

Dean, School of Architecture and Planning

The School of Architecture and Planning is composed of five main divisions:

- The Department of Architecture, the first such department in the nation (1865), which came to be known as a leader in introducing modernism to America
- The Department of Urban Studies and Planning, which began as the Program in City Planning in 1932, was the second of its kind in the country, and has evolved into the longest continuous planning program in the United States
- The Media Laboratory, the birthplace of multimedia computing (1985), which has come to be known around the world as a world-class incubator of new design ideas
- The Center for Real Estate, which established the nation's first one-year graduate program in real estate development (1984), becoming recognized worldwide as a leader in the field
- The Program in Art, Culture and Technology (2010), which was the result of a merger between the academic Visual Arts Program (1989) and the Center for Advanced Visual Studies (1967), a research program in visual arts

The unifying theme of all our activities is design. Through the design of physical spaces, and through the design of policies and technologies that shape how those spaces are used, we aim to sustain and enhance the quality of the human environment at all scales, from the personal to the global.

What follows are some of the highlights from the year. For more information, consult the divisions' individual reports.

Major Developments

In March, the School officially dedicated its new Media Lab complex, designed by Pritzker Prize-winning architect Fumihiko Maki in association with Leers Weinzapfel of Boston. The new building is adjacent to and carefully integrated with the Media Lab's existing home in the Wiesner Building, designed in 1985 by alumnus I.M. Pei BArch '40, also a Pritzker Prize winner. Together, the two landmark buildings house a range of research and teaching programs that will benefit greatly from daily interaction. Those programs, and the School as a whole, will also benefit hugely from their increased visibility on campus.

In April, the School launched the new Program in Art, Culture and Technology (ACT), which is focused on art as a research practice and developing methods for critical design investigation and experimentation as well as models of collaboration in cultural engagement. Prominently housed in the new Media Lab complex and the adjacent Wiesner Building, the new program is the result of a merger between the Visual Arts Program (VAP), an academic unit established in 1989 offering graduate and undergraduate classes, and the Center for Advanced Visual Studies (CAVS), a research program in visual arts for artists, engineers, and scientists, established in 1967.

The creation of this new program, combining the efforts of two historic endeavors, reflects our commitment to the growing importance of the visual arts at MIT. In addition to giving the arts a higher profile on campus and in the city, the program's signal position in our new building puts its faculty, students, and researchers in daily contact with their counterparts at the Media Lab and at the many other centers and programs in the complex, enhancing everyone's efforts. Under the leadership of curator and associate professor Ute Meta Bauer, who had been director of the Visual Arts Program since 2005, the new program will partner undergraduates, graduates, fellows, and faculty in thematic clusters at the intersection of art, culture, science, and technology.

Campus-wide Activities

This year, MIT embarked upon a major collaboration with the government of Singapore to create the new Singapore University of Technology and Design, scheduled to launch in 2012. The School of Architecture and Planning (SAP) is playing a major role in the development of a unique architecture program there (emphasizing sustainable design) and a research facility to be called the International Design Center that will allow for collaborative research between faculties on both campuses.

SAP is one of three schools at MIT taking part in a global collaboration with the National Research Foundation of Singapore to develop new models and tools for the planning, design, and operation of future urban transportation. The central theme of the effort is to bring together recent advances in information technology and transportation science to increase the efficiency of urban transportation systems while at the same time ensuring a sustainable and livable environment—first in Singapore and ultimately on a global scale. Participants in the five-year project include associate professor of the practice Carlo Ratti and assistant professor Chris Zegras from the Department of Urban Studies and Planning (DUSP).

MIT is a partner in a consortium that was awarded a multimillion-dollar, five-year grant from the Volvo Research and Education Foundation for a Center of Excellence on Bus Rapid Transit. MIT's participation in the center draws on the new Transportation@MIT initiative, a collaboration among the School of Architecture and Planning, the School of Engineering, and the Sloan School of Management. SAP's involvement will be led by Chris Zegras in DUSP.

As part of the core curriculum for MIT's new minor in energy studies, the Department of Architecture offered 4.42J Fundamentals of Energy in Buildings, featuring creative design projects addressing such issues as energy conservation, thermal comfort, heat transfer within buildings, and thermodynamic performance. SAP electives included 4.401 Introduction to Building Technology (from the Department of Architecture) and 11.162 Politics of Energy and the Environment, 11.369J Energy Policy for a Sustainable Future, 11.165 Infrastructure in Crisis: Energy and Security Challenges, and 11.168 Enabling an Energy-Efficient Society (from the Department of Urban Studies and Planning). The program was guided and developed by the Energy Education Task Force, which included professor Amy Glasmeier, head of DUSP; Marilyn Andersen, associate professor of architecture; and Kathy Araujo, a PhD candidate in DUSP.

Education

Architecture

Under the leadership of professor Nader Tehrani, the design faculty has reexamined and restructured the master of architecture (MArch) program, and the outcome of that reform became highly visible this year in the quality of student design work. Studio productivity was at a higher level than ever before, in terms of both the development of the building/urban design proposals and the completeness and sophistication of their graphic representation. A few years ago, there was uncertainty as to whether MIT had a strong design culture. Today, it is more than evident that a design culture exists at MIT and students benefit from it in a significant way both in and out of the class setting.

The department participated in the Minority Introduction to Engineering and Science (MITES) program for the first time in the summer of 2009 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. Department lecturer Joel Lamere led the program. Ten students participated.

Planning

Over the course of the year, faculty from the Environmental Policy and Planning (EPP) program group worked with the campus-wide Faculty Environmental Network for Sustainability to develop a design for the proposed undergraduate minor in environment and sustainability. This effort is being integrated into the larger Institute planning for the minor. EPP faculty and graduates have mobilized to help build MIT's focus on renewable energy and energy efficiency and have been central to a range of research and teaching activities particularly focused on wind energy and community-based strategies for encouraging energy efficiency.

Professors Bish Sanyal and Lawrence Vale led an effort funded by the Rockefeller Foundation to develop a new curriculum for the proposed Indian Institute of Human Settlements. Associate professor Balakrishnan Rajagopal and others from the department and School have provided assistance on this collaborative project.

This spring, six DUSP graduate students took part in a collaborative thesis experiment proposed by associate professor Lorlene Hoyt as a way to reinvigorate the master's thesis process. The idea grew from Hoyt's observation that many students find the thesis process harrowing and, to some extent, unsatisfying, at least in part because theses so often end up unread on library shelves. In hopes of making the process less isolating and more rewarding, as well as making the products more useful, she invited six of her students to work on their research together.

In 2009–2010, the Special Program for Urban and Regional Studies (SPURS) hosted 13 Humphrey fellows and four SPURS fellows from Bangladesh, Brazil, Bhutan, China, Ecuador, Mozambique, Namibia, Mexico, Lebanon, Niger, Iraq, Korea, Turkey, Guinea, and Ghana. Their backgrounds were in urban planning, transportation, urban design, information technology, road infrastructure, housing, and economics. SPURS fellows continue to build strong connections with MIT undergraduates, particularly through relationships with the International House and Simmons Hall.

Media

Students from the Undergraduate Research Opportunities Program (UROP) continued to represent the largest undergraduate presence at the Media Lab. More than 300 undergraduates from across the Institute participated in a wide variety of research projects, with many of these students pursuing their undergraduate theses under the supervision of faculty from the Program in Media Arts and Sciences (MAS). In addition, the MAS program offered nine undergraduate subjects.

Real Estate

In a nine-day intensive this spring, eight candidates for the master of science in real estate development (MSRED) visited three major US cities to meet with representatives from 35 real estate companies, in the process gaining an inside look at real estate's micro and macro levels, focused especially on issues of sustainability. Students visited organizations ranging from small private enterprises to large pension funds to immense, transformative infrastructure projects.

Since the majority of development occurs outside of the United States, for the last five years MSRED has incorporated the opportunity for international exposure into its course offerings. In January 2010, seven members of the class of 2010 participated in an international class taught by center chairman Tony Ciochetti. The students visited projects, companies, and universities in London, Lisbon, and Porto, Portugal.

During FY2009, the decision was made to make the MSRED program more competitive by a smaller, more select class. Part of the rationale was that during an economic downturn it is easier to place a smaller, more competitive group; also, 90% to 100% of MSRED students finance their education themselves, and the economic downturn and its disproportionate impact on the real estate industry have led to fewer applicants.

To accommodate the smaller class and the more challenging economy, all members of the class of 2010 were required to take the career development seminar offered by the center. The course met biweekly and included workshops, presentations by industry professionals, and one-on-one advising sessions.

Visual Studies

ACT is currently the only program in the country offering a master of science in visual studies, and the program has seen a steady rise in applicants; over the past two years, the applicant pool has doubled, with 42 applicants in 2008, 62 in 2009, and 81 in 2010. Six students accepted by the Admissions Committee will enter the program in AY2011. The new students represent a diverse group in terms of gender, nationality, and ethnicity. Specific efforts are being made to increase the numbers of underrepresented minorities. The six entering students include three women who are members of underrepresented minority groups (an African American, an American Indian, and a Latina).

The demand among undergraduates for visual arts classes has exceeded resources. The 4.301 Introduction to Visual Arts course is continually oversubscribed. While previous years had shown a growth in enrollments (particularly among undergraduates), this

year showed a slight drop in numbers (but still an increase over the 2008 numbers). This was primarily due to a reduction in course offerings caused by financial cutbacks. During the past year ACT had to eliminate three classes: one section of Introduction to Visual Arts and two video classes. This also explains the drop in percentage of students outside of SAP who enroll in the classes. The drop in the number of courses also meant increased class sizes.

The program applied for a Humanities, Arts, and Social Sciences (HASS) minor in visual arts, which was approved to commence in AY2011. The minor will build on the interest in the HASS visual arts concentration and the general interest among undergraduates in arts classes.

In response to increasing demand from faculty, students, and researchers, a major effort is under way to archive the work done at MIT's Center for Advanced Visual Studies since its founding in 1967 by professor György Kepes as an artists' fellowship program. The archive contains materials concerning collaborative and time-based productions generated by or related to the tenure of nearly 100 internationally recognized artist fellows over the past 44 years. It will be housed in SAP's new Media Lab complex, adjacent to studios, classrooms, and offices of the new Program in Art, Culture and Technology. In addition to the physical archives, ACT hopes to develop a large enough digital collection online to facilitate significant research without requiring travel to Cambridge.

Research

Nearly a third of the 13 new projects recently funded by the MITEI were led by faculty in the School of Architecture and Planning. To date, MITEI's seed fund program has supported more than 50 early-stage research proposals in addition to ignition and planning grants, including previous grants to School of Architecture and Planning faculty Marilynne Andersen, John Fernández, Michael Flaxman, Judith Layzer, and Les Norford. Of the School's four new projects, two received seed grants—funding that lasts from one to two years—and two were awarded shorter-term planning grants.

When the catastrophic earthquake hit Haiti on January 12, faculty and students from the School were among the first responders in the academic community, much as they were five years ago when Katrina struck New Orleans. MAS graduate students Aaron Zinman and Greg Elliott developed a suite of hardware and software systems to index the skills of local residents (e.g., language or construction skills) so that nongovernmental organizations such as Partners In Health could quickly find and employ them. Several other initiatives were also undertaken in the Department of Architecture, the Department of Urban Studies and Planning, and the Media Lab.

Architecture

A two-year research project with Sekisui House of Japan resulted in a new book on sustainable urban housing and community design that incorporates a broad-based ecological systems approach not yet commonly found in the building and planning fields. The project was led by dean Adèle Naudé Santos and associate professors Andrew Scott and Eran Ben-Joseph. Most of the discussion about sustainable

community design has, to date, assumed the creation of new communities from scratch. In contrast, this project focused on retrofitting an existing urban environment—a much more likely approach, given the extent of our already-built infrastructure—with the aim of understanding how best to reinvent it between 2010 and a target date of 2050.

Planning

Along with representatives from the School and the Institute, several DUSP faculty members traveled in January and June to China to attend international conferences and to build research relations with faculty at Tsinghua, Nanjing, and Southeast universities. Projects are in their infancy, but several faculty members are collaborating on a project examining China's planning for the design of new technology regions.

This year DUSP collaborated with Boston University, Harvard University, and Northeastern University on a project funded by the National Science Foundation (NSF) that focuses on the dynamic interactions between people and natural ecosystems in urban settings; the four-university consortium is exploring carbon exchange aspects of Boston's "urban metabolism." Professor Joseph Ferreira leads the MIT effort and is studying how to characterize spatial patterns of land use and transportation that could influence carbon exchange.

DUSP's SENSEable City Laboratory received considerable press regarding a new project called "Trash Track," which uses information and communications technologies to track different types of waste on their journey through the disposal systems of New York and Seattle, allowing researchers (and residents) to monitor the patterns and costs of urban disposal and create awareness of the impact of trash on our environment.

Carlo Ratti and his team from the SENSEable City Lab also developed a new prototype for a bicycle wheel that was demonstrated in Copenhagen in December for the benefit of conference attendees and a gathering of 400 city mayors from around the world. The wheel is capable of storing energy every time the rider puts on the brakes and then gives that power back to provide a boost when going uphill or to add a burst of speed in traffic. In collaboration with the Personal Robots Group, the SENSEable City team is also working to develop an "Affective Intelligent Driving Agent," a new in-car personal robot that aims to change the way we interact with our car.

The Department of Urban Studies and Planning, in partnership with Leveraging Investments in Creativity, launched a new program of research, awards, and learning to foster the creation of accessible artist space in communities across the United States. Last fall, to promote and reward best practices in the development of artist spaces that yield benefits for both artists and their communities, the program initiated the MetLife Innovative Space Awards, a competitive national funding program with unrestricted awards ranging from \$10,000 to \$50,000, accompanied by value-added support such as technical assistance and other learning activities.

Media

Researchers at the Media Lab have developed a mobile phone application that can help determine a user's eyeglass prescription data in the field in just two minutes at little cost. The application won a prize this year in MIT's IDEAS competition—an annual contest

for inventions that have the potential for a significant impact in the developing world—and made it to the semifinals in MIT's \$100K Business Plan Competition. The team has already applied for a patent on the system, named [NETRA](#) (Near-Eye Tool for Refractive Assessment).

The Media Lab's Fluid Interfaces Group developed a device that can virtually turn the entire world into a personal computer. For his central role in developing it, graduate student Pranav Mistry SM '08 was named one of the 35 top innovators worldwide under the age of 35 by *Technology Review*. Mistry's SixthSense brings information that is usually confined on paper or on a computer screen into the tangible world, allowing one to interact with it using natural hand gestures. When it was demonstrated at the TED conference last year, it received a standing ovation.

A team from the Media Lab's Human Dynamics Research Group scored a \$40,000 prize in a social networking contest sponsored by the Defense Advanced Research Projects Agency. The tools they developed to win the contest could turn out to be important in large-scale collective problem solving such as finding a missing child, spreading information about a product safety recall, or mobilizing rescue efforts during natural disasters such as earthquakes or tsunamis.

Among the lab's many other innovations:

- Bokode, a next-generation barcode that uses a new optical solution for encoding information, allowing barcodes to be shrunk to less than 3 mm, to be read by ordinary cameras from several meters away, and to offer different information from different angles.
- Sourcemap, a volunteer-driven, social-networking Web application that presents easy-to-understand map visualizations of the environmental impact of consumer products—information that is rarely available to the public.
- Cardiocam, which captures physiological data purely by image analysis over the Internet from a webcam pointed at a person's face. The Cardiocam team has accurately captured heart rate during remote video-conferencing interactions. This approach will allow for more primary care outside the doctor's office.
- HealthMap's Outbreaks Near Me iPhone and Android application, which provides real-time disease outbreak information, including news about H1N1 influenza. The project is a collaboration with Children's Hospital, Boston.
- Mobility on Demand (MoD) systems, lightweight, electric vehicles placed at electrical charging stations strategically distributed throughout a city. MoD systems provide mobility from transit stations to a final destination. Three MoD vehicles have been developed: the CityCar, RoboScooter, and GreenWheel bicycle.

The lab filed 46 patent applications in FY2010. During this same period, six patents were issued.

Real Estate

Researchers in the Commercial Real Estate Data Laboratory continued to pursue the development of commercial property market information, producing the Transaction-Based Index using data provided by the National Council of Real Estate Investment Fiduciaries. This index has been cited repeatedly by news sources such as Bloomberg, the *Wall Street Journal*, and CNBC.

During FY2010, center chairman Tony Ciochetti continued his work with professor Yung Ho Chang, head of the Department of Architecture, to move the “1K House” project beyond the studio. Building on the studio course taught in FY2009, they created a workshop in fall 2009 in which a number of studio designs were taken through the process of creating construction drawings. The center pulled together a collaborative team of graduate students, licensed architects from Next Phase Studios, and industry partner Skanska, an international construction company. Over the past year, Professor Ciochetti presented the 1K House initiative at several conferences and invited lectures in the United States, Portugal, Turkey, and Kenya. Future plans are to reach out more broadly within MIT to engage other disciplines to help identify and begin to solve the myriad problems associated with addressing one of the world’s most pressing issues.

Visual Studies

The merger of CAVS and VAP opens the door to research being better integrated with the academic program. ACT research will be reorganized into thematic clusters headed by individual faculty members on topics that will play a central part in the curriculum as well. Topics include the following: “Artistic Interventions as Creative Response in Areas of Crisis and Conflict”; “Art, Culture, and Public Sphere”; “Interrogative and Eco-design”; and “The Future of Body” (including “Disability Understood as Alternative Sensorium”). The “Theatricality, Performativity, Process” and “Living Archive Project” clusters focus on artistic research, collective practices, and transdisciplinary collaboration. The selection criteria for future ACT affiliates and fellows will be based on these research clusters to allow longer-term overarching grant applications rather than the acquisition of small individual funds.

Events

On March 6, the School hosted a conference to celebrate the opening of the new Media Lab complex. Designer Fumihiko Maki and members of his team convened to discuss the conception and design of the building, along with leaders of the Media Lab and Dean Santos, in front of an overflow crowd of about 400.

Last fall the Urbanization Laboratory conducted a symposium on the culture and politics of urban change using Mumbai as a case study, examining how architects, urban designers, and planners are responding to the challenges and opportunities of rapid urbanization in the developing world. The goal of the symposium was to explore questions from the points of view of professionals and academics from India, as well as economists from the World Bank and the Rockefeller Foundation.

On display at the Wolk Gallery from October 8 through January 22, *Dislocated City: Berlin Photographs* by Angus Boulton explored the city’s complex layers of memory and history

to reveal a visually exhilarating cityscape in transformation, where old and new are thrown together in dynamic juxtaposition.

Architecture

To assess the department's design program and compare it with similar programs at peer institutions, associate professor Meejin Yoon organized a two-day review in April at which representatives from Harvard, Yale, Princeton, Columbia/Barnard, the University of Virginia, and the Rhode Island School of Design presented overviews of their current or planned undergraduate programs.

A workshop titled "Rethinking Water: A Critical Resource" was staged in the spring to provide a glimpse of the range of work currently being done at MIT to address the scarcity of fresh water worldwide and how MIT must help to address that crisis by designing better water systems and policies to be adopted across different geographic and cultural contexts. The workshop was organized in part by James Wescoat, the Aga Khan professor of architecture.

In February, the History, Theory, and Criticism program sponsored its sixth annual *research in progress interdisciplinary graduate student conference, organized around the theme "In the Distance"; student presenters came from MIT and four other universities. Also in February, the Computation group organized the Des-Cop Annual Alumni Symposium at the new Media Lab complex with presentations by 10 Computation group alumni on the front line of digital practice and research in architecture.

Assistant professor Kristel Smentek curated (with associate professor Jeffrey Ravel) and created a video for the exhibition *Technology and Enlightenment: The Mechanical Arts in Diderot's Encyclopédie* at MIT's Maihaugen Gallery.

Nader Tehrani, newly appointed head of the Department of Architecture, won two highly competitive architectural competitions with his Office dA partner, Monica Ponce de Leon. The resulting commissions, to design new campus facilities for schools of architecture, were central features in an exhibit in SAP's Wolk Gallery, *Office dA: Building Pedagogies*.

Two exhibitions resulted from the work of Building Technology faculty. Marilynne Andersen organized an exhibition at the Wolk Gallery based on outcomes of her fall 2009 daylighting class and sponsored by Swissnex Boston/Consulate of Switzerland. Associate professor John Ochsendorf coordinated a team of eight MIT students who designed and installed a full-scale brick vault constructed from industrial waste that will be on view at the National Design Museum until January 9, 2011, as part of the exhibition *Why Design Now?*

Planning

In fall 2009, alumni again assisted in DUSP student recruitment efforts by organizing an open house in Los Angeles and participating in other graduate school recruitment events around the country. Departmental receptions held at the annual conferences of

the American Planning Association and the Association of Collegiate Schools of Planning provided venues to catch up with alumni from across the country.

In early 2010, a group of alumni in New York City organized a recruitment event and reception for new DUSP department head Amy Glasmeier that drew a huge crowd despite blizzard conditions.

Media

In May, the Media Lab hosted a research open house and daylong symposium, *Diagonal Thinking*, to celebrate the lab's move into its new complex. The symposium used the complex's innovative design as a jumping-off point to challenge preconceived notions about the intersection of physical space, technology, and creative thinking. Led by Media Lab associate director Andy Lippman and hosted by award-winning National Public Radio commentator Tom Ashbrook, faculty members and guest panelists presented unconventional ideas on ways to cross intellectual streets rather than follow them.

MAS student Jay Silver's *Freeze!* was exhibited twice during the summer of 2009: at the Taiwan National Museum of Fine Arts and as part of the MIT Mural Competition at the Wiesner Student Art Gallery.

IMPETUS: Works from the MIT Media Lab was exhibited at the 2009 Ars Electronica Festival, and the Object-Based Media group's 3D TV and holographic video was included in the MIT Museum's *Sampling MIT* exhibit.

Architecture graduate student Neri Oxman's work was exhibited as part of the *Frontier of Ecological Design* exhibit at Boston's Museum of Science from August 2009 to February 2010.

MAS alumni Richard Whitney SM '07 and Jamie Zigelbaum SM '08, along with Electrical Engineering and Computer Science alumna Heather Knight MEng '08, were among those who created a massive Rube Goldberg machine for the video *This Too Shall Pass*, by rock band OK Go.

Several Media Lab projects were featured in the current design triennial at the Smithsonian's Cooper-Hewitt, National Design Museum, including *CityCar*, *HealthMap*, and the XO laptop from lab spinoff *One Laptop Per Child*.

Real Estate

In March, the center held the first of its bi-annual partner dinners and meetings, featuring a presentation by professor Tod Machover on his work in music and technology. The next day focused on the theme "Innovation in Action" and included tours and presentations by Media Lab investigators and a debriefing by attending partners on the applicability of what had been learned to the real estate industry.

The center held lectures in San Francisco and Washington, DC, around the theme "The Excitement is Building"; these lectures paired a member of the MSRED faculty with a faculty member from, respectively, the Department of Urban Studies and Planning

(former faculty chair and department head Bish Sanyal) and the Department of Civil and Environmental Engineering (professor Franz-Josef Ulm).

Visual Studies

Over 200 people attended ACT's inauguration celebration in April. The inauguration included a graduate student exhibition in the lobby of the new Media Lab complex, presentations by ACT affiliates and CAVS fellows at Bartos Theater, and, most significantly, a demonstration piece by ACT professor Joan Jonas. At a reception following the celebration, the Gyorgy Kepes Fellowship Prize was presented to Jonas for her pioneering work in the field of performance and video art.

From November 4 through March 28, the Institute of Contemporary Art, Boston presented a large-scale video installation by professor Krzysztof Wodiczko focused on the experience of the current war in Iraq. Based on his conversations with soldiers who have returned from Iraq, as well as with Iraqi civilians, the new work built on their memories to examine the chaos and confusion of war.

CAVS affiliate and French choreographer Xavier Le Roy presented *More Floor Pieces* to two sold-out houses at the new Media Lab complex. *More Floor Pieces* is a new performance work that Le Roy developed as part of his fellowship at ACT with dancers and MIT students, produced by ACT program coordinator Meg Rotzel. Le Roy also presented existing projects, *Self-Unfinished* and *Le Sacre du Printemps* at the Boston ICA.

Nitin Sawhney, ACT affiliate, established the Youth Visions of Jerusalem Program in the West Bank in conjunction with Voices Beyond Walls, with training sessions, workshops, photography exhibitions, and film screenings sponsored by the Jerusalem Fund (Palestinian Authority). He exhibited work at *Youth Visions of Jerusalem*, an exhibition of photography developed in conjunction with Voices Beyond Walls.

CAVS fellow John Malpede presented *Bright Futures*, produced by Meg Rotzel, in the lobby of E14 to a sold-out audience. Malpede also presented this new work at Performa 09, the third biennial of new visual art performance, in New York City.

Publications

Architecture

Computational Constructs, a collection of 12 recent papers by graduates of the Computation group, was published by Architecture Press in China in Chinese and English.

Professor Julian Beinart published *Le Corbusier, Chandigarh and the Modern City* (Mapin, 2010) with Charles Correa and Hasan Khan.

Professor Nasser Rabbat published the book *Al-Mudun al-Mayyita fi Suriya: Durus min Madhih wa-Ru'an li-Mustaqbaliha (The Dead Cities in Syria: Lessons from Its History and Views on Its Future)* (al-Aws Publishers, 2010), as well as scholarly articles and book sections on Islamic cultural, urban, and architectural history among other related topics.

The department's publication of *Thresholds* is supervised by professor Mark Jarzombek. Issues number 36 ("Residual") and number 37 ("Sex") were released in spring 2010. Beginning in summer 2010, *Thresholds* will be peer reviewed.

Planning

The MIT-US Geological Survey Science Impact Collaborative, a field-based graduate training program, released a new report titled *Managing Risk: Helping Cities in Massachusetts Adapt to Climate Change*. Based on research begun in the fall of 2009, the report features case studies of efforts under way in four coastal cities to anticipate and respond to the likely impacts of climate change.

Associate professor Xavier de Sousa Briggs co-authored *Moving to Opportunity: The Story of an American Experiment to Fight Ghetto Poverty* (with Susan J. Popkin and John Goering), published in March.

The department continues to publish *Projections*, the journal of the Department of Urban Studies and Planning. *Projections* 9 ("Planning for Sustainable Transportation: an International Perspective") was issued in the fall of 2009, and a student editor was selected for the next volume, due out in 2010–2011.

Media

Professor William Mitchell published *Re-Inventing the Automobile: Personal Urban Mobility for the 21st Century*, coauthored with Christopher E. Borroni-Bird and Lawrence D. Burns (MIT Press, 2010).

Visual Studies

To celebrate 20 years of the Visual Arts Program and its transition into the Program in Art, Culture and Technology, a two-hour compilation of video work of the last two decades by the program's faculty and selected alumni of the master of science in visual studies (SMVisS) program was prepared for distribution to museums, galleries, libraries, and other interested parties. The DVD, *Engaged: 20 Years of the MIT Visual Arts Program*, was produced by *ASPECT: The Chronicle of New Media Art*, a bi-annual DVD compilation of contemporary time-based art.

Krzysztof Wodiczko published *City of Refuge: A 9-11 Memorial* (London: Black Dog, 2009) and *Guests* (Charta/Zacheta National Gallery of Art, 2010).

Visiting professor Antoni Muntadas published *Antoni Muntadas on Translation: Stand By* (La Fábrica, 2010), *Muntadas* (Actar, 2010), and *In Between/Arada/Tra* (Istanbul 2010 European Capital of Culture Agency, 2010).

Personnel

William J. Mitchell, dean of the School from 1992 to 2003, died on June 11 after a long battle with cancer. He was 65. During his tenure as dean, Mitchell transformed the School of Architecture and Planning by consolidating its space and sense of community in Building 7, overseeing the renovation of its design studios, actively recruiting women

and minority faculty members, and, perhaps most important, establishing the School as a leader in digital technologies related to design. One of his goals as dean was to develop a robust design culture at MIT, an aim that resulted in his becoming architectural advisor to MIT president Charles Vest. In that role, he guided one of the most ambitious building programs in US higher education, a metamorphosis that added five landmark buildings to MIT's campus designed by Frank Gehry, Kevin Roche, Steven Holl, Charles Correa, and Fumihiko Maki.

Bernard J. Frieden, Ford professor emeritus of urban studies and planning, died on September 9. He was 79. Frieden had been a member of the planning faculty since 1961, and he served as associate dean of the School from 1993 to 2001 and as chairman of the MIT Faculty from 1987 to 1989. During his 30 years of involvement with urban affairs at both the national and local levels, he served on White House advisory committees and worked as a consultant to numerous federal and state agencies. He also served as director of the MIT/Harvard Joint Center for Urban Studies from 1972 to 1975 and as director of research at MIT's Center for Real Estate from 1985 to 1987.

Architecture

Nader Tehrani was appointed head of the Department of Architecture effective July 1, 2010, succeeding Yung Ho Chang, who had led the department since 2005. Tehrani joined the faculty in 2007 after teaching at the Rhode Island School of Design, Harvard, and Georgia Tech, where he held the Thomas W. Ventulett III distinguished chair in architectural design. Since arriving here, he has helped to restructure the core curriculum while continuing his research on material applications, the building industry, and new means and methods of construction, especially in the area of digital fabrication.

Associate professors Andrew Scott and Meejin Yoon were appointed to direct, respectively, the master of architecture program and the undergraduate program for the bachelor of science in art and design.

John Fernandez assumed the position of director of the Building Technology Program. He also accepted the position of MIT faculty coordinator of the Alliance for Global Sustainability with a joint appointment in the Engineering Systems Division. Leon Glicksman continued as a member of the MIT Energy Initiative Council and as cochair of the MITEI Campus Energy Task Force.

Professor emeritus Eduardo Catalano, who taught at MIT from 1956 to 1977 and designed the Institute's Stratton Student Center, died January 28 in Cambridge. He was 92.

In recent months, Marilyne Andersen and professor Rahul Mehrotra accepted positions at other institutions. A search was begun for a second structural engineer as a joint appointment with (and administered by) the Department of Civil and Environmental Engineering.

Planning

Brent Ryan was appointed assistant professor in urban design and public policy. Since 2007, Ryan was an assistant professor of urban planning and design at Harvard's Graduate School of Design, coordinating and teaching a core urban planning studio as well as options studios and other courses. Before joining the Harvard faculty, he was an assistant professor of urban planning and policy at the University of Illinois at Chicago and codirector of the university's City Design Center.

Xavier de Sousa Briggs continued his leave of absence to serve as associate director of the White House Office of Management and Budget. In June, he returned to campus as the keynote speaker for the departmental commencement lunch.

To replace Briggs and strengthen the department's housing efforts, James Buckley, a lecturer in the Department of City Planning at Berkeley, began a two-year stint as a lecturer in the Housing, Community, and Economic Development group.

Alumnus Edward H. Linde '62, cofounder and CEO of Boston Properties Inc., one of the largest real estate investment trusts in the country, died January 10 due to complications from pneumonia. He was 68. A major figure in Boston real estate and philanthropy, Linde was a member of the visiting committee for the Department of Urban Studies and Planning from 1993 to 1997, serving as its chair from 1993 to 1995. He was also a member of the visiting committees for the School of Architecture and Planning from 1990 to 1993. In 1987, with his wife Joyce, he established the Edward H. Linde career development chair, an endowed professorship in perpetuity, currently held by Brent Ryan.

Media

Mauro Nunez was appointed the lab's new finance director. For the past three years, Nunez was the business manager of the World Wide Web Consortium (W3C), an international industry consortium with 330 members based at the Computer Science and Artificial Intelligence Laboratory. He replaces Mary Young, who now serves as the administrative officer for the Nuclear Reactor Laboratory.

David Small, who was appointed as an associate professor of media arts and sciences in 2008, resigned to return to his private design practice.

Real Estate

In September 2009, the dean of the School created a faculty committee to evaluate the center and its programs; the committee recommended that two independent units be created. One unit would focus on the delivery of academic knowledge relevant to the real estate industry; this unit would be responsible for all operations associated with the MSRED program. The graduate degree program will be overseen by a faculty committee; professor David Geltner agreed to head the committee.

The Center for Real Estate is the second unit and is charged with attracting and engaging members of the real estate industry, providing continuing education for both industry and alumni, and housing the research functions associated with the academic work of the MSRED faculty. The center will be a more streamlined and focused unit and will not be responsible for producing the MSRED program. The chairman of the center will

report to the dean of the School of Architecture and Planning and will create an advisory board to oversee its operations.

The center welcomed professor Walter Torous from the Anderson School of Business, University of California, Los Angeles, as a visiting professor during the 2010 academic year. While here, Professor Torous taught a new Professional Development Institute (PDI) course offering, Advanced Real Estate Finance.

In June 2008, Julian Phillippi was hired as the PDI program coordinator; in July 2009 she resigned to accept a position with the US State Department. After an extensive search, Aruna Joglekar was hired as program coordinator and assistant director of PDI in November 2009.

Associate professor Lynn Fisher took research leave at the Kenan Flagler School of Business, University of North Carolina at Chapel Hill; she resigned in June 2010 when she was offered a tenured position at the University of North Carolina business school.

Visual Studies

Ute Meta Bauer and Krzysztof Wodiczko codirected the merged VAP and CAVS unit from July to October, when Bauer was appointed director of ACT.

A search for a tenure-track assistant professor was launched in the fall of 2009. The search committee, chaired by Professor Wodiczko, received a broad selection of candidates from the United States and around the world, and six finalists were identified. None of the finalists had been selected as of the date of this report. However, a lecturer was identified who will begin to teach at ACT in fall 2010.

Joan Jonas and Krzysztof Wodiczko both retired from MIT at the end of AY2010.

Recognition

A student team from the Department of Architecture was awarded a high commendation this spring from the Holcim Foundation for Sustainable Design for a proposal to build a zero-energy school campus in Cambodia. Also receiving a high commendation was Haley Heard MCP '10 for her proposed new urban model for Mumbai, India, using existing coastal hydrology as the armature for development. The awards were presented in April at the Third International Holcim Forum 2010 in Mexico City.

Architecture

The School of Architecture and Planning played a central role in the project that won this year's World Building of the Year Award at the World Architecture Festival in Barcelona. South African architect Peter Rich won the award for his Mapungubwe Interpretation Centre in South Africa; the design and engineering of the ancient tile vaulting technique employed in the construction was done by John Ochsendorf and Michael Ramage MArch '06, currently a lecturer at the University of Cambridge. Also from SAP, Matt Hodge SM '07 conducted material research for the tiles, and Philippe Block SM '05, PhD '09 reviewed the structural design using the Thrust Network Analysis he developed for his PhD.

Nader Tehrani won a Progressive Architecture Award for the University of Toronto School of Architecture. He also won the international competition to design the Melbourne University School of Architecture and received an American Institute of Architects Honors Award for the Macallen Building. His work was exhibited at the Nasher Museum (Dallas) and MIT's Wolk Gallery. Fast Company recognized Tehrani's firm Office dA as one of the five most innovative firms in architecture.

Kristel Smentek received an award for the most distinguished doctoral dissertation in North America from the Council of Graduate Schools, an organization of over 500 institutions of higher education in the US and Canada; their Distinguished Dissertation Awards are the nation's most prestigious honor for doctoral dissertations.

Assistant professor William O'Brien Jr. was chosen as one of five winners of the inaugural Design Biennial Boston, an awards program recognizing early-career designers in the Boston region with an associated exhibition. He competed successfully for a Rotch Traveling Studio Grant for a studio in Iceland.

Sabrina Kleinenhammans SMArchS '09 won the first place \$15,000 prize in a student design competition sponsored by AECOM, one of the country's largest engineering, environmental, planning, and design companies. Entrants were asked to identify an urban site or area of 5 to 100 hectares that has been affected by specific urban challenges and to offer lasting improvements. Kleinenhammans' proposal was originally developed in fall 2008 in SAP's Mumbai Studio, taught by Alan Berger and Rahul Mehrotra.

Lecturer William Hubbard's book *American Boundaries* (University of Chicago Press, 2009) received the prestigious 2010 John Brinckerhoff Jackson Prize from the Foundation for Landscape Studies.

Frederick Kim, a junior majoring in architecture, won the \$1,000 first prize in a campus-wide design competition sponsored by SAP along with the MIT Hobby Shop and the Campus Activities Complex. His winning furniture design—a colorful, wave-shaped bench—is to be permanently installed in the Stratton Student Center as his personal legacy to the campus. MArch candidate Ella Peinovich tied for second place with Ben Peters, a junior in mechanical engineering; SMArchS candidates Ari Kardasis and Xiaoji Chen received honorable mention for a table made entirely of recycled materials.

Professor of the practice Sheila Kennedy's practice and research were published widely in books and journals and exhibited internationally.

Rahul Mehrotra won commissions in India for residences, an Ayurvedic hospital, and office buildings.

Mark Jarzombek received the Widdess Award and delivered the Widdess Lecture at the Royal College of Surgeons in Ireland, celebrating 200 years of the college.

James Wescoat was named chair of the Research Committee of the National Academy of Environmental Design and was appointed as a member of the MIT Environmental Research Council (2009–2011).

Professor Caroline Jones received MIT's 2010 Frank E. Perkins Award for Excellence in Graduate Advising.

Planning

A team including two students from the Department of Urban Studies and Planning placed second in the 2009 Chase Community Development Competition, partnering with a New Orleans nonprofit to develop a real estate project to strengthen the local community. The nonprofit, Broad Community Connections, was awarded a \$15,000 seed grant for the proposal's second-place finish.

A team of MIT students led by Libby McDonald, a fellow at the Community Innovators Lab, won an award of \$3,000 in MIT's IDEAS Competition; their prize-winning proposal will help provide a better life for wastepickers in Brazil, not only helping save them money but also helping reduce pollution.

Professor Rajagopal was elected to the Board of Editors of *Transnational Legal Theory*. His work is a focus of an international conference at the University of Paris I Law School (Sorbonne) on July 2–4, 2010, where some of his recent work will be translated into French.

Associate professor Annette Kim won an MIT International Science and Technology Initiatives (MISTI) Global Seed Fund grant for her project "Seeds of Reform: Analysis of Recent North Korean Civilian Economic Activity and Its Implications for North Korean Integration into the Global Community."

The editors of *Contemporary Security Policy* announced that professor Diane Davis is the winner of the first-ever Bernard Brodie Prize, given for the best article of the year for that journal.

Media

MAS student Richard The was awarded first place in the Harold and Arlene Schnitzer Prize in the Visual Arts.

MAS student Marcelo Coelho and alumnus Jamie Zigelbaum were selected as one of the four group winners in the 2010 W Hotels Designers of the Future Award; their winning project, *Six-Forty by Four-Eighty*, is an interactive installation of thousands of graspable, luminescent pixels controlled by remote light brushes.

Konbit, a tool to help communities rebuild themselves after a crisis by indexing the skills of local residents, won the \$8,000 IDEAS Award sponsored by the Office of the Dean for Graduate Education. MAS students Greg Elliott (Information Ecology) and Aaron Zinman (Fluid Interfaces) are the project creators. Another project involving MAS students, PerfectSight, received a \$3,000 IDEAS Award.

Scratch, a children's programming language and online community created by the Lifelong Kindergarten research group, was one of 10 projects selected as a winner in the third Digital Media and Learning Competition, supported by the MacArthur Foundation. Scratch was awarded \$190,000 as Best in Class in the design category. At the

2010 Consumer Electronics Show, *Children's Technology Review* announced that Scratch won the Kids@Play interactive award in the Informal Learning category; professor Mitchel Resnick won the Kids@Play interactive award in the Pioneer category.

Associate professor Deb Roy and his student Jeff Orkin were awarded a \$144,000 grant from the Singapore-MIT GAMBIT Game Lab for "Collective A.I. for Social Role-Playing Agents." This grant will fund the development of a new game for behavior capture and generation using technologies from The Restaurant Game project.

Professor Alex (Sandy) Pentland received an award of \$600,000 from the Air Force Office of Scientific Research for "Reality Mining to Understand and Influence Tribes."

Assistant professor Ed Boyden was awarded \$500,000 through the American Recovery and Reinvestment Act in support of a collaborative project with the Massachusetts General Hospital that focuses on finding neural targets that, when modulated, enable more efficacious treatment of pain. He also received two additional awards: one for more than \$200,000 from the National Institutes of Health via Ferro Solutions Inc. for his work on "Wireless Optical Neuromodulation for Motion Disorders" and a second for \$350,000 from the Human Frontier Science Program for "Optical Interrogation of Motor Cortex to Provide Insight into Neuronal Control of Movement."

Assistant professor Leah Buechley received two NSF awards for her work on computational textiles. One (focused on after-school and classroom programs for disadvantaged youth) is a collaboration with the University of Pennsylvania and Indiana University; the second is a collaboration with the University of Colorado.

Visual Studies

Joan Jonas was awarded the 2010 Gyorgy Kepes Fellowship Prize by the MIT Council for the Arts, given annually to a member of the community who has demonstrated excellence in the creative arts—architecture, visual and performing arts, and writing. The award came on the heels of a number of other honors: last fall, Jonas was presented with a Lifetime Achievement Award from the Guggenheim Museum for her extraordinary contributions to the field of contemporary art; in December she was named a 2009 USA Friends Fellow by United States Artists; and this spring her work was on display in three simultaneous exhibits.

Krzysztof Wodiczko was presented with the Golden Gloria Mundis Award from the minister of culture in Poland for his outstanding contribution to culture.

Lecturer Wendy Jacob received a residency from the Farm Foundation for travel to the Arctic in October 2010 for a project that evokes the sonic experience of the Arctic ice field.

Lecturer Amber Frid-Jimenez received a research fellowship from the Jan van Eyck Academie, Maastricht, the Netherlands. Frid-Jimenez was appointed as an associate professor at Kunsthøgskolen i Bergen (Bergen National Academy of the Arts), Norway, beginning in fall 2010.

ACT affiliate Jae Rhim Lee was awarded a residency at the Institut für Raumexperimente, Studio Olafur Eliasson, Universität der Künste Berlin. Lee collaborated with Brad Lichtenstein and 371 Productions on *Once You're Dead*, a documentary film exploring death denial/death acceptance across cultures.

ArchNet

ArchNet currently has over 72,500 registered members from more than 190 countries. The ArchNet editorial office has provided the Digital Library with an extensive range of resources, including 66,000 images of architecture in the Muslim world and over 4,500 publications, reports, and technical documents. Traffic to the site averages approximately 5,000 visitors per day; 8 GB per day are downloaded; and 7,000 to 10,000 documents (nonimages) are downloaded each month. During the past year, the project supported four student research assistant positions at MIT each semester.

The Digital Library has grown with some wonderful new collections such as the Mediterranean Postcards collection. Ranging from Morocco to Turkey, most of these postcards date from 1902 to 1914 and offer unique glimpses into cities around the Mediterranean on the eve of World War I. In addition, the process of redesigning the site continues, with a move from a largely “top-down,” centralized mode of collection and dissemination to one that is “bottom-up” and decentralized.

In January 2010, the Design Laboratory moved to a new office in E15.

Adèle Naudé Santos

Dean

Professor of Architecture and Urban Studies and Planning

More information about the School of Architecture and Planning can be found at <http://sap.mit.edu/>.