Department of Architecture

The core activity of the Department of Architecture is the professional Master of Architecture degree program. The faculty includes architects, urbanists, building technologists, historians of art and architecture, artists, and various specialists in areas of architectural research, including computation. The presence of this range of faculty is premised on assuring a professional program of both depth and breadth. The strength and well-being of the Master of Architecture program is fundamental in maintaining and enhancing our position as one of the world's most respected professional schools of architecture.

The department is quite unusual in the wide range of disciplines represented by our faculty. More significant is the fact that we have created the opportunity for each discipline to offer specialized advanced degree programs. We incorporate outstanding research and teaching programs in each of the following groups: Building Technology; Computation; History, Theory, and Criticism (HTC); Visual Arts; Architecture and Urbanism; and the core Architectural Design group. We have seen excellent design work by our undergraduates in recent years. Notable strengths of the department that cut across the discipline groups are our devoted teaching, the grounding of architecture in both social and material issues, interdisciplinarity, and the remarkable internationalism of faculty, students, teaching, and research.

The discussion below is organized by discipline group, followed by individual topics that cross discipline areas.

Architectural Design

The professional Master of Architecture program was reaccredited by the National Architectural Accrediting Board (NAAB) for the maximum six years, effective January 1, 2003. The program is scheduled for its next accreditation visit in 2009.

The statement below was prepared for the accreditation of our professional architectural design degree, but it also emphasizes the interconnecting roles of all discipline areas in the department.

Our Goals in Architectural Education

It is a commonplace that new theories and new technologies are changing our conception of what architecture can do and how architects conceive their tasks and accomplish them. The unique position of the MIT Department of Architecture is that we survey the development of theory from a decades-old departmental commitment to viewing such developments through the long lens of the history of criticism. We also view technology within an Institute that for a half-century has profoundly shaped and investigated technology's role in society. So we are open to—indeed are enthusiastic about—new technologies and theories. But we also feel impelled to test the results of our designing against long-held social and environmental values. As we embrace new

conceptions of architecture, we demand of ourselves that our designs have the qualities of space, light, air, tectonic soundness, and place that allow for appropriate, even poetic, inhabitation.

Over the past few years we implemented a new undergraduate studio sequence. We continue to revise it as needed and new initiatives for the program began in the spring of 2004. The MArch curriculum was also revised with an increased emphasis on design, greater integration of subjects from different disciplines taken in the same term, and a stronger model for the selection and development of "concentrations." In the last three academic years, entering graduate students took part in a program that integrated all their subjects, with the architectural design studio at the center. The new curriculum is deemed successful, but it has now run long enough that a critical review began in AY2004.

A review of our two-year postprofessional Master of Science in Architectural Studies program in AY 2003 resulted in two significant changes in the past year. A research degree program, SMArchS, built its primary strengths in the several discipline groups surrounding architecture itself. We are committed to bringing students to this degree program who will pursue research through architectural design, under faculty and with space preliminarily titled the Architecture Laboratory. The first steps were highly successful in AY 2004. The Design and Computation group offered a wide range of studies including rarified theoretical inquiry, applied simulation technologies, and both humanistic and professional inquiry into the nature of design. This spring the department formally recognized the Computation group as one with equal standing with the other discipline groups within Architecture. Its four faculty members are active and committed researchers and educators. Study of the nature of design was largely under the instruction of Professor William Porter, who retired June 30, 2004. There is a junior faculty search underway with a priority of hiring an interdisciplinary faculty member whose strengths are in the areas of architecture design and computation.

Special opportunities for project-generated student travel are a continuing strength of the department. Shun Kanda again led an extended summer study trip in Japan. The biennial Beijing summer workshop occurs next summer under the joint sponsorship of this department and the Department of Urban Studies and Planning. The fall urban design studio was again conducted in collaboration with the Cambridge-MIT Institute. Numerous studios travel within the region but also to such sites as Bangladesh, India, and Cuba. Reinhard Goethert led a group of students to Laos in January. Thanks to the generosity of alumni, students also pursue individual research studies in the United States and abroad.

Shared Themes

A hallmark of studio education at MIT is that instructors propose to their students not merely a project but a process by which that design might be accomplished. Members of our faculty employ a shared set of themes as vehicles for advancing their pedagogies.

Here are those themes, not imposed by departmental fiat, but observed and endorsed by all of us in mutual consultation:

- *Tectonic Expression.* We find among ourselves a poetic and pragmatic interest in how materiality, the manner of construction, and the means of managing natural forces (gravity, climate, airflow) might be expressed.
- *Light and Inhabitation.* We feel that attention must be paid to the capacity of light to transform and model space in ways appropriate to a range of human activities and emotions.
- *Building Community.* We believe that respect must be accorded to the identity and social needs of inhabitants of places, both to establish private territories for them and to enhance their abilities to participate in the public realm.
- *Cultural Heritage.* We respect the value of cultural difference, and we seek strategies that preserve the legacy of artifacts and customs from the past while addressing the pressures and opportunities of the present.
- *Urbanism.* We are acutely aware of architecture's ability to contribute spatially, symbolically, and functionally to the shared but divergent social and economic life of cities.
- *Engaging the Landscape.* We understand the impact of buildings as material and experiential extensions of the land. We thus pay particular attention to the impacts that designed environments have on natural systems—and vice versa.
- *Sustainability.* We feel a concern for the conservation of natural resources, not just in terms of the efficiency of the buildings we design and the practices our buildings foster among their inhabitants, but in terms of larger practices like settlement and transportation.
- *Virtual Environments.* We are fascinated by the use of digital media to study and represent physical spaces and phenomena. We recognize the opportunity such media afford to design sites, software, and protocols that may foster a sense of inhabitation, of place, in cyberspace.

Faculty Matters

Architectural Design faculty included professors Julian Beinart (on leave fall), Charles Correa (fall), John de Monchaux (fall), Michael Dennis, Anne Spirn, and Jan Wampler; associate professors Mark Goulthorpe, Ann Pendleton-Jullian (who also serves as associate head), and Andrew Scott; assistant professors Paul Lukez and J. Meejin Yoon; senior lecturers Fernando Domeyko and Shun Kanda; adjunct associate professor Bill Hubbard Jr.; principal research associate Reinhard Goethert; visiting professor Francis Duffy; visiting associate professors Carol Burns (fall, from Boston), Brian Healy (fall, Boston), Sebastian Irarrazaval (spring, Santiago, Chile), Hasan-Uddin Khan, Pierre Thibault (fall, Quebec); visiting assistant professor José Salinas (spring, Madrid via New York); lecturers Hansy Luz Better (IAP, spring) and Haldane Liew (fall); and technical instructor Christopher Dewart.

Faculty originally listed in Architectural Design but now comprising the core faculty members in the newly designated fifth discipline group, Computation, were professors William Porter and George Stiny; associate professors Terry Knight and Takehiko

Nagakura; assistant professor Lawrence Sass; principal research scientist Kent Larson; research scientists Stephen Intille and Franco Vairani.

William L. Porter announced his retirement as of June 30, 2004. He will be appointed professor without tenure (retired) for two years. A search was begun for a new tenure-track studio faculty member.

William L. Porter

Faculty Activities and Achievements

Dennis's Schwartz Center for the Performing Arts opened at Emory University with a concert by the New York Philharmonic Orchestra. His dormitory at Princeton University and the Ball State Music Building will be completed this summer.

Goulthorpe completed his first year as associate professor of design. His work was exhibited at the Pompidou Center in Paris within an exhibit titled "Non-Standard Architectures," organized by architectural curator Frederic Migayrou. This exhibit was accompanied by a symposium and will travel. He is organizing a major conference constructed around the same theme at MIT for September 2004.

Kanda was reappointed as senior lecturer. He continued to direct the Japan Studio.

Lukez continues to develop the Delft student exchange program. His office won several awards for built projects during the past year.

Pendleton-Jullian received the highly prestigious Rotch Traveling Studio Award to take her students to Bangladesh and India for several weeks during January. This award was coupled with additional funds from the Asian University for Women Support Foundation. Her spring Level III graduate studio worked on master planning and individual buildings for this new university to be built in Chittagong, Bangladesh.

Yoon was named to the Class of 1948 career development professorship for three years effective July 1, 2004. She won a competition to build an installation at the summer 2004 Athens Olympics, which incorporates new technologies related to light and optics within a proposal for public space. She was commissioned to work with Enrique Norten on the design of an exhibit for pre-Columbian art pieces at the Guggenheim Museum in New York. The exhibit will open in fall 2004.

Program Notes

For the MArch program, this was the third year of the integrated Level I fall studio and the coordinated Level II studios. The faculty reviewed and revised the syllabus as the experience warranted. The spring MArch Level I drawing subject taught by Better was successfully integrated with the Level I studio taught by Yoon. The MArch thesis stream was formalized with the initiation of the portfolio seminar taught by Yoon and HTC faculty member Mark Jarzombek. This sequence consists of the portfolio seminar, thesis

preparation, and thesis. Wampler taught a Level I undergraduate studio in connection with MIT's OpenCourseWare initiative.

Goulthorpe's combination of philosophically based inquiry (related to cross-disciplinary cultural production) with digital design methodologies was introduced to the studio design sequence. The design studio taught by Salinas was the first studio in which digital design methodologies were introduced within the studio setting specifically for undergraduates.

The entire design studio faculty met in retreat in October 2003 to discuss the MArch design studio curriculum. Several key initiatives were put forth, including an even more concentrated integration of the coursework for Level I, for example, replacing their present requirements relative to representation and visualization skills (their first computation course and the "drawing" course) with a year-long course integrating both hand and machine methodologies. We plan to begin this course in the fall of 2004. Additionally, a proposal was made that Level II and Level III be structured as vertical studios. No action has been taken on this to date.

A new design stream for the SMArchS program was proposed, approved, and received its first two students. Fall 2004 will see the inauguration of the new design stream's "design lab," the construction of a web site, and official announcement of this new initiative so as to target the best candidates for future admissions.

Relative to the architecture design curriculum, the Undergraduate Curriculum Committee met and discussed proposals to make 4.104 into a full-fledged studio with appropriate credits and content; create a Level II undergraduate studio where visiting professors would teach, providing a view into the professional world of architecture outside of MIT; introduce a subject for the Level I undergraduate students dealing with issues of visualization and representation; and continue the short portfolio workshop that was held this past spring with great success.

One MArch II student received first place and another an honorable mention in an open international competition for the design of a multidenominational sacred space. This was an ideas competition sponsored by the United Religions Initiative and the Council for a Parliament of the World's Religions. It was undertaken as a Level II studio project under the teaching of Ann Pendleton-Jullian. The winners will be exhibited July 2004 in Barcelona at the Parliament of the World's Religions. A number of student teams, comprised variously of students from Architecture, Urban Studies and Planning, Center for Real Estate, and Sloan School, entered the annual Urban Land Institute Gerald D. Hines Urban Design Competition. One team was one of four finalists and another was one of three to earn an honorable mention.

Admissions

Students in our professional 3.5-year MArch degree program are admitted at two levels: Level I, those who come from undergraduate studies in other areas; and Level II, those who come from undergraduate programs in architecture and thus receive one year of

advanced standing. Students applying and admitted at Level I come almost wholly from the most prestigious private colleges and universities. As usual, our principal competitor was Harvard. Results for Level I were: 162 applications, a goal of 13, 41 admitted, 14 enrolled. Most students admitted at Level II come from major public universities here and abroad. Harvard and Yale were the main competitors. Results for Level II were: 145 applications, a goal of 20, 40 admitted including 6 early decision BSADs who defer, 18 enrolled. Results for SMArchS were: 143 applications, 43 admitted, 25 enrolled.

Underrepresented Minorities

Stanford Anderson appointed a committee, chaired by Mark Jarzombek, to review the status of underrepresented minorities in the MArch program. The committee report outlined a set of strategically ranked goals for recruitment, mentoring, and advising while recognizing issues of funding equity. Beyond seeking to increase the number of minorities in the department, the committee challenged the department to use its international prominence to promote the need for more minorities in the field of architecture generally.

Research

Research interests represented by faculty in Architectural Design include the following: sustainability (Scott); design in developing countries (Wampler, Goethert); urban design (Correa, Dennis, Beinart); urban morphology (Lukez); the American landscape (Hubbard); cities and landscape, photographic representation of landscape (Spirn); materials and fabrication methods as generators of new design possibilities (Yoon); and digital methodologies and design (Goulthorpe). Research has been well represented in publications, including books, book chapters, journal articles, exhibitions and installations, and news articles.

Computation. This group was established as a fifth discipline group. A description of its activities in AY2004 is found in a separate discipline group summary below.

Architectural practice. Architectural Design faculty members who also practice as architects include Dennis, Domeyko, Goulthorpe, Hubbard, Kanda, Lukez, Pendleton-Jullian, Porter, Santos, Scott, Wampler, Yoon, and Julian Beinart in association with Correa.

Professional associations. The department has established special relationships with several international firms considered to be among the most notable in the world and continues to explore additional opportunities. These firms (and student interns) include Renzo Piano Workshop in Paris (Elizabeth Burow, spring and summer 2004), Behnisch, Behnisch & Partners in Stuttgart (Marlene Kuhn, summer and fall 2004), and Glenn Murcutt Workshop in Australia (Katice Helinski, summer 2004).

Institutional association. The department welcomed three graduate exchange students from the University of Cambridge (Emily Greeves, Frederick Phillipson, Stephen Smith), the first graduate exchange student from the School of Advanced Studies in Venice

(Fabia Cigni), a graduate student in Computation and Design participating in an Institute exchange program through the Graduate Student Office (Tao Zhu), and two graduate exchange students from the Technical University of Delft (Charlotte Lelieveld and Thomas Vande Casteele).

Building Technology

The Building Technology (BT) group continues a strong research record and specialized graduate instruction. Critical reflection is directed with the goal of enhancing teaching both at the undergraduate and professional architecture levels. The program is planning new subjects in daylighting and fluid flow in buildings.

Faculty Matters

Personnel listed in BT were professors Leon Glicksman and Leslie Norford; associate professor Andrew Scott; assistant professors John Fernandez (on leave fall) and John Ochsendorf; visiting professor Edward Allen; lecturers Daniel Arons (spring), Stephen Diamond (fall), and Carl Rosenberg (spring). Marilyne Andersen was appointed assistant professor of building technology effective July 1, 2004. She recently completed her PhD at the Swiss Federal Institute of

Technology in Lausanne and will continue her research in innovative materials to enhance the use of daylighting in building interiors.

Marilyne Andersen, assistant professor of building technology and a specialist in day lighting, was appointed following an international search.

Faculty Activities and Achievements

Fernandez was on leave in the fall. He received a research grant from a new program supporting design research sponsored by the Boston Society of Architects. His grant proposal was entitled "Emerging Materials for Change." He serves as a consultant to the firm SOM on materials and design for the World Trade Center project.

Glicksman served as a consultant to the Accident Investigation Board of the Columbia space shuttle, focused on insulating foam failure.

Ochsendorf was awarded the Benvenuto Prize from the Associazione Edoardo Benvenuto in Italy for his PhD dissertation in engineering from Cambridge University on the "Collapse of Masonry Structures." The annual award recognizes exceptional research on the study of the historical development of the art and science of construction. He presented his dissertation and received the prize in Genoa, Italy, on November 29, 2003. Ochsendorf was appointed to the Working Commission on Sustainable Engineering of the International Association of Bridge and Structural Engineers in Zurich at the association's annual meeting in August 2003. In June 2004, he represented the program in Lecce, Italy, at an NSF–sponsored workshop on "The Preservation of Historic Structures with FRP Composites."

Several faculty members (Norford, Fernandez, Scott, and Glicksman) continued their ongoing collaborative research with Cambridge University through the Cambridge-MIT Institute (CMI). The work focuses on sustainable design for commercial buildings, with special emphasis on natural ventilation. The group is monitoring a large, naturally ventilated building in the UK, developing simple web-based tools to assist technology selection during preliminary building design, and carrying out small-scale models and numerical modeling of naturally ventilated buildings.

Several cooperative projects have been undertaken with BP (formerly known as British Petroleum) to help in the conceptual design of green office and laboratory projects. Additional studies include noninvasive monitoring of energy use and real options assessment of the value of flexible buildings. Scott and Glicksman held a workshop on sustainable design that included MArch, SMArchS, and BT students.

Institutional Association

As noted above, BT is involved in a long-term program under the Cambridge-MIT Institute. Collaborative research work continues with Tsinghua University and members of the Alliance for Global Sustainability.

History, Theory, and Criticism

The faculty and graduate students of the History, Theory, and Criticism (HTC) group continue a strong record of research, conference participation, and publication. Graduates of the advanced degree programs also continue to receive excellent teaching positions throughout the world.

Faculty Matters

Personnel in HTC include professor Stanford Anderson; associate professors David Friedman (on leave), Mark Jarzombek, Caroline Jones, Nasser Rabbat (on leave spring); assistant professors Arindam Dutta (on leave), Erika Naginski (on leave), and Heghnar Watenpaugh; visiting professors Michael Ann Holly (spring), Henry Millon (spring), Keith Moxey (spring), John Rajchman (spring), and Ralph Stern (fall); visiting associate professor Gregory Dreicer (spring); visiting assistant professor Robin Greeley (fall); and lecturers Sabri Jarrar (spring), Carla Keyvanian, and John McMorrough (spring). Dutta was promoted to associate professor without tenure effective July 1, 2004.

Stanford Anderson receiving his Topaz Laureate certificate from Norman L. Koonce (left), AIA executive vice president/CEO, and Eugene C. Hopkins, AIA president, at the annual meeting in Chicago, June 10, 2004. Photograph by Oscar Einzig.

Faculty Activities and Achievements

All faculty contributed notably to their fields through conferences, lectures, and publications. Anderson received the 2004 Topaz Medallion, the highest award in

architectural education, awarded jointly by the American Institute of Architects and the Association of Collegiate Schools of Architecture. He joins an earlier head of department, Lawrence B. Anderson, as the only MIT professors so honored. He served on two notable international design competition juries in Taipei (National Palace Museum South Branch and New Taiwan By Design) and lectured in the United States and abroad. He conceived and edited *Eladio Dieste: Innovation in Structural Art* (New York: Princeton Architectural Press, 2004) and wrote a major essay on Dieste for *a+u* (August 2003).

Dutta received a J. Paul Getty Postdoctoral Fellowship that supported his professional leave in AY2004. While on leave, he organized the Conference on Visual Studies in Mumbai, India.

David Friedman, also on leave, presented "Measure and Shape: Geometric Survey and Urban Design," at the Italian Renaissance City Symposium at Princeton University, published an article on defensive architecture in Europe, and traveled in Italy during his sabbatical.

Jarzombek presented numerous papers at conferences throughout the year and published two major articles.

Jones participated in conferences in the United States and abroad and contributed a chapter to *Things That Talk: Object Lessons from Art and Science* (L. Daston, ed., Zone Books, April 2004). She attended the Annual Meeting of Chairs of Graduate Art History Programs.

Naginski was on professional leave with support from a Radcliffe Institute Research Fellowship. She lectured or served on panels at Harvard University, MIT, and the College Art Association. She received a 2003–04 Graham Foundation publication grant and a Radcliffe Institute Research Fellowship. She was named to the Alfred Henry and Jean Morrison Hayes career development chair for three years, beginning July 1, 2003.

Program Notes

Two PhD candidates and one Course 4 undergraduate in HTC graduated. There were 66 applications (44 PhD, 22 SMArchS) with 32 prospective student visits in person or via telephone. Four HTC PhD, three HTC SMArchS, one AKPIA PhD, and four AKPIA SMArchS candidates accepted enrollment for Fall 2004. The exchange program between HTC and Fondazione Scuola di Studi Avanzati-Venezia (SSAV) began its first year, with one MIT student going to Venice in the Fall and one SSAV student coming to MIT in the spring.

"SMArchS Guidelines," a manual for students and faculty, was produced. It outlines HTC requirements, including the newly added formal thesis defense scheduled to take place two weeks prior to the department's SMArchS presentations.

This year's PhD graduates obtained appointments at the University of Minnesota, Izmir Institute of Technology, Princeton University, Catholic University of America, and Technion-Israel Institute of Technology.

Several HTC subjects were among those included in MIT's OpenCourseWare initiative. Digital course materials utilizing the Stellar web management system were created for two art history subjects. The digital images were made from slides in the Rotch Visual Collection (RVC). HTC cooperated with RVC to increase the slide collection by 4,195 images with further improvements planned for the general needs of art history instruction.

Debates from 4.607 Thinking about Architecture were broadcast on the school's plasma screens. HTC faculty, students, and alumni were represented in the student-organized departmental publication *Thresholds*. A mentoring program between HTC PhD students and SMArchS students was approved at the final faculty meeting, to begin in fall 2004. HTC students were active in professional and community activities, including attending and presenting papers at conferences, research travel, editing *Thresholds*, academic outreach, and adjunct lecturing. Students enjoyed a high success rate in obtaining research grants (see Student Awards and Fellowships below).

In November, HTC organized an international conference, "Architecture – History – Pedagogy," to reassess the status of critical forms of pedagogy in architecture schools and to honor the contributions of Henry A. Millon to HTC and the discipline of architectural history. The HTC Forum lecture series hosted Philip Ursprung, Robin Greeley, Antoine Picon, and Alan Powers in the fall and Anthony Vidler, Edward Eigen, and Jennifer Roberts in the spring. The theme of the HTC film series in the fall was Suburban Cinema and in the spring was Lewis Mumford's City and film on the New Deal.

Research

Faculty research areas include the following: architecture and urbanism of modern Europe and America (Anderson and Jarzombek) and Europe and its colonial enterprises (Dutta); modern European art (Naginski); art/architectural theory and epistemology (Anderson, Jarzombek, Naginski); urbanism in premodern Europe, late medieval and Renaissance architecture (Friedman); 19th-century art with an emphasis on American art since World War II (Jones); medieval and modern Islamic architecture and urbanism (Rabbat); preservation, premodern Islamic cities, gender, and architecture (Watenpaugh); and historiography of art and architecture (all).

Visual Arts

The Visual Arts Program (VAP) supports the undergraduate education curriculum of the Institute and also conducts a small graduate program. The VAP is a unique program that addresses the relation of artistic practice to new media, performance, architecture, urbanism, and related questions of sociopolitical content.

Faculty Matters

Personnel in the VAP were professors Joan Jonas and Krzysztof Wodiczko (fall); assistant professor Wendy Jacob; visiting professor Antonio Muntadas; and lecturers Andrea Frank (photography), Joseph Gibbons (video), and Sanjit Sethi (foundations and sculpture). Jonas served as acting director, assisted by Jacob and administrative assistant Sharon Benedict. The search for a new director and faculty member continued throughout the year. Five candidates were invited to campus for interviews. Negotiations with the finalist were not complete in time to be included here.

Faculty Activities and Achievements

Jacob received a fellowship at the Radcliffe Institute for Advanced Study to support her leave in AY2005. She participated in the MASS MoCA exhibit "The Interventionists: Art in the Social Sphere," as did Wodiczko. In fall 2003, Wodiczko taught in the program and also was appointed director of the Center for Advanced Visual Studies. His annual one-term release agreement within the department, begun in spring 2003, continues until December 2006. He received an honorary doctorate from Maine College of Art and the annual College Art Association's Artist Award for a "distinguished body of work" developed and exhibited during the previous year. An extensive interview appeared in *Art Journal*. Jonas gave performances in Miami and New York and had a solo exhibition in Queens. All three faculty members were active outside MIT through lecturing and serving on juries and panels. Muntadas had numerous group and solo exhibitions in New York and abroad. The lecturers, all artists with active and promising careers, contributed significantly to the quality of the program this year.

Program Notes

In addition to three new subjects, curricular development included a new project, "Fearless Speech," and the design, fabrication, and introduction of projects into the public sphere in 4.301 Foundations in the Visual Arts. Integration of BSAD Course 4 Visual Arts Discipline streams students (majors) into a more active role within VAP.

Three applicants were accepted into the SMVisS degree program for fall 2004 out of a pool of 25. A VAP web page was launched at http://web.mit.edu/vap. Five VAP subjects enrolled in MIT's OpenCourseWare initiative. VAP streamlined the cross-registration program in the arts among MIT, Massachusetts College of Art, and School of the Museum of Fine Arts and improved web accessibility to program information. It also streamlined information and visiting policies for prospective SMVisS students. For VAP undergraduates, a guide to subject offerings was published. A new database was initiated to create a history of VAP activities, visiting artists, and alumni.

Improvements to facilities and equipment included darkroom equipment upgrade, a proposal to restructure the metal shop for safety and utility, implementation of a facilities and equipment handbook, and the second year of a significant equipment loan agreement with Nikon.

All students participated in "Creative Intelligence: New Work by the Visual Arts Program," an exhibition with venues at MIT and at Location One Gallery, New York. All students in 4.367 Public Art, taught by Muntadas, participated in "Otra/Another," an exhibition addressing the Mexican-American border. The class was the only group of artists amongst architects from various schools.

The Photographic Resource Center at Boston University featured works by three MIT students in its 2004 PRC Student Exhibition. VAP celebrated thesis reviews with its third annual reception. The VAP lecture series included Gavin Jantjes, Mark Nash, Daniel Birnbaum, David Ross, Ute Meta Bauer, and, cosponsored by the Architecture Lecture Series, Yvonne Rainer. VAP hosted a number of visiting artists, lecturers, and reviewers (22 in all), including Edgar Heap of Birds, Gcina Mhlophe, Dennis Adams, Julia Scher, and Teddy Cruz. Most events were open to the MIT/Architecture community, while others were specific to courses.

Computation

Following discussions initiated last year, the Department Council reviewed and accepted the proposal to establish a fifth discipline group, to be called Computation, within the department. The group will continue its foundational work in computation theory, practical applications of computation in architectural design, inquiries into the design process, and the impact of digital technologies on society and space.

Faculty Matters

Initial core faculty included associate professor Terry Knight as director of the group; professors George Stiny, William Porter, and William Mitchell; associate professor Takehiko Nagakura; assistant professor Larry Sass; principal research scientist Kent Larson; and research scientist Stephen Intille. The search for a new junior faculty member was suspended this year because of budget constraints; however, a new search was approved to begin in AY2005. Former dean William Mitchell, now with a dual appointment as professor in Architecture and Media Arts and Sciences, was also appointed head of Media Arts and Sciences.

Faculty Activities and Achievements

Knight, who continued her dual appointment as associate dean of the School of Architecture and Planning, was an organizer and participant in a Cambridge-MIT Institute (CMI) workshop (part of three-year CMI project) entitled "Across Design: Comparing Design Practice between Disciplines" and coauthor of a paper for the 8th International Design Conference, "Design 2004."

Nagakura was represented in exhibitions at the Northern Gallery for Contemporary Art, organized by the Royal Institute of British Architects, Architecture Museum of the Technical University of Munich, IMAGE in Florence, Italy, and Fantoch 4: Animation Film Festival in Baden, Switzerland. He entered three design competitions in Japan,

where he is a registered architect, and was a consultant to the Aga Khan Foundation for a predictive visualization of architecture in Azhar Park, Cairo, Egypt.

Porter was coeditor (with Gabriela Goldschmidt) of a book, *Design Representation* (Springer Verlag, 2004); was awarded a CMI three-year research grant for the project Distributed Work, with David Good of Cambridge University; and was coprincipal investigator on the EWall project to study computational assistance to geographically distributed project teams, funded by the Office of Naval Research. He received a Graduate Student Council Teaching Award for excellence in teaching the Design Inquiry subject.

For the second year in a row, Sass received an Alumni Funds Award for innovative educational initiatives. The award will support the computational exploration of dome structures as a creative design process. Stiny completed his book, *Shape,* to be released by the MIT Press next year.

Research

Knight continued work on computational synthesis and supporting digital technologies and software and prepared for two conferences to be held at MIT in summer 2004: DCC'04 First International Conference on Design Computing and Cognition (local chair) and VR'04 Third International Conference on Visual and Spatial Reasoning in Design (cochair). Nagakura continued work on grammar systems for design, including NITROS (development of shape grammar API for AutoCAD) and ScriptoShape (development of shape description language for interactive shape recognition and transformation software). Porter continued research on dispersed patterns of work and the EWall project. Sass continued research on digital design fabrication in collaboration with researchers at the Center for Bits and Atoms at the MIT Media Lab. Stiny continued work on shape, shape algebras, and grammars. Mitchell continued research on information and digital technologies and urban design and society.

Program Notes

The group began to restructure SMArchS teaching and advising in response to the retirement of Porter as longtime faculty member and head of SMArchS teaching. A year-long lecture series included distinguished researchers and practitioners: Cynthia Breazeal, William Mitchell, Frederic Migayrou, Mok Oh, Joao Rocha, Gerhard Schmitt, Lars Suybroek (NOX), Mike Skura, Chris Csikszentmihalyi, George Stiny, David Serero/DZO, Una-May O'Reilly, and Kostas Terzidis. In the fall the group hosted visiting doctoral student Tao Zhu, a PhD student from Columbia University. A group of PhD and SMArchS students (Carlos Barrios, Sameer Kashyap, Yanni Loukissas, Axel Kilian) was selected to participate in the 2003 SmartGeometry summer school and conference. PhD students presented or had papers accepted at a number of international conferences. Kilian's architecture project "Museo Costantini," in collaboration with Juergen Mayer H. and Bettina Vismann, was accepted by the architecture Biennale in Venice 2004. Jacquelyn Martino served as SIGGRAPH 2004 Courses chair. Mitchell Joachim was a 2003–04 Moshe Safdie and associates research fellow and a 2003–04

Martin family society fellow. His award-winning Fab Tree Hab project (with Lara Greden, BT PhD, and Javier Arbona, SMArchS) was exhibited at the University of North Texas Art Gallery.

Undergraduate Program

Leslie Norford, undergraduate officer, and Renée Caso, administrator for academic programs, continued to support and strengthen the undergraduate experience. They were assisted by faculty who served as undergraduate advisors in AY2004, in addition to Norford: John Fernandez, Leon Glicksman, Bill Hubbard, Wendy Jacob, Terry Knight, Paul Lukez, John Ochsendorf, Lawrence Sass, Anne Spirn, George Stiny, Jan Wampler, and Heghnar Watenpaugh. Also essential to undergraduate advising this year was Watenpaugh as HASS concentration and minor advisor for the History of Art and Architecture. Joan Jonas served in a similar role as HASS concentration advisor for Visual Arts. Norford served as minor advisor in Architecture.

Undergraduate Steven Form listens attentively during a studio review. Photograph by Rebecca Luther.

Undergraduates were increasingly visible in the department, to the benefit of all. This year senior Elisabeth Evans and junior Evan Pruitt were the representatives at the Architecture Student Council. These representatives also stood as members of the Undergraduate Curriculum Committee and were critical in helping to shape the undergraduate program for the future. An MIT chapter of the American Institute of Architecture Students was reestablished this year to provide a forum for architecture students to interact with a national organization that includes other institutions. The chapter moderated open meetings of architecture undergraduates, organized lectures and field trips, and provided opportunities to promote the appreciation of design on campus. Of note were the introduction of a lecture series for undergraduates specifically addressing career options, participation in the national Barkitecture project, a Campus Preview Weekend event called "Fun with Balsa," and a t-shirt design contest. The Senior Dinner brought faculty and students together to celebrate the conclusion of a successful major program. Relative to the architecture design curriculum, the Undergraduate Curriculum Committee met and discussed proposals to make 4.104 into a full-fledged studio with the appropriate credits and content; create a Level II undergraduate studio to replace "gating" into a Level II graduate studio (visiting professors of high quality would be brought in to teach this studio, providing a view into the professional world of architecture outside of MIT); create a parallel course for the Level I undergraduate students that deals with issues of visualization and representation; and continue the highly successful short portfolio workshop that was begun this past spring.

Aga Khan Program for Islamic Architecture

The Aga Khan Program for Islamic Architecture (AKPIA) at MIT is recognized today as a leading program in the study of architecture and urbanism in the Islamic world. Established in 1979, AKPIA is supported by an endowment from His Highness the Aga Khan. The goals of the program are to improve the teaching of Islamic art and architecture; to promote excellence in advanced research in Islamic architecture, urbanism, and visual culture in light of contemporary theoretical, historical, critical, and developmental issues; and to promote the knowledge of the Islamic cultural heritage. To date, the program has 111 graduates—13 PhDs and 98 SMArchSs (Master of Science in Architectural Studies). Most graduates are either self-employed as designers or employed in architectural and construction firms in the United States and abroad. Some are teaching in leading universities in various parts of the Islamic world and in the West, while a small number are working in governmental and nongovernmental agencies dealing with conservation, planning, and development issues. The program currently consists of two professors, one librarian, one visual material archivist, one administrative assistant, and a small number of graduate students (five PhD and six SMArchS students). Faculty, listed also under History, Theory, and Criticism, are associate professor Nasser Rabbat, director of the program, and assistant arofessor Heghnar Watenpaugh.

Program Activities

The program admitted one new PhD student and four new SMArchS students. Two SMArchS students graduated. In AY2004, AKPIA travel grants (to be taken in AY2005) were awarded to Joseph Dahmen, Amanda Ikert, Pamela Karimi, Lisa Mosier, and Afiya Ayo Whisby. Postdoctoral fellows were Vlad Atanasiu, Paris; Hussein Keshani, Victoria, Canada; Setrag Manoukian, Milan; and Cristina Pallini, Milan. A lecture series included "An Evening with" talks by Thomas Milo, Lorraine Ali, Helene Lipstadt, and Gary Otte; a lecture by each postdoctoral fellow; and presentations by the AY2003 AKPIA travel grant recipients. A special event on March 1 was "Dialogue in Concert," with Kinan Azmeh, Dima Orsho, Kinan Abou-Afach, Omar Al-Musfi, and Issam Rafee. On May 7–8, the program hosted a symposium organized by Nasser Rabbat, "Harem in History and Imagination."

Faculty Activities

In addition to organizing the "Harem in History and Imagination" symposium, Rabbat published articles in English and in Arabic and contributed a book review to *Mamluk Studies Review 7*. He gave invited lectures and participated in conferences in the United States and Middle East. He has the following three books in preparation: an edited book of essays on the courtyard house, sponsored by AKPIA and to be published by Ashgate in 2005; a book on the 15th-century historian al-Maqrizi and his Khitat book, to be published by OneWorld in London in 2005 as part of their new series "The Makers of the Islamic World"; and a book coedited with Irene Bierman and Nezar AlSayyad, *A Medieval Cairo for a Modern World*, to be published by Lexington in 2004 or 2005.

Watenpaugh's book *The Image of an Ottoman City: Imperial Architecture and Urban Experience in Aleppo in the Sixteenth and Seventeenth Centuries* is scheduled for publication by E. J. Brill in 2004. She contributed articles to two journals, an entry in *The Encyclopedia of Women and Islamic Cultures* (Joseph Suad, general editor), and an essay in *The British and French Mandates in Comparative Perspective* (Nadine Méouchy and Peter Sluglett, editors). A book on preservation, nationalism, and construction of heritage in the Middle East and other articles are in preparation. Watenpaugh had several papers accepted for conferences and gave a number of invited lectures. She received a J. Paul Getty postdoctoral fellowship in Art History and the Humanities and a 2004 National Endowment for the Humanities summer grant, which will support her professional leave next year. She presented papers at several conferences, including the Middle East Studies Association Annual Meeting and the Center for Middle Eastern Studies at Harvard University.

Department of Architecture Enrollments

Course 4 counted a total of 231 students: 52 undergraduates (including 2 in Course 4 -B), 65 MArch, 52 SMArchS/SM without specification, 2 SMBT, 5 SMVisS, 38 resident PhD, 12 nonresident PhD, and one special (nondegree) student. There were three exchange students from Cambridge University, one from Scuola di Studi Avanzati–Venice SAV, two from the Technical University of Delft, and one from Columbia University.

Highlights of the Past Year

Lectures

The Architecture Lecture Series, organized by Stanford Anderson, included in the fall Jennifer Siegal, Dan Hoffman, Frano Violich, Joseph Rykwert, Tony Hunt, and Peter Cook; and in the spring Valeska Soares, Gunther Vogt, Michael Singer, Hitoshi Abe and Takaharu Tezuka, with Clifford Pearson, Yvonne Rainer, Marcel Meili, Werner Oechslin, and Jan Pieper. Ricardo Legorreta presented the Seventeenth Arthur H. Schein Memorial Lecture. Cecil Balmond gave the Seventh Felix Candela Lecture. Eduardo Catalano presented the Eleventh Pietro Belluschi Lecture. The Building Technology, Visual Arts, Aga Khan Program, and History, Theory, and Criticism, and Design and Computation programs also sponsored discipline-based lecture series that were open to the public.

Publications

Thresholds, published twice a year as a journal edited and produced by students, is noted for developing diverse architectural themes in each issue. It has national recognition and its contents are systematically catalogued. *PinUp,* also wholly edited by students, served as an internal newsletter. *FOUNDATIONS* is a monthly electronic newsletter sent to approximately 2,400 undergraduate and graduate alumni whose email addresses are registered with the Alumni Association. The newsletter contains brief items about the department as well as news of and opportunities for alumni. Anderson edited the fourth volume of the Belluschi Lectures, which featured the 1998 lecture "Zero," by Charles Correa.

Visitors and Lecturers

The department invited visitors and lecturers to contribute their special expertise to the curriculum. Visitors included the following: in Architectural Design, Edith Ackermann, Carol Burns (fall), Francis Duffy, Brian Healy (fall), Sebastián Irarrázaval (spring), Hasan-uddin Khan, Pierre Thibault (fall), José Salinas (spring); in Building Technology, Edward Allen; in History, Theory, and Criticism, Greg Dreicer (spring), Robin Greeley (fall), Michael Ann Holly (spring), Henry Millon (spring), Keith Moxey (spring), John Rajchman (spring), Ralph Stern (fall); in Visual Arts, Antonio Muntadas. Appointed as lecturers were the following: in Architectural Design, Hansy Luz Better (IAP and spring) and Haldane Liew (fall); in Building Technology, Daniel Arons (spring), Stephen Diamond (fall), and Carl Rosenberg (spring); in History, Theory, and Criticism, Sabri Jarrar (spring), Carla Keyvanian, and John McMorrough (spring); and in Visual Arts, Andrea Frank, Joe Gibbons, and Sanjit Sethi.

Architecture Student Council

The Architecture Student Council (ASC) was vigorous in its promotion of community and student involvement in department governance. Students elected representatives to the ASC from each level and discipline. Student representatives served on a number of department committees, including admissions and search committees, the Department Council, and the MArch Curriculum Committee, and attended studio faculty meetings as the agenda pertained. The ASC contributed agenda items to general departmental meetings and organized social events, including one that showcased student travel and project work. In AY2004, Elizabeth Burow was elected president. When she was selected as the Renzo piano intern, vice president Nadya Nilina assumed the role of president. Elected student members were Jennifer Seeley, Michael Ramage, Sotirios Kotsopoulos, Ross Adams, Tim Campos, Jinchao Yuan, Evan Pruitt, and Elisabeth Evans.

Student Awards and Fellowships

The Department of Architecture honored the accomplishments of the following graduate and undergraduate students: the Alpha Rho Chi Medal for a graduating student for service, leadership, and promise of professional merit, Andrew T. Marcus; AIA Certificate of Merit, Timothy Morshead; AIA Medal for top-ranking graduating MArch student, Rebecca Luther; Exchange Scholars to the Technical University of Delft, Evan Pruitt and Cecelia Ramos; Marvin E. Goody Awards, Lydia Kallipoliti and Maria Alexandra Sinisterra; AIA Foundation Scholarship nominees, Marco Marraccini and Jelena Pejkovic; Permasteelisa Sustainable Architectural Design Award, Christine Lin and Laia Massagué; Ann Macy Beha Traveling Fellowships, Renata Filipovic and Matthew Pierce; Marjorie Pierce/Dean William Emerson Fellowship Award for outstanding academic and design achievement by a Level II woman, Marie Law; Louis Rosenberg Travel Fellowship, Wendy Meguro; Renzo Piano Workshop Internship, Elizabeth Burow; Behnisch, Behnisch & Partner Internship, Marlene Kuhn; Takenaka Internship, Ahmed Elhussseiny. William Everett Chamberlain Prize for achievement in design, Stephanie Hsu and Sarah Seung Shin; Outstanding Undergraduate Prize for

academic and design excellence, Joyce Wang and Lisa Mroszczyk; Francis Ward Chandler Prize for achievement in architectural design, Rori Dajao and Matthew Pierce; Aga Khan Program Summer 2004 Travel Grants, Joseph Dahmen, Amanda Ikert, Pamela Karimi, Lisa Mosier, and Afiya Ayo Whisby; Murcutt Master Class Scholarship, Katice Helinski; 2004 Hyzen Travel Grants, Michael Osman and Lucia Allais; Aga Khan Travel Grant, Council for the Arts Director's Grant, and Avalon Travel Grant, Zahra Pamela Karimi; Kelly Douglas Award and Graham Foundation Award, Deborah Kully and Michael Osman for the HTC Forum; Robert Bradford Newman Medal for Merit in Architectural Acoustics, Omar Saad; Sidney B. Karofsky '37 Prize for the outstanding MArch student with one further year of study, Marco Marraccini; Rosemary D. Grimshaw Award, Christopher Muskopf; Special Recognition Award for outstanding service to the department (award created in AY2004), Robert Morgan; 2003–04 Moshe Safdie & Associates Research Fellowship and Martin Family Society Fellowship, Mitchell Joachim; Luce Fellowship, Lauren Kroiz; Fulbright Scholarship and Emanuel and Sofie Fohn Scholarship, Mechtild Widrich; CCA–HTC Fellowships, Jennifer Ferng, Fabiola Lopez-Duran, Lauren Kroiz, and Juliana Maxim; Hyzen Fellowship, Christine Walker; Schlossman Research Fellowships, Philippe Block and Mechtild Widrich; William Asbjornsen Albert Memorial Fellowship, Kyoung-Sun Moon; George and Marie Vergottis Fellowship, Sotirios Kotsopoulos; Victorian Society Summer School Tuition Fellowship and Mellon Fellowship, Katherine Wheeler Borum; Delmas Foundation Grant, Rome Prize Fellowship in Renaissance and Early Modern Studies, American Academy in Rome Fellowship, Kelly Douglas Fund award, and MIT Humanities Grant, Janna Israel; Social Science Research Council Grant, Dedalus Foundation Fellowship, and DAAD (German Academic Exchange Service) Fellowship, Zeynep Celik; Fulbright-Hays Doctoral Dissertation Research Abroad Fellowship, Barakat Foundation Fellowship, American Fellowship from American Associate of University Women, Social Science Research Council International Dissertation Research Fellowship, and Carter Manny Award, Michele Lamprakos; Graduate Fellowship for Persian Studies 2003–05, Talin Der Grigorian (writing professionally as Talin Grigor); Barakat Foundation Fellowship, Melanie Michailidis; 2003–05 Michalke Curatorial Fellow, Busch-Reisinger Museum (continuing), Kirsten Weiss; CAA Professional Development Fellowship for Art History, Glaire Anderson.

Closing Remarks

I would also like to note the outstanding quality and devotion of our staff. I know this directly and most intimately with the Headquarters staff, but it extends throughout the department.

Stanford Anderson
Department Head
Professor of History and Architecture

More information about the Department of Architecture can be found on the web at http://architecture.mit.edu/.