts.

At the graduate level, in addition to its own master's degree, ACT offers electives for the MArch program and graduate students in other disciplines. ACT is a highly selective program that had 11 students enrolled in AY2011. Over the past several years, there has been a general upward trend in applicants to the graduate program. There were 42 applicants to the program in 2008, 62 in 2009, and 81 in 2010, declining somewhat to 66 applicants in 2011. The six entering students include three women and three international students. Together with the current students, they create a very diverse student body. For the first time, ACT achieved a yield of 100 percent of first-choice candidates in admissions for AY2012.

For additional information about research and artistic projects, special events, and the ACT archive, as well as faculty activities and achievements, see the ACT report to the president.

Computation

Faculty and Staff

Personnel listed in the [Computation](#) discipline group were professors Terry Knight and George Stiny (on leave, spring), associate professors Takehiko Nagakura and Lawrence Sass, associate professor of the practice Dennis Shelden (fall), principal research scientist Kent Larson, research scientist Stephen Intille, and visiting associate professor Athanassios Economou (spring). Nagakura served as director of the group. Shelden was reappointed for a period of five years, effective July 1, 2011.

Selected Group Activities

Computation group students organized an exhibition, "Things to Think With," as part of the celebration of MIT's 150th anniversary; the exhibition showcased a selection of recent student research projects. Nagakura, Knight, and Sass created a new class, 4.561 Introduction to Computation in Architecture, as a core requirement for first-year MArch students. In fall 2010, the group's lecture series included Phillip Anzalone, Jessica Rosenkrantz and Jesse Louis-Rosenberg, Edouard Din, Neri Oxman, and Timothy Presterro. In spring 2011 speakers were Antoine Picon, Athanassios Economou, Lira Nikolovska, Edith Ackermann, and Matthew Trimble. The Department of Architecture was ranked first in the Computer Application category in the 2011 America's Best Architecture Schools issue of *Architectural Record* magazine.

Selected Faculty Achievements

Sass received multiyear research support for studies in prototyping and visualization from SUTD (2010–2019) and multiyear education support to develop three new courses at SUTD on design and computation (2010–2019). Knight led a one-month workshop

on shape grammars at the School of Civil Engineering, Architecture & Urban Design of the State University of Campinas (Brazil) in January 2011; received an Advanced E-Team grant from the National Collegiate Inventors and Innovators Alliance to work (in collaboration with PhD student Kenfield Griffith) on a new technology called mSurvey for accessing design data in remote or developing communities; and hosted a visiting PhD student, Myrsini Mamoli, who worked with Knight on a research project for Hellenistic libraries. Nagakura participated in the exhibition “Building the Revolution—Art and Architecture in Russia, 1915–1935” (organized by the Royal Academy of Arts, London), with his film of Tatlin’s Tower, which traveled to Barcelona, Madrid, and London. He was the keynote speaker at the Information Technology Symposium held at the Architectural Institute of Japan (Tokyo) in December 2010.

Master of Science in Architecture Studies Program

With the departure of Rahul Mehrotra to Harvard, Dutta was appointed as the new director of the SMArchS program. SMArchS reflects the notion that training in architecture, and its ancillary disciplines, requires support in the form of specialization beyond that of basic professional competence alone. Over the years, the SMArchS program has evolved into its current administration with five areas of study devoted to particular components of architectural and related investigations: architecture and urbanism; building technology; design and computation; history, theory, and criticism; and the Aga Khan Program for Islamic Architecture. Emphasis is placed on students’ individual research interests, and Dutta worked with both faculty and students to strengthen the interaction and intersection of the discipline groups.

Building on the agenda set in the prior year, the SMArchS program focused on the framework previously established. Toward these goals, the program:

- Energized the 4.221 Faculty Colloquium, the only required subject in which all SMArchS students participate, and made this a potentially department-wide forum by inviting an array of professors from across MIT to speak. This year, Goulthorpe’s leadership of the colloquium won strong plaudits for its cohesiveness, dynamism, and exceptional participation, a phenomenon little witnessed in the history of the program. In future years, we will work to further boost this progress, including raising the credit level and the budget for the colloquium.
- Fostered interaction among students and faculty through intermittent meetings and proposed a common room as a way to bring students together in a spatially dispersed organization. Cohesive space remains a concern, and the director is working with the administration to realize this in future years.
- Participated more effectively in open house events by inviting potential students to campus and making SMArchS faculty available; this paid rich dividends in the surge of acceptances for some discipline groups.
- Provisionally accepted the establishment of a new discipline stream, architectural design, filling in what was long felt to be a crucial lack within the set of represented discipline groups.

- Coordinated the admissions process to validate candidate eligibility across disciplines and met with discipline group directors before extending offers. Lessons from this year's admissions process led to some key decisions as to the population of the different discipline groups, decisions that will, we hope, bring fruit in the coming year.

Next year the SMArchS program will focus on the following goals: creation of an SMArchS common room, a long-unfulfilled demand; coordination of the SMArchS lecture series; strengthening of the program's website presence; continued coordination of thesis reviews with external reviewers; allocation of an SMArchS budget to cover activities specific to the program; and discussion of admissions quotas.

Overall, SMArchS admissions results in spring 2011 were 260 applications, 45 admitted, 25 targeted, and 27 enrolled.

Undergraduate Program

The undergraduate program is a pre-professional degree program that prepares students for a master of architecture professional degree program. Design education focuses on studios supplemented by coursework in building technology; computation; history, theory, and criticism; and the visual arts. Undergraduate majors may choose to focus on these disciplines in lieu of architectural design, following established curricular requirements. Yoon, Norford (in his role as undergraduate officer), and administrator for academic programs Renée Caso continued to support and strengthen the undergraduate experience.

The degree title bachelor of science in art and design has been changed to bachelor of science in architecture, starting with students graduating in 2012. As recommended by the Department of Architecture, the 4B degree name bachelor of science has been changed to bachelor of science in architectural studies.

Based on feedback from an internal and external review of the undergraduate architecture program in April 2010 (including then-current students, recent alumni, and heads of undergraduate programs at Harvard, Yale, Princeton, Columbia/Barnard, the University of Virginia, and the Rhode Island School of Design), ongoing development and assessment of curriculum and subject content continue to respond to the changing needs of Course 4 students. Given that the department's undergraduate minor program has attracted more students in recent years, the department broadened the content of the introductory studios while maintaining the intensity and rigor of the advanced subject.

The studio sequence for students was reorganized and named as follows: 4.111 Introduction to Architecture and Environmental Design, 4.112 Architecture Design Fundamentals I, 4.113 Architecture Design Fundamentals II, 4.114 Architecture Design Studio I, 4.115 Architecture Design Studio II, and 4.116 Architecture Design Studio III. The 4.111 subject was redesigned to provide a broader introduction to architecture and its allied disciplines and is taught in both lecture format and studio assignments; 4.112 was redesigned to introduce students to issues of abstraction and representation, focusing on building up digital skills that were underdeveloped in the previous

curriculum; and 4.113 was redesigned to focus on design through the art of making and fabrication. Starting in AY2012, 4.111 will be designated as a humanities subject in the arts category (HASS-A), thereby fulfilling a General Institute Requirement.

More full-time faculty, both tenure-track and tenured faculty who previously taught only in the graduate program, participated in teaching undergraduate subjects than in previous years. O'Brien's 4.115 studio and Goulthorpe's 4.116 studio were extremely successful subjects and well received by the students.

Undergraduates continued to participate in a variety of international experiences offered by the department. The department welcomed one student from the Technical University of Delft and two from Hong Kong University as part of ongoing exchange programs. MIT senior Elizabeth de Regt spent the fall term studying architectural design in Delft.

Undergraduate students have appreciated and asked for more contact with graduate students. This past year, undergraduates and graduates shared more classes in building technology, design computation, visual arts, and history, theory, and criticism of architecture and art. In addition to sharing subjects and faculty, the students also shared resources and studio space productively with the graduate students.

Since 2006, the department has participated in the Institute's Freshman Pre-Orientation Program by offering "Discover Architecture," a two- or three-day program of fun exploration for incoming freshmen. This year, led by Lamere, the program included visits to noteworthy buildings in Cambridge and Boston, a design competition, exploration of the Boston waterfront, and dinner at Ginger Park, designed by Tehrani. Twelve freshmen participated.

The department participated in the Minority Introduction to Engineering and Science (MITES) program again in the summer of 2010 by teaching an architecture design component as part of elective study. MITES is a rigorous six-week residential, academic enrichment summer program for promising high school juniors who are interested in studying and exploring careers in science and engineering. Ten students enrolled in the architecture component led by Lamere.

In an effort to promote greater intellectual rigor and independent thinking, we continue to encourage our undergraduates to complete a senior thesis. Six seniors completed theses this spring reflecting a range of areas of concentration from building technology, computation, and architectural design. This year two talented and hard-working seniors, Alexander Jordan and Kayla Manning, were elected to Phi Beta Kappa.

Faculty members who served as undergraduate advisors, in addition to Norford and Yoon, were Fernandez, Frank Adler, Glicksman, Knight, Ochsendorf, Sass, Smentek, Spirn, Stiny, Urbonas, and Wescoat. Twelve sophomores entered the department in 2010–2011, joining 20 juniors and 12 seniors to bring the total number of undergraduates to 44.

Aga Khan Program for Islamic Architecture

The Aga Khan Program for Islamic Architecture (AKPIA) at MIT, established in 1979, is a leading program in the study of architecture in the Islamic world. Its outreach activities include a lecture series, a travel grant program open to all students in the School of Architecture and Planning, and a visiting postdoctoral program. Faculty, listed in the department under the History, Theory, and Criticism Program, were Nasser Rabbat, director of the program, and James Wescoat. In 2010–2011, the program numbered six PhD and eight SMArchS students.

Program Activities

AKPIA admitted one new PhD student and three new SMArchS students and graduated four SMArchS students. The program hosted three postdoctoral fellows—Benjamin Michaudel, Laura Parodi, and Saleema Waraich—each of whom presented a public lecture. The lecture series featured Chad Oppenheim and Talinn Grigor in the fall. In the spring the series included Dutta, MIT student recipients of travel grant awards (Maryam Eskandari and Huma Gupta), and faculty from the University of Evora in Portugal (Filipe Themudo Barata, Fernando Branco Correia, and João Rocha). In addition, as part of the MIT 150th anniversary celebration, the program presented a special seminar on “The Global Architect in the Free Trade Age” with Aziza Chaouni, Deeba Haider, Kevin Mark Low, and Todd Reisz.

Faculty Activities

Rabbat organized the “Where Does the Field of Islamic Art and Architecture Stand Today?” workshop at MIT in November 2010 and lectured widely. In addition to several articles in English and Arabic, four of his books were published between June and October 2010: *The Citadel of Cairo: A Guidebook*, published by the Egyptian Supreme Council of Antiquities in English and Arabic; *The Courtyard House between Cultural Reference and Universal Relevance*, an edited volume (London: Ashgate); *al-Mudun al-Mayyita: Durus min Madhih wa-Ru’an li-Mustaqbaliha (The Dead Cities in Syria: Lessons from Its History and Views on Its Future)* (Damascus: al-Aws Publishers); and *Mamluk History Through Architecture: Building, Culture, and Politics in Mamluk Egypt and Syria* (London: I.B. Tauris). Rabbat served on a number of advisory and executive boards of cultural organizations and journals in 2010–2011, including the American Research Center in Egypt, the Qatar Faculty of Islamic Studies, Takreem, *MIT-EJMES (MIT Electronic Journal of Middle East Studies)*, and the *Lonaard Journal*, and he helped develop the curriculum for the new graduate program in Islamic urban planning and architecture in Qatar. He received a Radcliffe Institute for Advanced Study Fellowship and will be on leave for AY2012.

Wescoat continued his research, writing, and teaching in the fields of water-conserving design, disaster-resilient design, and cultural landscape heritage conservation in South Asia. He offered a second design workshop in the Nizamuddin area of Delhi in collaboration with the Aga Khan Trust for Culture. The faculty-student research project “New Campuses in the Islamic World” will continue for a second year with anticipated journal articles on the historical geography of higher education, campus environmental design, and leading campus planning firms. Wescoat received two grants from the

MIT Energy Initiative on water, energy, and environmental systems. His work on disaster-resilient design is being pursued in collaboration with Aga Khan Planning and Building Services (Pakistan) and is the subject of a new seminar at MIT. He co-organized a workshop on “Disaster-Resilient Design” with the National Academies Disaster Roundtable and the new National Academy of Environmental Design in Washington, DC, in October 2010.

Across the Department

Enrollments

As of October 2010, Course 4 counted a total of 287 students: 45 undergraduates (including one student enrolled in Course 4B), 115 MArch students, 57 SMArchS students, six SMBT students, 11 SMVisS students, 44 resident PhD students, and nine nonresident PhD students. (Note that Center for Real Estate students are no longer counted in the Department of Architecture in the Institute’s annual Yearly Enrollment Report.)

Lectures

This year the department reconceived the newly renovated Room 7-431 as part of a continuous “halo” around the dome and as a center of activity, including department, discipline group, and program lectures and social events as well as studio review space. Except for ACT, which hosted its events in its new space in Building E15, most department public lectures were held in Room 7-431. The department lecture series in the fall included Rodolphe el-Khoury, Lisa Iwamoto, Sharon Johnson, Jurgen Mayer, Shih-Fu Peng with Holger Falter, Philippe Rahm, Marc Tsurumaki, Alfredo Brillembourg and Hubert Klumpner, and Alejandro Zaero-Polo. A lecture by Robert Campbell was cosponsored with the MIT Women’s League. In the spring, speakers were Rients Dijkstra, Anton Garcia Abril and Debra Mesa Molina, Walter Hood Jr., Hashim Sarkis (cosponsored with the MIT Lebanese Club), and Gilles Saucier. Regine Leibinger presented the 17th Pietro Belluschi Lecture. Guy Nordenson presented the 5th Goldstein Architecture, Engineering, and Science Lecture. Ryue Nishizawa presented the 22nd Schein Lecture. Discipline group lectures are mentioned in the relevant sections above.

Exhibitions

Student and faculty work continued to be featured on the School’s PLAZmA screens and on dedicated PLAZmA screens programmed by the department. The Wolk Gallery hosted an exhibition featuring the winners of the Lobby 7 Competition, including several projects by architecture students.

Publications

Thresholds, a journal edited and produced by students, is noted for developing diverse architectural themes in each issue. The theme for issue number 38 was “Future,” and the theme for issue number 39 was “Inertia.”

Architecture Student Council

The past year was one of transition for the Architecture Student Council (ASC), as well as for the department at large. Coinciding with new program director appointments and increasing integration, ASC attempted to reach out to the department as an entirety. It strove to become more involved as a student representative body for academic affairs, as well as to continue its traditional role in quality of life and social affairs, which it carried on through programs created in the past several years and now celebrated as ongoing traditions. A new cabinet of leaders was installed at the beginning of the spring term and will continue for the 2011 calendar year, rather than the academic year, to allow for continuity from the past year's cabinet including specific committee assignments. Through meetings between the ASC executive committee and various additional committees, as well as through continual communication among students, faculty, and staff, ASC has been able to allow for greater communication and openness for all.

Programs included a town hall meeting each semester and monthly ASC/student body-wide meetings (Executive Committee); ShowCase, an annual design-build competition for department furniture and PLAZmA screen student work exhibitions (Design Competitions Committee); weekly movie nights and discussions (Movie Series Committee); Finals Brunch and periodic yoga and massage sessions (Wellness Committee); Friday night socials (Social Committee); the "Studio Culture" accreditation document and informational guide, "FYIFAQ" open house departmental brochure, and annual department census (Publicity and Publications Committee); the TRICKS student lecture night (Executive Committee); bimonthly "Dinner for Anonymous 8" events (Networking Dinner Committee); department lecture series dinner student representatives (Lecture Series Committee); cosponsoring of Little t/QuBE's (Queers in the Built Environment) "Mapping Queer Space"; and cosponsoring of the Archiprix Town Hall and student participation listing.

Officers and committee chairs were as follows: Jonathan Crisman and Nancy Kim, copresidents; Kyle Barker, secretary; Karina Silvester, treasurer; Clay Anderson, Social Committee chair; Moe Amaya, Publicity and Publications Committee chair; Travis Williams, Movie Series Committee chair; Zahraa Saiyed, Wellness Committee chair; Emily Lo, MArch representative; Yeon Wha Hong, SMArchS urbanism representative; Zahraa Saiyed, SMArchS BT representative; Sofia Berinstein, SMVisS representative; Yihyun Lim, networking dinners coordinator; Juan Jofre, lecture series coordinator; Seto Hendranata, design competitions coordinator; and Chris Malcolm, website coordinator.

Student Awards and Fellowships

The Department of Architecture honored the accomplishments of the following undergraduate and graduate students:

William Emerson Prize, given to an architecture senior for academic excellence:
Alexander W. Jordan

Harry Wentworth Gardner (1894) Prize, awarded to an architecture senior for academic excellence achievement in design at the undergraduate level: Kayla C. Manning

Marjorie Pierce/Dean William Emerson Fellowship Award, for outstanding academic and design achievement: Kelly E. Shaw

Sydney B. Karofsky '37 Prize, for outstanding academic and design achievement: Alexander W. Marshall

Rosemary Danehy Grimshaw Award: Ryan R. Maliszewski

Special Recognition Award, for outstanding service to the department: Chun Lun Otto Ng

Tucker-Voss Award, in recognition of promise for the future in the general field of building construction: Andrea Love

Arthur Rotch Prize, for achievement in architectural design: Lisa Pauli

Alpha Rho Chi Medal for Service Leadership and Promise of Professional Merit in Architecture: Sarah Hirschman

Arthur Rotch Special Prize, given to a graduating master of science in architecture studies student for academic achievement: Xiaoji Chen

American Institute of Architects Henry Adams Medal, for the top-ranking graduating master of architecture student: Oliver Wuttig and Ekachi Pattamasattayasontha

American Institute of Architects Certificate of Merit, for academic excellence: Buck Sleeper

Imre Halasz Thesis Prize, for academic excellence as represented in a master of architecture thesis: Natsuki Maeda

Master of Science in Architecture Studies Prize for Thesis: Adam Johnson, Siobhan Rockcastle, Matti Wirth, and Kui Xue

Kristen Ellen Finnegan Memorial Fund Award, for a third-year woman from the US or Canada in the doctoral program in history, theory, and criticism: Rebecca Uchill

Marvin E. Goody Award: Maggie Nelson

The following graduate students received awards, grants, and fellowships from the Institute and from sources outside of the Department of Architecture:

AKPIA Travel Grants: Sarah Cosgrove, Maryam Eskandari, Stephen Form, Huma Gupta, and S. Faisal Hassan

Schlossman Research Fellows: Ana Maria Leon-Crespo and Ella Peinovich

Ann Macy Beha Travel Fellowship: Jennifer Chuong

Louis C. Rosenberg Travel Fellowship: Andrew Ferentinos and Todd Satter

Harold and Arlene Schnitzer Prize: Sarah Witt (first place), Otto Ng (second place), and Sohnin Hwang (second place)

Getty Predoctoral Fellowship and Kress Foundation Travel Fellowship: Iris Moon

Mellon Postdoctoral Fellowship (declined): Azra Aksamjia

Mellon Postdoctoral Fellowship: Ila Sheren

American Research Center in Egypt Research Fellowship and Deutscher Akademischer Austausch Dienst Research Grant: Christian Hedrick

Mellon Fellowship in the Humanities, University of London: Jordan Kauffman

American Council of Learned Societies Mellon Dissertation Completion Fellowship: M. Benjamin Matteson

Social Science Research Council International Dissertation Research Fellowship: Nicola Pezolet

Dumbarton Oaks Junior Fellowship in Garden and Landscape Studies: Alla Vronskaya

Latin American Studies Association Travel Grant, Ford Foundation Dissertation Fellowship (honorable mention), and Graham Foundation Carter Manny Award Citation of Special Recognition: John Lopez

Avalon Grant, Social Science Research Council Dissertation Proposal Development Fellowship Grant (alternate), and MIT Brazil Dissertation Travel Grant: Ana Maria Leon-Crespo

Mary Vidal Memorial Fund Award, Historians of Eighteenth Century Art and Architecture: Iris Moon

MIT International Science and Technology Initiatives (MISTI) Travel Grant: Todd Satter

MIT Kelly-Douglas Fund research support: Karin Oen

Social Science Research Council Dissertation Proposal Development Fellowship: Rebecca Uchill

Deutscher Akademischer Austausch Dienst Intensive German Language Summer School Scholarship: Alla Vronskaya

Harold Horowitz Research Grant, MIT School of Architecture and Planning: Shiben Banerji

MIT-France Internship (Summer): Jennifer Chuong

Nader Tehrani
Department Head
Professor of Architecture