

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 (DUSP), which began as the Program in City Planning in 1932 and 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 Center for Advanced Visual Studies (1967), which pioneered the use of technologies such as lasers, plasma sculptures, sky art, and holography as tools of expression in public and environmental art and is now a thriving fellowship program

The unifying theme of 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 detail, consult the divisions' individual reports.

Campus-wide Activities

To ensure the School's involvement in MIT's campus-wide Energy Initiative, a school-wide Energy Council was established this year to facilitate multiyear research and teaching efforts focused on the energy-efficient city; the council is headed by Professor Leon Glicksman, who is also serving on the new MIT Energy Council and cochairing the task force on campus energy efficiency.

At the same time, professors Larry Susskind and Lawrence Vale represented the School on the Committee to Assess Environmental Activities at MIT, and Professor Chris Zegras was the leader of the Transportation Systems Focus Area of the MIT-Portugal Program; as part of that program, Professor Glicksman also undertook new research on energy-efficient buildings.

In the spring, CityScope was introduced as a new subject offering for freshmen to expose them to the complex dynamics of cities in distress and the challenges they pose. Because of the continuing urgency of their problems and because of the breadth and depth of MIT's efforts there already, the course was focused this year on New Orleans; using

the city as a laboratory, students were encouraged to use physical design, social policy, engineering, technology, and other strategies and tools to assess the city's problems and propose potential solutions.

An illustration of the School's reach into other parts of MIT was also on display this year in the form of two shows of student photos, one focused on the work of MIT's Broad Institute and another on the work of the Department of Nuclear Science and Engineering. The work was conceived and realized as part of subject 4.343 Photography and Related Media, which is offered every year to undergraduates throughout MIT; the subject combines hands-on instruction with lectures, group discussions, readings, visits by professionals from outside MIT, and field trips and is always centered around a student-initiated term project.

As part of the renewed focus on affordable housing issues, students initiated their own organization "dedicated to housing policy, housing design, housing development, housing construction and everything else having to do with housing." The MIT Housing Group aims to bring together students in DUSP, the Department of Architecture, and the Center for Real Estate—as well as students from the School of Engineering, the Sloan School of Management, the Department of Economics, and elsewhere—for internal networking events, housing-specific career events, and networking with other student groups.

Education

Architecture

The architecture design faculty began to implement the design of a core curriculum with three core studios, three exploratory option studios, and one thesis. To further the process of integrating discipline groups more fully with the core design curriculum, faculty members in the History, Theory, and Criticism Program (HTC) co-taught studios.

Two new studios strengthened the architecture design studio sequence by increasing to six the total number of studios a student can complete at MIT, thereby also increasing the level of work in the advanced studio. In addition, an Independent Activities Period (IAP) drawing class for architects and a hands-on building workshop were introduced to sophomores, while a thesis preparation class was made available to seniors interested in completing an optional thesis. Professor Jan Wampler also offered a workshop to advanced undergraduate architects to design and construct a small community children's center near Guayaquil, Ecuador.

Plans were initiated to update the undergraduate curriculum to include a new Computation stream that will complement the discipline streams already offered in Building Technology, Visual Arts, and History of Architecture and Art. A new element to be added, common to each of these streams, is a required senior thesis preceded by a thesis preparation class.

A new undergraduate architecture exchange program was contracted with the University of Hong Kong. This, in addition to the existing exchange program with the

Technical University at Delft, will allow three advanced students to study in either Hong Kong or the Netherlands each fall.

Planning

In planning, a new opportunity was offered to graduate students to earn a certificate in environmental planning that they can complete in conjunction with either an MCP or PhD degree; the certificate will enhance their skills and professional prospects in the environmental field.

Faculty have agreed to open more than a dozen graduate-level courses to undergraduates. Though DUSP's number of undergraduate majors remains small, spring 2007 brought a double-digit intake for the first time in decades, suggesting that there may be new possibilities for modest growth in this program.

Media

Now in its eighth year, the alternative freshman-year program in Media Arts and Sciences (MAS) enrolled 10 students in 2006–2007. These students participated in weekly Media Lab tutorial/lab sessions connected with two core freshman subjects, pursued Media Lab Undergraduate Research Opportunities Program (UROP) projects, and took two MAS undergraduate subjects on design and research, one of which is an option for satisfying part of the undergraduate Communication Requirement.

UROP students continued to represent the largest undergraduate presence at the Media Lab. More than 200 undergraduates from across the Institute participated in a wide variety of research projects, with many of these students pursuing their undergraduate theses under MAS faculty supervision. In addition, the MAS Program offered five undergraduate subjects, and four MAS faculty or senior staff members conducted freshman seminars or served as freshman advisors.

Real Estate

The Center for Real Estate offered a suite of short summer courses to help professionals stay abreast of trends in policy, technology, and practice. A goal is the development of a suite of courses that can be offered throughout the year and targeted to junior-level and management-level professionals.

Visual Studies

Professor Wendy Jacob (with lecturer Andrea Frank) submitted a proposal for a new undergraduate subject, *Downtown Crossings*, an introductory-level visual arts studio with a particular location, system, phenomenon, or condition as its thematic base. One of the aims of this pilot course is to place transdisciplinary work at the very core of the undergraduate learning experience. The first iteration of the subject is "Art Work-Out: Visual Arts in the Gym," which will be taught in collaboration with the Department of Athletics, Physical Education, and Recreation (DAPER) in the spring 2008 term.

Research

Architecture

Professor Terry Knight, in collaboration with Professor Larry Sass, began a new research project to investigate the potential for shape grammars and digital technologies in the design of building systems, with particular application to rapid housing in developing countries through vernacular design patterns.

Professor Marilyn Andersen worked on developing a video-based assessment of advanced light-redirecting components in windows and luminaries to optimize lighting in buildings; her daylighting lab now has two functional heliodons available for use by architecture students.

The Building Technology group continued its collaboration with the University of Cambridge on sustainable buildings with natural ventilation, sponsored by the BP Global Power Corporation as part of the Cambridge-MIT Institute.

Planning

Just Jerusalem, a worldwide design competition announced at MIT in March, sought to generate new approaches to the enormous problems facing the city of Jerusalem on a daily basis. News of the launch was immediately picked up by the global press, and early queries started coming in from interested applicants in Israel, Palestine, Ecuador, Germany, the Philippines, Greece, and the United States. As of June 30, more than 375 individuals from more than 52 countries around the world had registered for the competition on its MIT-based website.

A grant through the US Department of Housing and Urban Development stabilized the years-long involvement of DUSP with the City of Lawrence, MA, creating a Community Outreach Partnership Center focused on affordable housing, community asset building, and youth pathways to education and careers. This academic year marked the first full year of the new MIT@Lawrence initiative.

As part of the New Century Cities initiative, a cross-campus interdisciplinary research effort involving the design of the “Digital Mile” in Zaragoza, Spain, continued this year. Students and faculty from DUSP, the Media Lab, Architecture, and the Center for Real Estate participated in the project, which has been recognized as one of the leading efforts worldwide to design “digital space.”

The relationship between media technology and the city continued to gain momentum as a research area. The SENSEable City Laboratory engaged in a host of projects involving new ways of understanding and representing the city, tools for design and decision making, and incorporation of new media into city functions.

In collaboration with the Harvard School of Public Health, Professor Eran Ben-Joseph launched a new research effort assessing the effects of the built environment on physical activity and obesity; he is also investigating, with Professor Zegras, the travel behavior of aging baby boomers, looking at the relationship between the built environment

and the travel behavior of older adults through the study of four different urban edge communities.

The Environmental Policy and Planning group proposed a renewable energy project that will develop tools for analyzing renewable energy policy options given the mandate of more than a dozen states that 20 percent of all energy produced in those states will come from renewable sources by 2020.

Faculty and students continued and expanded their work assisting with rebuilding efforts in New Orleans; a major outgrowth of these efforts has been the placement of more than 20 MIT students in internships with community organizations and the New Orleans Office of Recovery Management. A student report formed the basis for new legislation filed in the Louisiana legislature.

Media

At the Media Lab, research into human adaptability ranged from techniques to treat conditions such as Alzheimer's disease and depression to sociable robots designed to monitor the health of children or the elderly and the development of smart prostheses that can mimic—or even exceed—the capabilities of our biological limbs.

The lab's Lifelong Kindergarten group released Scratch, an innovative programming language for kids that allows them to create their own interactive stories, games, music, and animations for the web.

Along with Comparative Media Studies, the lab received a \$5 million grant from the Knight Foundation to create the Center for Future Civic Media, a project designed to encourage community news experiments and new technologies and practices. Also, the Lab announced the establishment of the Center of Human Augmentation, headed by Professor Hugh Herr, to develop a new generation of cognitive, emotional, sensory, and physical tools to unlock the secrets of the human body and develop a powerful new generation of machines to improve human capability.

The laboratory is continuing its collaboration with Taiwan's Industrial Technology Research Institute through NEXT, a Media Lab consortium that explores new approaches to innovation. Its members include commercial enterprises, research organizations, and governments, and it is taking a leading role in preliminary discussions with the Sloan School of Management, the Computer Science and Artificial Intelligence Laboratory (CSAIL), and Information Services and Technology (IS&T) to initiate Living the Future, a campus-wide, long-term experiment in open networking.

In addition, the lab's Communications Futures Program, which explores the dynamics, technology opportunities, and regulatory issues that form the basis for communication endeavors of all kinds, conducted a series of working groups led jointly by MIT researchers and industry collaborators.

Real Estate

The Center for Real Estate released a new index of housing affordability that takes into account the adverse effects of living in a place where jobs are inaccessible, schools are poor, or open space is scarce. Such an index has not previously been constructed. The index offers a town-by-town assessment to inform the debate over where mixed-income affordable housing should be built.

The center also developed a set of 29 indexes for tracking commercial property prices in the United States, a tool that will help increase the efficiency of the real estate industry by providing market tracking capabilities never before available.

During the upcoming year, the New Century Development initiative is being expanded to include a focus on promoting sustainable building development in the real estate industry.

Events

The school made a big splash at the Venice Biennale in the fall with an exhibit of several projects dealing with digital technology and the urban environment. Prominently positioned at the entrance to the exhibit hall, the MIT show included designs for digitally enhanced public spaces on the Digital Mile in Zaragoza, Spain; an interactive bus stop with a wireless meshed network; a smart car and public transportation system by the Media Lab and Design Lab; and new computer interfaces by the Media Lab's Tangible Media Group. The central feature of the exhibit, which received extensive press attention around the world, was a pioneering project known as Real Time Rome. Developed by the SENSEable City Laboratory, an initiative that studies the impact of new technologies on cities, Real Time Rome featured seven large projections on transparent Plexiglas screens revealing the patterns of daily life in Rome even as they are happening, providing visualizations of how the city is actually being used—how the distribution of buses correlates with distributions of people, for instance, and how goods are being delivered.

Architecture

Even in the midst of a late winter blizzard that closed the Boston airport, nearly 80 people gathered at MIT in March for a 1.5-day conference on architecture, race, and academe hosted by HTC. "The Black Architect's Journey" was convened to address the question of why only 1 percent of members of the American Institute of Architects are black and why there are fewer than five black full-time professors at major architecture schools. HTC also sponsored an international conference on architecture and religion, Deus (e)X Historia.

An exhibition highlighting undergraduate design work was installed in the Wiesner Student Art Gallery; a brochure accompanied the exhibition, outlining the undergraduate architecture design program and introducing the academic program to prospective students. Also, a spirited noontime debate, "The Fight Club," pitched department head Yung Ho Chang, arguing for a "fabric" urbanism, against Professor Alexander d'Hooghe, promoting a new urban "monumentality."

In the fall, the Architecture Lecture Series was organized around the theme “Revolution” and featured Olafur Eliasson, Guy Nordenson, Nicholas Negroponte, Karl Chu, Wewei Ai, Rem Koolhaas, Petra Blaisse, and Sou Fujimoto, with introductions by Sanford Kwinter. In the spring the theme was “Design as Research,” and the series featured François Roche, Peter Eisenman, Richard Meier, Massimo Carmassi, and David Adjaye.

Zaha Hadid presented the 19th Arthur H. Schein Memorial Lecture and Glenn Murcutt presented the 14th Pietro Belluschi Lecture. Cecil Balmond presented the 1st Goldstein Architecture, Engineering, and Science Lecture. Public lecture series were also sponsored by the Building Technology; Visual Arts; History, Theory, and Criticism; Computation; and Aga Khan programs.

Exhibits in the school’s Wolk Gallery featured “The Beijing Urban Design Studio: 20 Years of International Collaboration,” “Policy and Design for Housing,” “Waclaw Zalewski: Shaping Structures,” and “DEVELOP: The Architecture of Yung Ho Chang/ Atelier FCJZ.” Professor Stanford Anderson’s exhibition on Eladio Dieste continued to travel worldwide.

Planning

An impressive array of MIT’s senior officials took part in a four-day conference hosted by DUSP’s Special Program for Urban and Regional Studies (SPURS). Attended by the presidents of 22 public and private universities in Colombia, the conference was designed to provide the university leaders with insight into how MIT sustains its traditions of innovation and creativity; it also aimed to start a dialogue among the participants that will continue into the future, offering support to the leaders of higher education in Colombia and around the world. Speakers included the chancellor, provost, associate provost, and executive vice president of MIT, as well as the chairman of the MIT Corporation, the dean of the School of Architecture and Planning, and several planning professors. In a remarkable parade of talent, the roster also featured the directors of MIT’s offices for foundation relations, corporate relations, planning, institutional research, finance, and technology licensing.

In the spring, SPURS hosted a half-day seminar titled “Race in Comparative Perspective: A Conversation” featuring Melissa Nobles, associate professor of political science, and J. Philip Thompson, DUSP associate professor of urban politics.

Also this year, seven mayors from cities across the Northeast came together at MIT to brainstorm solutions to some of their problems with an interdisciplinary team of urban design specialists. Hosted by the City Design and Development Group, the Northeast Mayors’ Institute was part of a 20-year program sponsored by the US Conference of Mayors, the National Endowment for the Arts, the American Architectural Foundation, and collaborating universities. Every year the partner organizations plan and manage six to eight sessions to help mayors learn how urban design can contribute to the quality of life in their respective cities, with discussions taking place in an off-the-record environment where the mayors are free to explore ideas with the resource team. More than 700 mayors have now “graduated” from the various Mayors’ Institutes; this was the fifth time the Northeast meeting has taken place at MIT.

The year concluded with the awarding of the Kevin Lynch Award, a biennial award that recognizes individuals or programs whose exceptional contributions to quality of life and design of cities reflect the spirit of late DUSP faculty member Kevin Lynch. This year's recipient was the city of Vancouver and planners Ray Spaxman, Larry Beasley, and Ann McAfee, who guided Vancouver's transformation over the past 20 years into a beautiful, highly livable, and economically successful city.

Media

More than 900 people from around the world convened at MIT in May for a daylong symposium focused on new adaptive technologies that promise to change forever our concept of human capability—to introduce, so to speak, Human Version 2.0. Cohosted by Professor Hugh Herr and veteran journalist John Hockenberry, a distinguished fellow at the Media Lab, the event highlighted research efforts at the Media Lab that seek to produce machines to mimic or aid human capabilities, not just to help those whose abilities are impaired but to better serve us all.

Media Lab researchers exhibited more than a dozen projects at SIGGRAPH 2006, also taking part in poster sessions, papers, and panels.

Two of Professor Barry Vercoe's early musical compositions premiered in April.

The Ying Quartet presented Professor Tod Machover's composition ". . . but not simpler . . ." to two sold-out houses and much critical acclaim at Boston's new Institute of Contemporary Art.

Professor John Maeda had exhibits on both sides of the Atlantic.

Real Estate

A symposium on sustainable real estate, sponsored by the alumni association of the Center for Real Estate, attracted a crowd of real estate industry professionals, finance professionals, and real estate students who heard prominent business leaders affirm that the growing demand for environmentally sustainable building represents an opportunity for businesses to benefit, often richly. The event was the latest reflection of the center's commitment to and leadership in encouraging a culture of social responsibility in the global real estate industry. In addition to the symposium, the center regularly visits the issue of sustainability in all of its courses and fieldwork, and new educational offerings that specifically explore green development are also in the works.

The Center for Real Estate held its first executive roundtable, focused on the value of flexibility and the utility of real options methodology in development. The center also cohosted the Forum on Issues and Innovations in Real Estate in Berlin, Germany, where center chairman Tony Ciochetti moderated a panel on "The Role of Real Estate in the Family Office Portfolio." In April, the center hosted an event in San Francisco where center director David Geltner presented "Transaction Price Indexes and Derivatives: A Revolution in the Real Estate Investment Industry?"

In May, the center hosted its third annual Housing Affordability Conference, attended by approximately 130 people. The research team presented its revised Housing Affordability Index, including both rental and owner-occupied units and incorporating quality of life measures such as school quality, open space, and public transit.

Visual Studies

In collaboration with the Academy of Fine Arts Vienna, the Visual Arts Program organized, developed, and hosted “Theatricality in Contemporary Art, Part I,” an international symposium on the occasion of the 70th birthday of Professor Joan Jonas; the event included a field trip to Dia:Beacon to attend Jonas’ highly acclaimed performance “The Shape, the Scent, the Feel of Things.” The center also collaborated with the Goethe-Institut Boston on the Fifth Boston Cyberarts Festival in May, featuring a variety of screenings hosted at the Goethe-Institut. In the fall, the program launched a well-attended lecture series, “Monday Night@VAP,” and SCREEN, a public forum for the viewing and discussion of works in progress by local film/videomakers.

Travel

Opportunities for student travel are a continuing strength of the school. In architecture, destinations included Venice and the Veneto region, Turin, Rotterdam, São Paulo, Ecuador, Beijing, India, Kunming, Japan, Malibu, and Louisiana. Planning students traveled to Amsterdam, India, and Mexico City, and for the second year, real estate students joined students at the University of Cambridge in England to visit firms and assess real estate projects in Cambridge, London, and Paris. MSRED students also participated in the center’s first international real estate course in China, visiting Hong Kong, Shenzhen, Shanghai, and Beijing.

Communications

Architecture

Student and faculty work continued to be featured on the School’s PLAZmA Digital Gallery, and the Architecture Department launched its own digital gallery of student work using four dedicated PLAZmA screens, one of which was interactive to allow viewing of videos and animations. The department also undertook a complete redesign of its website.

Real Estate

The Center for Real Estate hired a marketing/communications consultant to create a marketing strategy; a key recommendation included hiring a person to be responsible for marketing and communications.

Major Publications

An extraordinary new book was published last summer by Mark Jarzombek in collaboration with Francis D.K. Ching and Vikramaditya Prakash at the University of Washington. Organized along a timeline from 3500 BCE to the present, *A Global History of Architecture* (John Wiley & Sons, 2006)—planned as a textbook for survey courses in

the history of architecture—emphasizes the connections, contrasts, and influences of architectural movements throughout the span of history and features a rich profusion of photographs along with drawings, sections, and plans by noted graphic specialist Frank Ching.

A new book was published this spring by the recently formed SA+P Press that seeks to highlight the widely divergent worldviews that thrive in MIT's Department of Architecture. Edited by assistant professor Alexander D'Hooghe and graduate student Sarah Dunbar (MArch '07), *Certain Agendas in Architecture* is a sampling of work done in the Department of Architecture during calendar year 2006. Its lavishly illustrated 300-plus pages are organized in five chapters, each of which consists of two opposing belief systems that abide within the department. As department head Yung Ho Chang points out in the introduction, "We are not trying to achieve a unified voice since we are much too diverse to have one."

Meanwhile, an international architecture journal devoted an entire issue to the results of an MIT urban design studio—results that were further developed by a team of architects, planners, publishers, and MIT faculty—addressing how to rescue suburbia after an economic crash.

Other important publications from the past year include:

- Alice Amsden, *Escape from Empire: The Developing World's Journey Through Heaven and Hell*
- Arindam Dutta, *The Bureaucracy of Beauty: Design in the Age of Its Global Reproducibility*
- John Fernandez, *Material Architecture: Emergent Materials for Innovative Buildings and Ecological Construction*
- Leon Glicksman (editor), *Sustainable Urban Housing in China: Principles and Case Studies for Low-Energy Design*
- Caroline Jones, *Eyesight Alone: Clement Greenberg's Modernism and the Bureaucratization of the Senses*
- John Maeda, *The Laws of Simplicity: Design, Technology, Business, Life*
- Marvin Minsky, *The Emotion Machine*
- William J. Mitchell, *Imagining MIT: Designing a Campus for the Twenty-First Century*
- Karen Polenske (editor), *The Technology-Energy-Environment-Health (TEEH) Chain in China: A Case Study of Cokemaking*
- George Stiny, *Shape: Talking about Seeing and Doing*
- Larry Susskind, *Breaking Robert's Rules: The New Way to Run Your Meeting, Build Consensus, and Get Results*

Also, Professor Xavier de Souza Briggs' 2004 article "Civilization in Color: The Multicultural City in Three Millennia" was nominated for "best article of the year in urban sociology" by the American Sociological Association.

Personnel

Mark Jarzombek, professor of the history and theory of architecture, was named associate dean of the School for the next two years. Following on his work as chair of diversity outreach efforts for the Department of Architecture, he will work with Robbin Chapman, newly appointed manager of diversity recruiting in the Dean's Office, to develop a strategy for the School's diversity efforts.

Architecture

Rahul Mehrotra and Nader Tehrani were recruited as associate professors with tenure; Leslie Norford, professor of building technology, was appointed associate head of the Department and Arindam Dutta was appointed MArch thesis coordinator; Caroline Jones and Nasser Rabbat were promoted to full professor; and the History, Theory, and Criticism Program hosted two visiting scholars, Xiangning Li (China) and Bernhard Klein (Germany).

Planning

Michael Flaxman joined the faculty; Judith Layzer was promoted to associate professor without tenure; and Dennis Frenchman was appointed professor. The department hosted two Martin Luther King, Jr. visiting faculty, Eugene (Gus) Newport and William Harris. Dayna Cunningham became the first executive director of the Center for Reflective Community Practice.

Media

Edward Boyden was appointed assistant professor of media arts and sciences, and Patricia Kennedy Graham was appointed associate director for operations.

Real Estate

The research staff at the Center for Real Estate added three new members.

Visual Studies

The Center for Advanced Visual Studies hosted Damon Rich of the Center for Urban Pedagogy as a resident fellow; graduate affiliates were Tad Hirsch, a PhD candidate at the Media Lab, and Azra Aksamija, a PhD candidate in the Aga Khan Program for Islamic Architecture.

Major Recognition

Architecture

Professor Yung Ho Chang received an Academy Award from the American Academy of Arts and Letters for his Beijing-based practice, Atelier FCJZ. Professor Anne Spirn received a Guggenheim Fellowship and a Fulbright Senior Specialist Fellowship at the University of Copenhagen. Professor Marilyn Andersen received a 2007 Boston Society of Architects Research Grant in Architecture. Professor John Ochsendorf received a Rome Prize in Historic Preservation from the American Academy in Rome; he will be on leave from MIT in 2007–2008 to pursue his research.

Planning

A recent national study of graduate programs in urban planning ranked MIT's Department of Urban Studies and Planning the best in the nation. Of 94 departments assessed in North America, DUSP was also ranked number 1 for international development; housing, social, and community development; economic development; and technology. DUSP ranked number 2 for real estate and number 3 for environmental planning, land use planning, transportation planning, and urban design. In other words, the department as a whole and every program in it have been ranked among the top three in the country.

The Planning Accreditation Board also reaccredited the Master in City Planning program for an unprecedented seven-year period. Professor Lawrence Susskind was presented the annual Global Environmental Award by the International Association for Impact Assessment; Professor Richard Sennett won the 2006 Hegel Prize, one of Europe's most coveted honors; and Professor Eran Ben-Joseph won a commendation for the Milka Bliznakov Prize.

Media

PhD candidate Kelly Dobson was awarded a \$35,000 Media Arts Fellowship by National Video Resources, widely known as one of the most prestigious grants for film, video, and new media. In addition, the 6th Annual Year in Ideas issue of the *New York Times Magazine* featured two Media Lab projects.

Real Estate

At the Center for Real Estate, director David Geltner was named the most influential researcher in the real estate field from 2000 to 2004, reflecting his long-term productivity investigating topics of interest to the real estate community.

Visual Studies

Professor Krzysztof Wodiczko received an honorary doctorate from the Academy of Fine Arts in Poznan, Poland; received a number of commissions for public art; and exhibited widely.

Design Laboratory

The Design Laboratory is organized as a collection of multidisciplinary research and project teams, unconstrained by the traditional boundaries among design, planning, and engineering professions and disciplines. In 2006–2007, the lab was host to eight projects, programs, and groups and offered two design workshops.

ArchNet

ArchNet has more than 48,000 registered members from more than 180 countries. The ArchNet editorial office has provided the Digital Library with an extensive range of resources, including 53,000 images of architecture in the Muslim world and more than 4,000 publications, reports, and technical documents. The site supports an impressive average of some 9,000 unique users on a daily basis who download an average of 30 GB

a week of information in the form of images and publications. The group workspaces continue to be used extensively, especially for educational purposes. During the past year, the project supported 3.5 research assistantships at MIT and one PhD student at the University of Texas, Austin. The site code, which was previously written in TCL, is being rewritten in Java. More important, the site is being reconceptualized and redesigned to move from a largely “top-down,” centralized mode of collection and dissemination to one that is “bottom-up” and decentralized.

Developmental Entrepreneurship

The Developmental Entrepreneurship Program focuses on the design and implementation of commercially sustainable products and services for low-income communities around the world. A number of projects have been developed under the program’s umbrella. The Cell Bazaar provides localized eBay-type markets on cell phones in Bangladesh. Way Systems adds a card reader and banking network to convert existing cell phones into low-cost point-of-sale devices. United Villages delivers voice messaging and email to rural areas using ultra-low-cost WiFi technology, and Dimagi uses PDAs and cell phones to deliver health care services. In addition, the program, in conjunction with the Entrepreneurship Center at the Sloan School of Management, the Media Laboratory, and the Design Laboratory, offers instruction in development-oriented entrepreneurship, works with other development-oriented programs, builds the Development Entrepreneurship Network, and supports the new MIT \$100K Competition in Entrepreneurship for Development.

Digital Design Fabrication Group

The Digital Design Fabrication Group focuses on education and research in rapid prototyping and CAD/CAM operations for architects and designers. The group offers a number of graduate and undergraduate courses that focus on the relationship between design and digital fabrication. Using state-of-the-art CAD/CAM machines, including 3D printers, milling machines, and cutters, students, faculty, and researchers have undertaken a number of projects. Materializing Design investigates the theory of materializing a design beyond prototyping and computing. Design with Wood Substrates addresses ways to materialize designs with plywood products such as houses and furniture. Computable Composite Components is a novel evolutionary system used for the production of tiles and blocks. Finally, Historical Reconstructions studies ways to materialize historical structures designed by past architects yet still unbuilt.

House_n

House_n is a research group that focuses on how the design of the home and its related technologies, products, and services should evolve to better meet the opportunities and challenges of the future and the needs of people as they live in their homes. Major House_n initiatives include the PlaceLab and the Open Source Building Alliance. The PlaceLab, a joint MIT and TIAX, LLC initiative, is a residential condominium in Cambridge, MA, that is designed to be a highly flexible and multidisciplinary observational research facility for the scientific study of people and their interaction patterns with new technologies and home environments. The Open Source Building

Alliance's goal is to develop key components of a more responsive model for creating places of living.

Mobile Experience Lab

The Mobile Experience Lab employs a multidisciplinary approach to study people's experience using wireless communication technologies and to explore the effects of mobile media on communities, societies, and space. Two current projects are Redesigning Fashion Trade Shows and Sustainable Cities. Redesigning Fashion Trade Shows explores how to redesign communication technologies for fashion trade shows and improve physical infrastructure and spaces to enhance interaction and communication. The Sustainable Cities project, under the aegis of the Clinton Global Initiative, studies and identifies worldwide best practices and develops technology-enabled sustainability initiatives. The Mobile Experience Lab also led a number of classes over the past year, including "Pitti Immagine Trade Shows" (spring 2007), "Metro 2.0—Smart Crowds in the Parisian Metro" (spring 2007), "Castel Pulci" (spring 2007), and "Green Villages" (fall 2006 and spring 2007).

SENSEable City Laboratory

The increasing deployment of sensors and hand-held electronics in recent years allows a new approach to the study of the built environment. The SENSEable City Lab is involved in a number of projects. In the province of Florence, Italy, the Wireless City project explores the opportunity offered by wireless connectivity to better understand resource allocation as well as to create new services for citizens and visitors. The WikiCity project examines how a city can perform as an open-source, real-time system; iFind is a location-based application for "friend spotting." Finally, Real Time Rome collected data from cell phones, buses, and taxis in Rome to show urban movement and activity in real time and to illustrate how technology can help individuals make more informed decisions about their environment.

Smart Cities

The Smart Cities group has two main but overlapping lines of research: concept cars and urban projects. The concept car project with General Motors aims to reinvent the car and the user's relationship to the car and to the city. Within the concept car project, the "city car" component studied the role of vehicles in the city and proposed the idea of a stackable car for two passengers. The "athlete car" concept allows two drivers to collaboratively control the vehicle and couples body motion with vehicular motion. The urban projects include the Digital Water Pavilion, an interactive structure made of digitally controlled water curtains that can be programmed to display images or words and will part to admit visitors or objects. The structure will be located at the entrance to Expo Zaragoza 2008, in front of a new bridge designed by Zaha Hadid; it will also contain an exhibition area, a café, and various public spaces. The E-lens Project studied how governments and civic institutions can become more responsive and offer better services to citizens and visitors through the use of mobile wireless location-aware technologies. The Smart Mobility project worked closely with the French transportation authority RATP to rethink multimodal urban transportation systems.

Smart Customization

The Mass Customization Interest Group is an MIT–industry collaboration devoted to improving the ability of companies in various industries to efficiently customize products and services for diverse customer groups. This industry interest group brings together the key players in the area of mass customization and strives to become a vital community of practice in this field. The objectives of the group are to increase knowledge of effective and efficient ways to provide custom products and services, to advance “smart customization,” and to establish a productive group of executives who exchange information and network with each other and who apply new models, concepts, and the results of the latest research in the field.

Design Workshops

The Design Laboratory also offered two design workshops over the past year. Design Without Boundaries I explored opportunities, strategies, and intellectual foundations for radically cross-disciplinary design and was structured as a series of weekly discussions with visitors from widely varied fields. Design Without Boundaries II provided students with the opportunity to pursue real-world design projects that crossed traditional disciplinary boundaries, applied advanced technologies, and addressed significant social issues.

Teacher Education Program

In June, Joseph and Rita Scheller signed a gift memorandum to create an endowment for the Teacher Education Program (TEP). This endowment will support the certification program, outreach and research, and graduate fellowships, and it marks an important milestone in the long-term stability of this important program. TEP will henceforth be known as the Rita P. and Joseph B. Scheller Teacher Education Program at MIT.

TEP has taken on many new educational technology research and development projects over the past year. Professor Eric Klopfer continued to run a project, funded by the National Science Foundation, designed to improve science learning in New Mexico by training teachers via new technologies. Also continuing were two grants funded by the US Department of Education’s StarSchools initiative. One, *Augmented Reality Games for Learning*, is a partnership among MIT, the University of Wisconsin at Madison, and Harvard that uses handheld technologies developed in TEP to build the math and literacy skills of middle school students. The other, *Learning Games to Go*, is a partnership with Maryland Public Television and Johns Hopkins University that is building online and mobile learning games.

Space

A major concern for the school continues to be the issue of space; however, this year ground was broken for the Media Lab Extension, designed by Pritzker Prize–winning architect Fumihiko Maki. Together with the existing Wiesner Building, the new complex will house the school’s Visual Arts Program, the Design Lab, and the Center for Advanced Visual Studies, along with the List Visual Arts Center and MIT’s Program in Comparative Media Studies. This move will help enormously in unifying the school both spatially and academically.

Another big step toward solving our space problems will be the relocation of the Center for Real Estate during FY2009 to a newly renovated space in Building 9. The move will better integrate the center into the intellectual core of the Institute and will also allow the center to galvanize philanthropy around the cost of redeveloping the new space.

Meanwhile, we made smaller, incremental progress this year on space. Three new graduate architecture studios were completed for the fall 2006 term, bringing our total number of studios to nine, and the Visual Arts Program achieved a greater sense of community and improved communications by moving all program staff and students to one floor.

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Dean

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