

Dean, School of Architecture and Planning

The School of Architecture and Planning deals with a far wider range of fields and issues than its name suggests. In addition to the Department of Architecture (the oldest such department in the country), and the Department of Urban Studies and Planning (DUSP), it houses the Program in Media Arts and Sciences (MAS), the Media Laboratory, the Center for Real Estate (CRE), and the Center for Advanced Visual Studies (CAVS). The cross-disciplinary research and education occurring among these units enables faculty and students to address all aspects of the human environment.

During academic year 2005, the School saw a number of particularly exciting developments in faculty appointments, initiation of new research and teaching ventures as well as continued efforts to improve current course offerings, and in improvement of physical facilities. This report presents selected highlights of these achievements. Reports from the School's departments, programs, laboratories, and centers provide additional information about the past year.

Faculty

On December 31, 2004, Stanford Anderson stepped down as head of the Department of Architecture, having served in that role for thirteen and a half years. As the search for a new department head was ongoing at that time, Dean Adèle Naudé Santos took on the additional role of acting head. The search concluded during the spring term with the appointment of Yung Ho Chang as professor of architecture and head, effective July 1, 2005.

Architecture professor Terry Knight stepped down as the School's associate dean, and urban studies and planning professor Diane Davis was appointed associate dean of the School of Architecture and Planning.

In the Department of Architecture, the search for a new director and faculty member of the Visual Arts program concluded with the appointment of Ute Meta Bauer, effective July 1, 2005. Assistant professors Alexander d'Hooghe, who began in January 2005, published *Public Form* (Brussels: V Ai/A16 Publications, 2005), and Paul Lukez completed his book, *Suburban Transformations*, which is scheduled for publication in spring 2006 by Island Press. Assistant professor Larry Sass was named to the Cecil and Ida Green career development professor chair effective July 1, 2005. Associate professor Andrew Scott contributed a chapter to the forthcoming book *Sustainable Urban Housing in China* for the Alliance for Global Sustainability and continued work on the competition-winning Waterside Place project in South Boston (with Kallmann McKinnell & Wood Architects), the largest Leadership in Energy and Environmental Design (LEED)-approved project undertaken to date in the US. Following the success of his book, *Eladio Dieste: Innovation in Structural Art* (New York: Princeton Architectural Press, 2004), Professor Stanford Anderson gave the annual Felix Candela Lecture on the work at MIT, the Museum of Modern Art, and Princeton University. He also published a major article on Dieste in *Dialogue 89* (Taipei). Terry Knight was promoted to full professor effective September 1, 2004 and Mark Jarzombek was promoted to full professor effective July 1, 2005. Terry

Knight cochaired DCC'04, the 1st International Conference on Design Computing and Cognition, and both cochaired and wrote an invited paper for the Visual and Spatial Reasoning in Design 04 workshop. Both events were held at MIT in July 2004. Mark Jarzombek's book, *Designing MIT: The Architecture of William Welles Bosworth*, was published by Northeastern University Press (Boston, 2004). John Fernandez, Wendy Jacob, Heghnar Watenpaugh, and J. Meejin Yoon were promoted to associate professor without tenure, effective July 1, 2005. John Fernandez was appointed to the Board of Directors of the Building Environment and Thermal Envelope Council and completed his book, *Material Architecture: Emergent materials for innovative buildings and ecological construction*, to be published by Architectural Press (Oxford) in summer 2005.

In MAS, Deb Roy was promoted to associate professor without tenure. Associate professor Bruce Blumberg is leaving the lab, effective June 30, 2005. Two faculty with dual appointments in other departments have received tenure through those departments: Scott Manalis received tenure in the Division of Biological Engineering and Ike Chuang received tenure in the Department of Electrical Engineering and Computer Science.

DUSP appointed Christopher Zegras an assistant professor of urban planning and transportation. Professor Xavier de Souza Briggs joined the department in January 2005. Three faculty members received promotions: associate professor Eran Ben-Joseph was granted tenure, Balakrishnan Rajagopal was promoted to associate professor without tenure and, as mentioned above, Diane Davis was named associate dean of the School.

As mentioned last year, Brian Anthony Ciochetti joined the Center for Real Estate (CRE) in July 2004 as its chairman and the holder of the Thomas G. Eastman chair. Professor William C. Wheaton was on sabbatical during fall 2004. Dr. Henry Pollakowski was appointed to a research associate position with CRE during FY2005, in order to respond to the center's urgent need for applied research management resources to kick-start two of its research/industry-support initiatives: the Housing Affordability Initiative (HAI) and Commercial Real Estate Data Laboratory (CREDL). Since joining the center, he has served as director of HAI and codirector of CREDL. Marion Cunningham was asked to assume additional industry outreach and executive responsibilities and was promoted from assistant director to managing director.

CAVS hired an associate director, Larissa Harris, a curator and editor in August 2004. Professor of architecture Krzysztof Wodiczko, while continuing his duties as director of CAVS, was acting director of the Visual Arts Program in the Department of Architecture during the spring term. Director emeritus Otto Piene completed the book *Sky Art 2002*, and continues to work on *CenterBook*.

Increasing the diversity of the faculty continues to be an important goal for the School. Since 2001, when the School Report on the Status of Women Faculty was completed, the numbers and proportions of women faculty in the School have increased significantly. In 2001, there were 15 tenure-track/tenured women, comprising 20 percent of the total faculty. Now, in 2005, there are 25 tenure-track/tenured women, comprising 31 percent of the total faculty.

This upswing is due in large part to the commitment and intensive efforts of department/program heads and faculty to find and recruit outstanding women applicants in faculty searches. It is also due to the work of the School-wide Diversity Committee. The committee interacts with every faculty search committee throughout the search process. It meets with each search committee at the beginning of a search to review affirmative action policies and to help develop a search plan. It reviews the shortlist of candidates and outreach efforts before candidates are invited for interviews, and reviews and approves the final search report. The committee keeps a database of advertising venues that target women and minorities, and it evaluates and updates this list when searches are concluded. However, it appears that the most effective recruitment tool is word-of-mouth and personal contacts.

Some next steps for the School are mentoring and guiding our new junior hires through the promotion process, and continuing attention to minority faculty and student recruitment.

Space

It is important to reintegrate the School physically and academically in order to create one School in which collaborative teaching and research can flourish. Therefore, the School's long-term goal for Architecture and DUSP has been to acquire enough space to function effectively and to have the space located conveniently. DUSP, in particular, lost space in the previous move to the central campus and this has programmatically compromised them for many years. Interim space for DUSP was made available in Building 35 late in the spring of 2004. The School is still negotiating for more space in Building 9 for DUSP, also with hopes that eventually CRE could then join their academic partners. After a great deal of negotiation, Architecture will be able to move the Computation group faculty from buildings N51 and N52 to the main complex before fall term. We are still in negotiations to move the undergraduate studios and faculty to the main complex.

Negotiations are also under way for an exhibition space on the ground floor of the main complex.

With serious crowding in the E15 space, the Media Lab extension, E14, remains a very high priority. The current plan relocates the Visual Arts Program, CAVS, the House_n research group and the new design lab to the E14/15 complex. School gallery and meeting spaces are also planned to be located there. The School is actively raising funds to achieve this.

In a careful consideration of our programs, it is clear that our departments will need more space to maintain their high academic status. Together with the staff from the Campus Planning and Design Division and the Committee for Review of Space Planning, we will continue to seek space for our programs.

Educational Initiatives

Departments and programs in the School continue to develop their undergraduate and graduate programs in new directions, as described in the departmental sections of this report.

In the Department of Architecture, the History, Theory, and Criticism group plans to launch a promotional campaign in the coming year in order to compete with the growing number of new PhD programs. Its goal is to increase the applicant pool to 102 and 63 for the PhD and SMArchS programs, respectively. This year increased funding for the SMArchS students resulted in winning its leading applicants instead of losing them to competing universities with better funding. One of the Computation group's goals for the year was to expand the teaching program to include more undergraduates either through a computation stream in the BSAD program or through a stream within a new, School-wide undergraduate degree. The group also plans to offer a subject in architectural construction and computation to be offered for the first time in fall 2005. It also plans to restructure the SMArchS teaching and advising, and revise the required introductory subject under a new name, Inquiry into Computation and Design. The Undergraduate Program offered a new elective subject for the first time during the January Independent Activities Period. The intensive four-week workshop in design skills, including drawing, drafting and model building, was offered to help students better prepare themselves for 4.104 Architecture Studio. It also implemented a new major orientation program for students.

DUSP faculty member Dr. Eric Klopfer continues as director of the Teacher Education Program (TEP). Through TEP, undergraduates can complete certification in secondary math and science teaching. This year TEP hit capacity for its classes and provided students a pathway to licensure entirely at MIT. It also started a study this year using PDA participatory simulations (handheld computer games developed at MIT) in biology classrooms in the Boston metro area (Somerville, Cambridge, Brookline, Tewksbury, and Framingham) that was spotlighted on the CBS 4 news. Professor Klopfer is also running a three-year National Science Foundation-funded project to train teachers using new technologies to improve science learning in New Mexico. For more information on TEP visit the website at <http://education.mit.edu/>.

DUSP faculty members participate in a wide range of collaborations with departments and organizations within the Institute as well as in the US and around the world. They often incorporate class projects and thesis work with real-world partners. The SENSEable City Laboratory, headed by research scientist Carlo Ratti and established by the City Design and Development group, in cooperation with the Media Lab, worked on many innovative projects including development of a programmable glass for use in buildings, and charting real-time activity in the city through the use of cell phone data in cooperation with the largest cell phone company in Europe.

Professor Dennis Frenchman led the 8th Beijing Urban Design Studio with professors Jan Wampler and Paul Lukez from Architecture and Ken Kruckemeyer from the Center for Transportation and Logistics. For five weeks in summer 2004, these professors and 19 architecture, planning, real estate, and transportation students worked with

counterparts at Tsinghua University on a difficult urban design issue facing the city. The group proposed transit-oriented development along a new rail line connecting to the site of the 2008 Olympics. The results of the Beijing studio were published in a 28-page cover article in *World Architecture*, the leading design publication in China.

Professor Frenchman also led a cross-campus research effort involving the design of “new century cities.” The DUSP City Design and Development group, CRE, and Media Lab jointly sponsored the New Century Cities international symposium at MIT in January 2005 to explore the topic of real estate value in a digital world. Led by Professor Frenchman and research scientist Michael Joroff, students and faculty from DUSP, Media Lab, Architecture, and CRE also participated in two research projects engaged in applying the principles of new century cities to major urban projects in Korea and Spain.

Professors John de Monchaux (DUSP) and Julian Beinart (Architecture), with faculty and students of the University of Newcastle, England, led a fall urban design studio on designing high technology and university-based development, sponsored by the Cambridge-MIT Institute.

The Environmental Technology and Public Policy Program (ETP) has begun a multiyear research project with partners at Erasmus University and the Technical University of Delft (both in the Netherlands), and TNO, one of the largest research and technology organizations in Europe. The project is financed by the government of the Netherlands through an organization called Habiforum. It is exploring alternative strategies for involving citizens in addressing complex environmental, urban, and land-use problems. ETP is playing a major role in the design of practice experiments that address traffic, health, and natural resource management in the research program that will document and analyze experience in these experiments. They hope to publish a book on their findings in 2006.

The Housing, Community, and Economic Development group continued its focus on the impact of immigration on the nation’s cities. Two new subjects were added: 11.947 Race, Immigration and Planning, taught by Professor J. Phillip Thompson and visiting Martin Luther King, Jr. scholar Alethia Jones; and 11.440 Collaborative Problem-Solving and Diverse Communities, taught by Professor Xavier de Souza Briggs.

Professor Diane Davis led the Jerusalem 2050 project, highlighted by a March 2005 invited symposium exploring visions for the future of post-conflict Jerusalem from a variety of disciplinary perspectives. The symposium gathered together leading intellectuals from Israel, Palestine, and elsewhere to consider what entrants to a proposed international design competition would need to know about various aspects of the city.

Under the auspices of the Urban Information Systems group, Professor Ferreira led a group of faculty and students working on a new project to develop “intelligent middleware” for understanding neighborhood markets. The project is experimenting with new technologies for improved data sharing and neighborhood analyses. Collaborators to this project include metro Boston’s regional planning council (MAPC),

Parsons Brinckerhoff, the Open Geospatial Consortium, Boston's Department of Neighborhood Development, the Boston Foundation, and local nongovernmental organizations. It is supported through the Brookings Institution and several Living Cities foundations, and is part of national effort to improve the infrastructure for community statistics.

The Master in City Planning (MCP) core practicum requirement, introduced in 2004, engages students in the practice of city planning in the field. The courses offered place students and faculty at the leading edge of planning practice by exploring innovative ways to integrate planning disciplines, work with communities, apply reflective practice, and connect theory and practice. The practicum subjects address planning problems in several planning contexts and in AY2005, the department offered practicums in four Massachusetts cities as well as in the Netherlands, China, and Mozambique. The fall term saw the implementation of new thesis preparation requirements, including the introduction of a new preparatory subject in the international development and regional planning area.

A revised structure for PhD general examinations was passed by faculty. General exams will now be given on fixed dates in May and early September and students will be expected to pass their general exams before the beginning of their third year. The PhD committee also has begun a program to better inform students of fellowship opportunities, including holding a meeting with Institute representatives and establishing a frequently updated fellowship website. The committee is also now assisting advanced DUSP PhD students in their job search through the establishment of a website describing each PhD candidate on the job market.

CRE matriculated 32 members of the Class of 2004, the 20th class of master of science in real estate development (MSRED) graduates, in October 2004. The Class of 2005 has 32 members, including six joint degree candidates. Forty-five people were offered admission to the class of 2006 from a pool of 112 candidates; 39 accepted. In addition to increasing orientation to two weeks, CRE is rebuilding the core of its MSRED curriculum to focus on the real estate development process. CRE continues to develop its new program of interdisciplinary, industry-relevant, and supported research initiatives: HAI, CREDL, and New Century Cities. In May 2005, Chairman Tony Ciochetti led a group of students to visit European real estate as a prototype of a minicourse that will be offered during the summer term in the future. The 20th summer of professional development courses brought 274 students, enrolling in eight classes, to campus last summer.

ArchNet, an online community for architects, planners, urban designers, interior designers, landscape architects, and scholars—with a special focus on the Islamic world—continues to grow. Since September 2004, ArchNet has greatly enlarged its scope, adding hundreds of new historic and contemporary sites with thousands of new images, including unique historical views. Membership has increased to over 28,000, including many students who pursue university courses or participate in collaborative projects conducted using the newly redesigned group workspaces.

PLAZmA, the high-tech communications resource consisting of four large plasma monitors around the Building 7 fourth-floor dome continues to be curated by Terry Knight, professor of architecture, and Jim Harrington, facilities manager. It continues to showcase the work of the School and build its community. Content for PLAZmA includes faculty, staff, and student research, practice, or course-related work; material from School publications and galleries; simulcast or recorded talks and lectures; and School events and activities calendar. Faculty and students can also use the monitors on an as-needed basis for personal laptop presentations.

Events and Awards

Each year faculty and students of the School receive numerous honors in recognition of their research and service, many offered by the School, the Institute, professional societies, as well as national and international recognitions. This year was no exception. The reports of the School's departments, laboratories, centers, and programs make note of many of these awards. Several especially notable awards deserve additional mention here.

In the Department of Architecture, associate professor Mark Goulthorpe received the 2005 FEIDAD International Digital Design Competition Award and organized a conference, *Non Standard Praxis*, at MIT. His firm, dECOi, was included in an *Architectural Record* (December 2004) feature on young firms. Assistant professor J. Meejin Yoon received a 2005–2006 Rome Prize in Design and will spend spring 2006 at the American Academy in Rome. A smaller version of her *White Noise/White Light* from the 2004 Olympics in Athens was installed at MIT for the inauguration of President Susan Hockfield. Associate professor David Friedman was awarded a senior fellowship at the Dibner Institute for spring 2006. Associate professor Mark Jarzombek was awarded a Clark fellowship at the Sterling and Francine Clark Art Institute for fall 2005. Assistant professor Wendy Jacob was on leave with a fellowship at the Radcliffe Institute for Advanced Study. Professor Joan Jonas received the Distinguished Body of Work Award from the College Art Association.

Stanford Anderson gave the 8th Felix Candela Lecture and Carme Pinós presented the 12th Pietro Belluschi Lecture.

Department of Architecture student Danny C. Chan received the American Institute of Architects Medal for top-ranking graduating MArch student. The Francis Ward Chandler Prize for achievement in architectural design was awarded to Charles Austin and William Jonathan Braddock.

In MAS, Stephen Benton, a founding member of the Media Laboratory and head of MAS at the time of his death in November 2003, was posthumously awarded the 2005 Edwin H. Land Medal, which recognizes an individual who has, from a base of scientific knowledge, demonstrated a pioneering entrepreneurial creativity that has had major public impact. Hiroshi Ishii was one of two MIT faculty members to receive the Class of 1960 Innovation Award. Neil Gershenfeld and Ted Selker were named to the *Scientific*

American 50, the magazine's annual list of leaders in science and technology. Hugh Herr's work in biomechatronics was cited as one of the 10 emerging technologies in the May issue of *Technology Review*. Cynthia Breazeal received an Office of Naval Research Young Investigator Award to study robust and flexible human-robot teamwork in uncertain environments. Rosalind Picard was named a fellow of the Institute of Electrical and Electronics Engineers. Joseph Paradiso and doctoral candidate Mathew Laibowitz won the Best Paper Award at the 3rd International Conference on Pervasive Computing for "Parasitic Mobility for Pervasive Sensor Networks." Commissioned by Boston Pops conductor Keith Lockhart, Tod Machover premiered his new concerto, *Jeux Deux for HyperPiano and Orchestra*, at Tech Night at the Boston Pops. The Computer Clubhouse, cofounded by LEGO Papert associate professor Mitchel Resnick in 1993, opened its 100th clubhouse in May 2005. The project has grown from a single afterschool center for teens in inner-city Boston to serving more than 50,000 youth worldwide. Student Mary Farbood was awarded top honors for her harpsichord performance at the 57th Prague Spring International Music Competition. Student Marc Schwartz won a Fulbright fellowship to study at Keio University in Japan.

In DUSP, assistant professor Annette Kim received the Barclay Gibbs Jones Best Dissertation in Planning Award and the 2005 William Davidson Research Institute Award. Professor Judith Tandler received the Fulbright/Brazilian National Science Foundation (CNPq) fellowship. The American Society of Landscape Architects named Professor Anne Whiston Spirn a fellow. The American Sociological Association awarded Professor Diane Davis the Best Book in Political Sociology. Professor Lawrence Vale received the 2004 John M. Corcoran Award for Community Investment, and his book, *The Resilient City: How Modern Cities Recover from Disaster*, was recognized as one of the 10 best books for 2005 by Planetizen, the Planning and Development Network. In addition to the many departmental, School, and Institute awards received by DUSP students, many also received national and international recognition. Two MIT Martin Family Society of Graduate Fellows in Sustainability fellowships were awarded to Salo Coslovsky and Zhan Guo. Anna Frantz received the New York City Department of Housing Preservation and Development's Housing and Community Development Graduate Fellowship. A National Science Foundation Graduate Research Fellowship went to Deborah Kobes. A Department of Housing and Urban Development doctoral dissertation grant was awarded to Criseida Navarro-Diaz. Departmental awards went to Eungkyoon Lee for Outstanding PhD Dissertation, with an honorable mention to Fabio Carrera, and to Claudia Canepa for Outstanding MCP Thesis, with an honorable mention to Brian Robinson, Hirotoshi Otsubo, and Jinhua Zhao.

In March 2005, CRE celebrated its 20th anniversary. The weekend featured many illustrious speakers, a day-long conference on Vision-driven Cities, and a gala. One-hundred-fifty people attended the event. Also during the anniversary weekend the event REfresh, REvisit, and REDiscover was held. Opened by Lawrence Bacow, former center director and MIT chancellor and current president of Tufts University, this event consisted of five classes, portions of which were taped and posted on the center's website. Also during FY2005 CRE launched the FIRE events program. FIRE events are designed to engage and communicate with members of the real estate industry about topics that are timely, noteworthy, and significant. CRE partners and graduates were key in the success of these events held in Munich, Germany; Beijing and Shanghai, China;

New York; and Washington, DC. Professor David Geltner received the David Ricardo Medal from the American Real Estate Society.

At CAVS, Professor Wodiczko's *Dis-Armor*, a continuing cultural project, was presented in the widely reviewed exhibition *The Interventionists* at MASS MoCA in 2004. In October 2004, CAVS hosted Starter Culture, a "teach-in" on bioart, biotech, and society. In November 2004, CAVS hosted *Trans:It*, a three part documentary, workshop, and exhibition project which was later invited to participate in the Venice Biennial, the most important international showcase for contemporary art.

The Ralph Adams Cram Award for outstanding interdisciplinary work at the master's level was presented to B. Alex Miller for his thesis, "The American Garage." His thesis was submitted in partial fulfillment for the master of architecture degree.

The Harold Horowitz (1951) Student Research Fund awards went to five students this year: Ryan P. Allen, a PhD candidate in Urban Studies and Planning; Daniel Berry, an MCP candidate in Urban Studies and Planning; Talia Dorsey, a MArch candidate in Architecture; Wanda Lau, a SMBT candidate in Architecture; and Emily Whiting, a SMArchS candidate in Architecture.

Recipients of this year's Infinite Mile Award were Melania Lewis (Media Lab/MAS), Phillip Sunde (DUSP), Dan Van Roekel (Architecture), and Margaret de Popolo (Rotch Library).

Goals for 2005–2006

Strengthen the Role of the School of Architecture and Planning Within MIT

It is our intention to build greater strength into the academic offerings at the undergraduate level and to encourage cross-disciplinary linkages between individuals and programs at the graduate level. We will actively recruit students to join our majors in architecture and urban studies and planning by making these offerings more visible.

Develop and Implement a "One School" Concept

Although there are enormous strengths in each department and program individually, the School would be more attractive and stimulating to students and faculty if there were a greater sense of community. Lack of community has been an issue raised by students and faculty and is currently being addressed. Collaborative areas of overlap between departments need to be encouraged, nurtured, and strengthened. Our unique strength is having architecture, media arts and sciences, and urban studies and planning in one school. More and more, connections within the School are being identified. These connections are key to the uniqueness and strength of the School. Steps to integrate the School include: improved websites with enhanced functionalities to combine web presence with other outreach initiatives; the production of a new School-wide brochure; and an integrated course catalogue. The launch of the design lab, an interschool laboratory, will focus upon theories, techniques, and practices of innovative design. It will draw on faculty from across the units of the School and eventually will pursue relationships with faculty members across the Institute with the goal of becoming

an Institute-wide resource for faculty and students who are interested in pursuing multidisciplinary design work. These initiatives will help our School remain top ranked in its fields. Our School has not yet reached the level of excellence of which it is capable and the key to reaching this peak is in the productive nature of interdisciplinary work.

Adèle Naudé Santos

Dean

Professor of Architecture and Urban Studies and Planning

More information about the School of Architecture and Planning can be found online at

<http://web.mit.edu/sap/www/>.