Dean for Undergraduate Education

As the DUE Visiting Committee observed in its 2008 report, "There is so much activity underway in DUE that it is simply impossible to cover everything." While they were describing a visit to review progress since 2006, their words accurately depict an exceptionally full, complex, and active year during which offices and staff throughout the organization delivered on our mission "to enroll, educate and inspire some of the world's brightest students with a passion for learning and sense of self so they become the next generation of creative thinkers and leaders in a global society."

DUE plays three important roles in education at MIT: delivery of core central services that enable the educational enterprise to function, creation of new services that enable continuous improvement in the educational enterprise, and strategic visioning for the future of education at MIT within an international context. This year, our ongoing activities converged with several extensive undertakings that flow from these roles and from DUE's leadership in "promoting the excellence of a science and technology-centric education, ensuring access and opportunity without regard to financial resources, upholding rigorous academic standards, advancing innovation, developing mentoring relationships, strengthening respect for diversity, and serving as a catalyst for learning, exploration and discovery."

This overview provides a snapshot of some of the key initiatives undertaken in the past year to strengthen DUE and deepen its impact on undergraduate education. We also endeavor to give a taste of some of the challenges, issues, and plans that engage us and to convey a sense of an organization working effectively, strategically, and at full throttle. The office reports that follow will provide greater detail and reflect the committed effort of an excellent staff that carries out the work of DUE.

Accomplishments/Summary of Key Initiatives

We continued to execute on a good strategic plan developed in 2006, guided by the six priorities—our strategic themes—articulated in the plan: catalyzing the undergraduate educational commons, championing information technology (the Vision Project), enhancing and enabling global education, championing pipeline diversity, advancing from teaching to learning, and developing a holistic student experience. In addition to initiatives related to these themes, the year's key achievements in other fundamental areas of DUE include admitting and enrolling the new class, collaborating with Institute leaders to enhance MIT undergraduate financial aid policies, hosting the DUE Visiting Committee, deepening our ability to be a resource to faculty, and showing intellectual leadership of nondepartmental aspects of the undergraduate experience. Organizational changes put into place last year continued to expand their potential and produce great results, supported by some new resources and space changes. Several offices created, realigned, added, or under new leadership since 2006 strengthened their foundation and defined their identities and strategic direction.

Catalyzing the Undergraduate Commons

We developed and strengthened efforts to advance the work of the Task Force on the Undergraduate Commons and other aspects of undergraduate education, in many

instances working with the faculty. DUE offices were instrumental in producing the first curricular fruits of the Task Force. As a result of excellent preparatory work by the Office of Faculty Support (OFS) and the Registrar's Office, the faculty unanimously approved awarding double majors in place of double degrees. OFS took the lead on many of the DUE-related recommendations of the Undergraduate Commons, and staff throughout DUE contributed to progress on recommendations not requiring faculty action. This included progress in global education, undergraduate advising, and the infrastructure that supports education.

The Educational Commons Subcommittee (ECS) of the Committee on the Undergraduate Program (CUP) met regularly during the academic year to hammer out a set of proposals for curricular reform that seem likely to pass a faculty vote. ECS made progress on a modified model for the General Institute Requirements (GIRs) and reported on it at the May faculty meeting. Final proposals will come to the faculty floor in early fall, with the final report expected in October.

The Dean for Undergraduate Education appointed Professor John Brisson to lead a committee that advised on Task Force recommendations for improving the quality of classrooms, mix of classroom types, and class scheduling. These recommendations were discussed with the Dean's Group and Science Council, and there will be discussions with the School of Humanities, Arts, and Social Sciences (SHASS) Council in the fall. Numerous educational experiments were supported that focused on project-based learning and Humanities, Arts, and Social Sciences (HASS) subjects, partly with the d'Arbeloff and Alumni Funds, which OFS administers. The Teaching and Learning Lab (TLL) and OFS were involved with assessing first-year experimental subjects as a way to increase freshman motivation and enthusiasm, and introduce more active learning in the first year. DUE worked to provide more faculty-related infrastructure to support the new GIRs, including advising materials, a communications strategy, and functional online subject evaluation. OFS, TLL, and Office of Educational Innovation and Technology (OEIT) staff developed this new online course evaluation system for Institute-wide use and piloted it this spring.

Championing Information Technology: MIT Vision Project

DUE, and in particular registrar Mary Callahan, had a leadership role in conducting the discovery phase of the Student System Vision Study, working closely with Information Services and Technology (IS&T). Many DUE offices provided crucial feedback during 26 Vision workshops held to analyze the strengths and weaknesses of the current systems, and to envision an optimal future state. This phase of the Vision Project also involved business process review, evaluation of system options, peer benchmarking, technology evaluation, functional assessment, and proposed solutions. It culminated in a final report to senior officers, which proposed an approach and timeline for implementing a student system replacement. Mary Callahan, who leads DUE's IT theme (which is synonymous with the Vision Project) served on the Vision Steering Committee and helped manage this phase of the process. The plan created from this study will incorporate technology and business requirements to provide a roadmap to support MIT student services in the future. This initial phase of what will be a five to seven year undertaking required major time and effort from staff already working to capacity to perform their offices' ongoing work. Execution of the recommendations will restore MIT to a leadership position in

information-oriented student services. DUE will need to be prepared and equipped (with backfill, buy-in, and careful planning) to continue this high commitment in the year ahead.

Enhancing and Enabling Global Education

We achieved several significant milestones in promoting the value of global learning for our students, increasing the number of available opportunities, and enabling all undergraduates to have a meaningful experience abroad without financial or academic penalty. The Global Education and Opportunities Committee (GEOMIT), appointed by the Dean for Undergraduate Education and led by Professors Hobbs and Sive, completed a report recommending an approach for expanding student global experiences. The DUE Global Theme team advised the dean on a set of next steps to take, based on the GEOMIT recommendations. Top among these was creation of a new Global Education Office (GEO), for which DUE received Institute resources in the FY2009 budget cycle. The new GEO was scheduled to be announced to the MIT community as part of the Global Education and Career Development Center (a realigned Careers Office and Office of Study Abroad and Distinguished Fellowships) in July 2008. This hub of expanded support for student global opportunities, as well as for faculty who lead global exchanges, will be guided by a faculty advisory committee chaired by Professor Kim Vandiver. Other DUE programs also grew this year as part of DUE's global education strategy. The Office of Undergraduate Advising and Academic Programming's ambitious marketing plan for international Undergraduate Research Opportunities Program participants (the International Research Opportunities Program—IROP) produced a 300 percent increase in opportunities (to 39 projects) this year, including a new summer exchange with IIT Kampur. The International Development Initiative benefitted from a successful budget process in which the Institute allocated funds to support a second section of D-Lab for FY2009.

Championing and Increasing Pipeline Diversity

New programs initialized in the past two years grew and existing ones were improved during this academic year. The Mentor Advocate Partnership (MAP) expanded from 17 freshmen in 2006–2007 to 33 freshmen and 17 ongoing sophomores in 2007–2008. Laureates and Leaders, which launched in spring 2007 with 10 sophomores, selected and oriented 20 freshmen and sophomores during this second year of the program. The Leadership Development Workshop Series, designed to support student leaders as they balance managing their organizations with excelling academically, successfully completed its second year. The Office of Minority Education received funds through the FY2009 budget cycle to plan an internal "Diversity Matters" campaign targeted at MIT faculty and articulating the benefits of diversity in the classroom and lab. Plans to launch the campaign will proceed in 2008–2009. Nonrecurring funds were also allocated to continue Laureates and Leaders and MAP pilots.

Advancing From Teaching to Learning

During the past year, when accountability for learning outcomes as well as demands for improvement in science, technology, engineering, and math (STEM) education were high on the national educational agenda, TLL, OEIT, and OFS collaborated widely and variously with faculty to improve teaching and learning and foster creativity in education. As the respective reports of these offices demonstrate, this year brought

increases in the number of DUE-faculty collaborations (including those with members of the Teaching for Learning Network, an MIT-Cambridge University venture), progress on existing initiatives (such as teacher assistant training), and creation of new ventures (approval of a TA certificate program to deepen the teaching ability of highly motivated teaching assistants.) A team led by TLL assistant director Leann Dobranksi, with members from OEIT, OFS, and DUE Communications, completed the first phase of Extraordinary Learning@MIT. This kiosk and website project will showcase successful curricular and cocurricular innovation at MIT. In October, OFS hosted "Redefining the MIT Classroom: Award-Winning Experiments in Curricular Change" to celebrate curricular innovation made possible by the Alumni Class Funds.

Developing a Holistic Student Experience

An outgrowth of DUE's holistic theme under Julie Norman's leadership was the addition of reflective practice, leadership, faculty engagement, and mentorship components to many existing initiatives in Undergraduate Advising and Academic Programming (UAAP) and beyond. The changes brought existing structures and programs to a higher level in undertakings such as Orientation, Campus Preview Weekend, freshman pre-orientation programs (FPOP), and faculty engagement. Following analysis of a major report on best practices in undergraduate advising described in last year's President's Report, UAAP made several enhancements that support our vision for developing a holistic student experience. They established the Earll M. Murman Award for Excellence in Undergraduate Advising, the first Institute-wide award to a faculty member whose advising and mentorship of undergraduates has significantly affected their personal lives and academic success. At the May 2008 Award Convocation, Ole Madsen, professor of civil and environmental engineering, was the first recipient of the prize. A "Faculty-Student Opportunities at MIT" guide was updated and made available to faculty on the DUE and OFS websites, in support of the Holistic Theme. We increased the number of faculty advising freshmen (89, or 8.8 percent of the faculty) as a result of the Task Force recommendation for faculty to focus on this important part of faculty/student interactions. They comprised 43.4 percent of the total number of freshman advisors, up from 35 percent last year.

Recruiting and Enrolling the Next Class

Due to changes in other schools' early applications and financial aid policies, we headed into this year's admissions and enrollment cycle with a high level of uncertainty. Despite shifts in these key variables that affect college choice, yield for our class of 2012 (about 1,040) was strong, just slightly lower than last year. In fact, at 66 percent, it was our third-highest yield ever, from a record number of applicants that represented an 8 percent increase over last year. We admitted less than 12 percent of the 13,396 applicants, our lowest admit rate ever. Once again, our incoming class is exceptional. It includes 189 first-generation-to-college students, 25 percent underrepresented minorities, and MIT's first set of quadruplets.

While peer universities announced new policies to eliminate tuition for lowest-income students and substantially increase financial aid for students in the middle-income segment, MIT announced enhancements consistent with our tradition of making MIT more accessible to low-income students and affordable for the middle class. Student Financial Services executive director Betsy Hicks was instrumental in developing MIT's

strategy, which focuses on families earning less than $75,000, making MIT tuition free, and eliminating the student loan requirement for that cohort. Consequently, we maintained our trend of yielding students from the lower socioeconomic levels at a higher rate (77 percent for the incoming class) than the overall class yield of 66 percent.

Visiting Committee

The Dean and Leadership Team delivered a first-rate Visiting Committee meeting, with well-articulated materials and messages, and consideration of several of DUE's greatest priorities and challenges. The committee noted progress on several issues raised during their last visit in 2006, especially guaranteeing a Undergraduate Research Opportunities Program (UROP) position for every student on financial aid, involving more underrepresented minority (URM) students in UROP, funding global initiatives, increasing enrollment of URM students, paying attention to the English language competency of international teaching assistants (TAs), and encouraging TA training in departments across MIT. Discussions and their subsequent review and advice were based on four key areas:

- Supporting curriculum innovation, learning assessment, and underlying infrastructure for student information

- Developing a coherent institutional vision and strategy for diversity to achieve positive educational outcomes for all undergraduates

- Recognizing that to develop leaders who will solve the world's biggest problems, we must increase our emphasis in global education.

- Facilitating the development of cross-disciplinary and transferable knowledge and skills and perspectives for MIT undergraduate students.

The Visiting Committee's report stressed the urgent need to update the software infrastructure behind the Student Information System. The committee also wants us to ensure that our recent gains in building a global education program are part of an Institute-wide strategy and to undertake a thoughtful planning process that addresses educational implications of expanding the undergraduate student body. DUE leadership will consider how to meet their recommendations to ensure progress when they return in 2010.

Other Achievements

In June, UAAP kicked off year two of its Amgen-UROP Scholars Program, which places undergraduates interested in science and biotechnology and recruited from MIT and universities nationwide in MIT laboratories to conduct summer research with our faculty. The number of applicants surged to 400, more than double the number who applied last year.

We implemented a new UROP financial aid program, which guarantees funding of one UROP for every financial aid recipient. Of the financially eligible students, 199 chose to exercise the one term of guaranteed funding. Our focus on engaging URM and first-generation students produced a rise in URM participation during the academic year from 27 percent to 30 percent (non-URM participation was 42 percent) and a participation rate of 33 percent by first-generation students.

Exceptional progress was made in our communications, a capacity which DUE previously lacked. This was instrumental in many of the year's successes in outreach, community building, and creating organizational identity. New products included a Strategic Themes Summary brochure, DUE wiki for the Visiting Committee, "What is DUE" posters displayed in the Infinite Corridor and 7-133, a Stellar Site populated with key DUE documents, "Curriculum Innovation" videos that are part of the Extraordinary Learning@MIT project, and a comprehensive "Go Global" campaign to increase the number of students who go abroad as part of their MIT education (including brochure, posters, and a website, http://web.mit.edu/goglobal/). DUE's communication officer, Anna Babbi Klein, created a presentation summarizing demographics of undergraduate international experiences and a presentation with Lori Breslow about "Student Learning and the Value of an MIT Education," which the dean presented to the Academic Council. We expect to launch a much improved DUE website by the end of 2008.

OEIT, a new DUE office formed in 2007 from elements of Academic Computing in IS&T, brought competencies and approaches that complemented other DUE offices supporting educational innovation. This was evident in OEIT's work in areas such as educational infrastructure (improving learning spaces), curriculum reform (implementing project-based pilots recommended by the Task Force on the Undergraduate Educational Commons), and making research tools for learning accessible to students and faculty.

We successfully collaborated with Undergraduate Association leadership on a wide range of projects that produced tangible outcomes, including the Online Textbook Initiative, increased student engagement in Institute decision-making, Student-Faculty Dinners, and creation of the Earll Murman Award for faculty advising and mentorship.

Through the FY2009 budget process we were successful in acquiring resources to advance in some of the directions indicated in our Strategic Plan, the Task Force Report, and GEOMIT recommendations. Outcomes included enabling creation of a new Global Education Office recommended by GEOMIT, expanding D-Lab for FY2009, launching an internal diversity messaging campaign targeted at MIT faculty, and adding headcount in MITCO, OME, and TLL.

Staff contributed to planning and development of the new Bernard M. Gordon-MIT Engineering Leadership Program, particularly in evaluation and assessment, curriculum development, and faculty support.

OEIT and the Registrar's Office participated in ABET accreditation proceedings for the School of Engineering, helping the ABET team understand the broader institutional support that is an integral part of the accreditation review.

Working with Resource Development, we developed materials reflecting our priorities for the Campaign for Students (C4S), and the dean and several office heads undertook C4S fundraising trips around the country. We look forward to the success of C4S to increase our ability to meet our needs and execute on plans envisioned for DUE.

The DUE Leadership Team engaged in two retreats, which addressed strategic issues, precipitated new learning and perspectives, advanced organizational goals, and

provided opportunities to engage intellectually and socially. At the June 2007 retreat, Professor John Van Maanen introduced his model for organizational change, which we applied throughout the subsequent year as a basis for analyzing cultural, political, and structural dimensions of the strategic themes.

Space

With approximately 2,500 square feet assigned to DUE in Building 12, funding provided by the Committee for the Review of Space Planning (CRSP), and exceptional coordination by DUE's finance and space director, Jeanne Hillery, we were able to begin work on a DUE-wide space plan that included the following moves and renovations:

- OFS—moved from Building 7 to newly renovated space in Building 12

- DUE Desktop Support—relocated in Building 12 to newly renovated space, providing additional square footage to the MIT Careers Office for future expansion/renovation.

- DUE Administrative Team and the DUE Dean's Office—olocated to a newly renovated suite in Building 7 from locations in Buildings 26, 12, and 4

- Office of Experiential Learning—relocated from Building 10 to Buildng 4

- Office of Study Abroad—relocated from Building 26 to permanent and newly renovated space in Building 12, adjacent to Careers Office

- OEIT—consolidated staff from N42 and NE48 to newly configured space in NE48

New Appointments

DUE welcomed two new members to the leadership team this year. Melanie Parker was appointed executive director of the MIT Careers Office in July 2007 and took on leadership of DUE's Global theme in 2008. Following an extensive national search, Stuart Schmill, interim director of admissions during 2007–2008, was named dean of admissions.

Looking Forward: Challenges and Plans for the Future

As a Vision sponsor and the site of by far the most extensive business functions, in the year (and years) ahead, DUE will be challenged to invest considerable time and effort in this project that impacts so many areas of the Institute and beyond, while still carrying on regular business. If senior officers give their approval to go forward, the next phase will commence this fall and will involve an assessment of readiness across several parameters.

Besides advancing the goals of our other strategic themes, 2008–2009 priorities include

- Preparing for the New England Association of Schools and Colleges accreditation process in 2009, in which DUE has a major role

- Building on our strong foundation with the Division of Student Life, continued and enhanced collaboration as the new dean for student life assumes leadership

- Contributing to a strategic vision for MIT through development and implementation of aspirations expressed in the Visioning Document prepared for the provost

DUE has increasingly become an effective force for undergraduate education. Meeting several important milestones this year has brought a sense of accomplishment and momentum. Progress on the six themes has already allowed us to advance our mission and the vision for undergraduate education at MIT. We now need to continue to build on this foundation. All the themes will require mutually beneficial interactions with the Offices of the Dean for Student Life, Dean for Graduate Education, Information Systems and Technology, and the schools and academic departments in order to develop and implement effective, cohesive strategies for the benefit of our students. At the outset of a new fiscal year we look forward with a focus on some of the challenges that loom large on the horizon. As always, the goal is a better learning experience for our students.

Daniel E. Hastings
Dean for Undergraduate Education
Professor of Aeronautics and Astronautics and Engineering Systems

Elizabeth Reed
Senior Associate Dean for Undergraduate Education

More information about the Office of the Dean for Undergraduate Education can be found at http://web.mit.edu/due/.

Admissions Office

The goal of the Admissions Office is to identify, recruit, select, and enroll the best students in science, engineering, and technology in the world. We admit all undergraduate students (freshmen and transfers) and serve as a clearinghouse for graduate application paperwork. At various times throughout the year, we work closely with the Student Financial Services Office, the Office of Undergraduate Advising and Academic Programming, the Registrar's Office, the Office of the President, the Alumni Association, the Office of Minority Education, and the Committee on Undergraduate Admissions and Financial Aid. During Campus Preview Weekend, we also coordinate with other offices in DUE, the Division of Student Life (DSL), the Department of Facilities, and academic departments.

Accomplishments

We received 13,396 applications in 2008, an increase of 7.6 percent over last year and 28.3 percent in the last three years. Admitted students totaled 1,589, which represented 11.9 percent of the applicant pool. Yield was down slightly from 69 percent to 66 percent, due primarily to changes in the early admission and financial aid programs at peer institutions. We expect to enroll between 1,040 and 1,050 freshmen in the fall. Out of the 288 applicants for transfer admission, we admitted 16 and expect to enroll 13.

Diversity in the incoming class is strong. Their self-reported demographics tell us:

    25% are underrepresented minorities

25% are Asian Americans

34% are Caucasian

9% are international, representing 56 countries

46% are women

49 states, plus Washington, DC, and Puerto Rico are represented

The recruitment, admission, and enrollment of underrepresented minorities increased again in 2007–2008, building on gains in recent years. We also made significant improvements in the enrollment of first-generation-to-college students, totaling 189, or 18 percent of the enrolling class.

The Educational Council added an additional 108 volunteers this year to achieve a record level of 2591 alumni interviewers. The 9,416 interviews conducted this year represent an increase of 12 percent over last year. Our pool of interviewers is 16 percent international, 31 percent female, and 4 percent URM. The current group of educational counselors includes members from the classes of 1934 to 2008, with 60 percent of the volunteers coming from the classes of 1984 to 2008. The experience continues to be a positive one for the applicants as 93 percent rated their interview experience as excellent or good. This spring, 360 students attended 58 admitted student meetings hosted by educational counselors around the world.

This was the first year using our new admissions database, replacing the antiquated legacy system that resided on MIT's mainframe. This new system has enhanced the application review and selection process and improved real-time access to selection data. Our next near-term technology goal is to develop and deploy a document imaging system so that we can implement a paperless review and selection process.

There were two significant changes to the admissions landscape. One was Harvard and Princeton's eliminating their early admission programs, and the other was the significant increase in financial aid provided by Harvard, Yale, Stanford, and MIT.

Two of our peer schools eliminated their early admission programs, moving to only one admissions deadline of January 1. Harvard eliminated their (nonbinding) early action program and Princeton eliminated their (binding) early decision program. This meant that many students who had Harvard or Princeton as their first-choice school looked to an early program at another peer school, especially those schools without binding early programs such as MIT, Yale, and Stanford. As a result of this change we did see a 17 percent increase in early applications for entry year 2008, which totaled 3,924. The early program changes also made it more difficult to predict yield for this group, complicating the decision of how many students to admit.

The unpredictable nature of the year was further exacerbated by significant improvements in financial aid programs at Harvard, Yale, and Stanford universities. These schools, particularly Harvard and Yale, announced far-reaching financial aid improvements, aiding students' families who earn well above $100,000 annually. These changes were widely publicized, altering the expectations of many families regarding expected financial aid awards. In parallel, MIT also announced generous financial aid improvements, focused primarily on families with incomes less than $75,000 annually.

As with the early admission changes at peer schools, these financial aid changes compounded the problem of yield prediction.

We forecast that both of these changes would result in a decrease in our yield. The change in Harvard's and Princeton's early programs afforded us access to talented students who in the past would have applied early to Harvard or Princeton, been admitted, and never applied to MIT. While we may have been able to convince some of these students to enroll at MIT, many would still be interested in attending Harvard or Princeton, hence a lower yield for us. As for the financial aid changes, cost is a significant reason affecting student college choice. Indeed, our reply study indicated for the first time that cost was the primary reason most cited most by students who were admitted and chose to enroll elsewhere.

To mitigate the decline in yield we implemented several new recruitment initiatives this year. These included a special luncheon for early action admitted students and parents from New England that provided a unique opportunity for interaction with faculty and admissions staff. We also arranged for select departments and faculty to send personalized letters to admitted students based on their academic achievements and areas of interest. And once again Campus Preview Weekend attendance surpassed prior years' records. We welcomed over 1,700 students and parents to campus for our admitted student weekend, which continues to be regarded as one of the best amongst our peer institutions.

In the end, we were pleased to see our yield prediction proved fairly accurate, with only a small decline in our yield. We enrolled 66 percent of admitted students and only needed to use the waiting list for 35 students. This is the third-highest yield in our history.

Staffing

Stuart Schmill served as interim director during 2007–2008, and was named dean of admissions in April 2008 after an extensive national search. Admissions saw more turnover than usual in 2007–2008 due primarily to retirements of senior staff members and career advancement opportunities. The following employees retired from MIT after decades of service: Joanne Cummings, 36 years; Meredith Walsh, 34 years; and Ellen Stordy, 23 years. In the 2008–2009 academic year the Admissions Office will be made up of 15 full-time administrative staff, 19 support staff, and 2 temporary six-month administrative staff, currently consisting of 20 women and 9 men with 7 open positions. The 7 open positions include 2 active searches and 5 seasonal staff to be hired in the fall. Of the current staff 24 are Caucasian, 2 are African American, and 3 are Asian American.

Stuart Schmill
Dean of Admissions

More information about the Admissions Office can be found at http://web.mit.edu/admissions/.

MIT Careers Office/Office of Study Abroad and Distinguished Fellowships

The MIT Careers Office (MITCO) and the Office of Study Abroad and Distinguished Fellowships (SADF) underwent significant changes during this past year, including new leadership, development of a strategic plan, and a reorganization. Our newly revised mission is to empower MIT students and alumni to achieve lifelong success through seamless access to transformative global experiences, comprehensive and holistic career services, and mutually beneficial connections with employers and with graduate and professional schools. Our vision is to engage students and alumni in self-discovery to craft lives that are intellectually challenging, personally enriching, and of service to the world.

To achieve this, we provide experiences, programs, services, and access to resources that help students and alumni develop the self-awareness and skill to become effective leaders in a diverse society and prepare for the globalized world of work. These include global education and internship experiences, application support, counseling, workshops, classroom instruction, events, preprofessional advising, and connections to employers and graduate schools.

New Initiatives

Our organization engaged in a comprehensive strategic planning process, including assessment of our current state through six lenses: peer benchmarking, national standards, needs assessment, program review, focus groups, and survey data. The process resulted in a new organizational name, identification of strategic initiatives, new vision and mission statements, and a newly aligned team structure. The strategic plan charts a path for six strategic themes: championing global education; more holistic and comprehensive career development programs; strong collaborations and partnerships within and outside the MIT community; ensuring a high-performing team; employment of emergent technology and assessment infrastructure; and state-of-the-art facilities.

In June 2008, MITCO and SADF offices were reorganized in preparation for the launch of the new Global Education and Career Development Center, which will take effect July 1, 2008. We aligned teams with key strategic initiatives and incorporated stronger links among teams. The new structure will be an umbrella organization with two distinct yet interrelated offices—the Global Education Office (GEO) and the Career Development Center (CDC). The five functional teams are Global Education; Career Programs; Preprofessional Programs; Employer Relations; and Administrative.

The new Global Education Office, which will replace the Office of Study Abroad and Distinguished Fellowships, was formed in response to one of the recommendations of the Committee on Global Education Opportunities for MIT (GEOMIT). With enhanced operational funding and a new headcount, GEO will serve the entire Institute in providing more seamless and integrated service to students and in providing leadership and support for the Institute-wide global education initiative. Specifically, GEO is charged with:

- Providing one-stop service to students seeking advice on global opportunities, consultation to faculty and program directors, and focused direction in addressing barriers to student participation in global experiences

- Managing study abroad and distinguished fellowships

- Facilitating collaboration and communication among MIT programs and offices engaged in international education as well across the rest of the Institute

- Fostering the integration of global education into the wider administrative and academic structure as well as the development of intercultural competence as a primary student-learning outcome for global experiences

Among the new initiatives, we undertook leadership of the 'global theme' team, which is charged with advancing the GEOMIT committee recommendations. The goal of this effort is to coordinate among all of the major global education programs, increase student participation in global education opportunities, and to enhance global competency among MIT students.

In addition, in June 2008 we launched CareerBridge, a new online career management system for students, alumni, and employers. This enterprise-wide system automates the entire career services process and will enable us to efficiently and effectively meet users' needs by providing them with seamless access to job postings, on-campus interviews, an integrated events calendar, credentials files, and resume books. This customizable system provides us with tools to manage contacts, track participants, generate reports, manage events, maintain client notes, and employ push technology in client communications.

Global Education

One hundred MIT students participated in study abroad and exchange programs AY2008, as compared to 103 students during the AY2007. The decline was due mostly to reduced participation the Cambridge-MIT Exchange Program (CME). CME saw a 26% decrease in participation, from 34 students in AY2007 to 25 in AY2008. Contributing to this decline was the end of CMI funding, which provided stipends for MIT student participants, and the decline of the US dollar relative to the pound. Participation in the semester-long MIT-Madrid Program also decreased, with 5 fewer students than last year. The weak dollar against the euro most likely played a significant role in this decrease.

Despite the end of CMI funding, we were able to recruit and select the 2008 CME participants by designing an intensive communications campaign to students, faculty, and administrators, by investing in increased student outreach, and by concentrating on one-on-one conversations with interested students and with CME applicants.

The overhead expenses that students pay for the IAP-Madrid Program (intensive Spanish II program in Madrid) by were reduced by directly managing housing and financial transfers for the program and by securing cultural programming for students. SADF added a for-credit internship component to the MIT-Madrid Program that enables students to combine a valuable internship experience with academic study in Madrid for a full semester.

We provided support and consultation to the Department of Aeronautics and Astronautics to develop a student exchange with the University of Pretoria. The program has been approved by Committee on Curricula and is pending approval

by the new Aero-Astro department head. In conjunction with the Department of Architecture, we hosted the first two students from the University of Hong Kong (HKU) as participants in the new HKU/MIT departmental exchange.

We offered a specialized travel health and safety session for students preparing for a global experience, for offices engaged in international education, and for academic departments.

Distinguished Fellowships

Distinguished Fellowships has developed a highly effective outreach and mentoring effort, resulting in an increase in inquiries and applicants as well as improved results. There were over 350 student prospect contacts this year as well as a targeted email campaign, which resulted in a total of 94 applications for all competitions, a 45% increase over last year's 65 applications.

During the past year, 33 MIT students reached the final rounds of distinguished fellowship competitions, in most cases involving a national interview, which is a remarkable achievement given the relatively small pool of MIT applicants. This year MIT students garnered several distinguished fellowships and scholarships, as detailed below:

Rhodes Scholar: Melis Anahtar '08

Marshall Scholar: Ali Alhassani '08

Gates Cambridge Scholars: Marcelo Alvisio '08, Chawita "Jelly" Netirojjanakul '08, Talia Gershon '08, Naveen Krishnan '07, Ingrid Lawhorn '06

Fulbright Fellows: Michael Hanowsky SM '08, Tao Liu '08, Mara MacDonald G, Catherine McCurry '07, Gustavo Sentrini G, Tess Veuthey '08

Jack Kent Cooke Scholar: Raja Bobbilli '08

Merage Foundation for the American Dream Fellow: Rany Woo '08

Udall Scholar: Cecilia Scott '10

Goldwater Scholars: Annelise Beck '09, Sunny Shang Lou '09, Jennifer E. Yeh '09

Chateaubriand Scholar: Jennifer Fern

Kawamura Scholars: Austin Oehlerking '08, Christina Sher '08

Carnegie Endowment for International Peace Fellow: Ali Wyne '08

The only students who applied for the Udall Scholarship and the Chateaubriand Fellowship won, and this was the first MIT winner of the Udall ever. Of the 16 students who applied for Fulbright awards, eight made it to the second round—a 50% success rate—and of those, six have been named full scholars and one was made an alternate; only one was rejected in the second round. Moreover, we were extremely pleased to have two Kawamura winners (given solely to Harvard and MIT students), following 5–7 years of few applications and no winners. MIT's complement of five Gates Cambridge Scholars represents 5% of the Gates Scholars worldwide this year.

Committee on Foreign Scholarships

The Committee on Foreign Scholarships comprises 19 committee members, faculty members, and former foreign scholarship awardees, who are recommended by the chair and appointed by the president. The committee works intimately with the newly-founded Distinguished Fellowships Office, part of the MIT Careers Office, within the office of the dean for undergraduate education; and with the Distinguished Fellowships program advisor, Kimberly Benard. The committee has historically provided recruitment, advice, support, and mentoring for MIT applicants to the major prestigious foreign scholarships competitions: Rhodes, Marshall, Gates Cambridge, Mitchell, Fulbright, DAAD, Chateaubriand, and Kawamura. These awards are conferred on graduating seniors and graduate students for postgraduate study abroad. Professor Linn Hobbs, the chair, and Ms. Benard closely coordinate their responsibilities and activities in recruitment, advising, and mentoring of applicants and prospective applicants, while the committee is formally responsible for providing candidate endorsement letters from MIT and conducting mock interviews for candidates who are called to interview in the various competitions.

The Distinguished Fellowships Office recently broadened its purview beyond that of the Committee on Foreign Scholarships to include prestigious awards that do not necessarily include foreign study and may be awarded to students earlier in their undergraduate careers but whose application processes are quite similar to those of the major foreign scholarship competitions. Such awards include the Truman, Jack Kent Cooke, Merage Foundation, and Udall scholarships/fellowships, and well as Phi Beta Kappa recognition. Certain other awards of similar nature are dealt with elsewhere at MIT: the schools of Science and Engineering jointly coordinate MIT applications for the Goldwater Scholarship, for distinguished sophomores and juniors in science and engineering; and the Center for International Studies coordinates applications to the Luce Scholars Program, which offers a postgraduate sojourn in Asia.

Career and Preprofessional Programs

Continuing the trend of the past seven years, there was an increase in student office visits for career counseling and walk-in services. There were 4,710 student office visits last year, an increase of 8.6% over AY2007 and a more than 130% increase over the 2,044 visits in AY2002. Significant growth in participation occurred among freshmen (43%), master's (35%), and senior (11%) populations.

Permanent funding was secured for the Freshman/Alumni Summer Internship Program (F/ASIP), a comprehensive first-year program to engage freshmen in career development programs and facilitate securing of a structured summer internship. Eighty-eight percent of the students who completed the program were able to secure internships in their chosen fields (up from 80% in AY2005). F/ASIP participation increased to 106 students in AY2008, a 6% increase over the 100 participants in each of the previous three years. International student participation was back up to 19 percent (from 12% in AY2007 and 18% in AY2006). F/ASIP students came from 26 states and 18 foreign countries, and speak a total of 27 languages (excluding English). The ratio of males to females was 49% to 51% (51% to 49% in AY2007). New marketing events included the Interphase Resource Fair, an Interphase study break, and a presentation at the International Student Orientation. New F/ASIP employers included TripAdvisor, Cummins, BigMachines, and Cytec Industries. F/ASIP was enhanced technologically through the creation of Stellar

course management sites for SP.800 and SP.801, the development and implementation of online employer registration and internship postings, and the creation of a listserv.

We facilitated career planning and employability skills workshops to 134 undergraduate students and tailored career preparation workshops to 302 students in departments, residence halls, and to numerous student groups. We provided targeted and customized career development programming in collaboration with the Office of Minority Education and the Undergraduate Practice Opportunities Program (UPOP), including 80 Interphase students, the Second Summer Program students, and an employer networking reception, and more than 200 School of Engineering UPOP sophomores.

We collaborated with student leaders of the Fall Career Fair Committee to plan a pre-Career Fair week of programming, including workshops, resume critiques, and counseling sessions. Over 765 students participated, nearly twice as many as in 2006 (385).

MITCO and SADF offered 26 programs during the 2008 Independent Activities Period (IAP); more than 2,054 undergraduate students, graduate students, and alumni attended, an increase of 68% over the prior year. The diverse range of program offerings included: Law Firm Visit to Mintz, Levin, Cohn, Ferris, Glovsky and Popeo; Discover Your MBTI Type; Do You Have What It Takes to Win a Rhodes?; Evaluating Job Offers; CME Information Session; and Nonprofit Careers Panel; and a series for graduate students titled Career Fields After MIT, which explored five different industries.

In its second year, the *MGH*-MIT Shadow Program had 40 MGH physicians volunteer to have one or more students shadow them for a half day or one full day visit. All 60 students who asked to participate were assigned a physician to shadow. Ten medical specialty areas were available for students to select, including: oncology, pediatrics, pediatric intensive care, pediatric gastroenterology and nutrition, neurology, surgery, obstetrics/gynecology, cardiology, newborn medicine, and anesthesia.

Prehealth Advising provided credential services and served 113 out of 194 total MIT 2007 applicants to medical school, resulting in an 87% acceptance rate. This group of 113 consisted of 58 undergraduates, 12 graduate students, and 43 alumni. The acceptance rate for non-users of preprofessional advising services was 61%. The national acceptance rate for all applicants was 45%. Of the total applicant group of 194 (up from 147 in 2006), 73 were undergraduates, 21 were graduate students, and 100 were alumni. Acceptance rates were as follows: undergraduates 84% (up from 71% last year), graduate students 76%, and alumni 67%. The average GPA for accepted undergraduates was 3.6/4.0 and the average MCAT score was 34.5. Eleven new prehealth advisors were recruited; four of these new advisors are female health professionals, to help meet the growing female prehealth community needs.

There were 73 MIT applicants to law school (down from 126 last year); and 74% were admitted. The average GPA for all accepted MIT applicants to law school was 3.33/4.0 and the average LSAT score was 164.

Nearly 1,200 graduate students attended workshops tailored to the graduate student community, over 350 attended department-specific programs, and an additional 450

attended the new graduate student orientation presentation, for a total of over 2,000 graduate student group contacts. New programs and forms were developed and customized for graduate students, including:

- Resume Writing for Non-Academic Positions Workshop

- Professional Image Issues for Women Engineers Workshop

- Researching Companies to Find Your Ideal Job Workshop

- Interviewing from the Hiring Manager's Perspective Workshop

- Effective Presentation Skills Workshop

- The Art of Behavioral Interviewing Workshop

- Workshop evaluation form

MIT's first destination survey report, in collaboration with OME, MISTI and Study Abroad, was expanded to include two new series of questions related to the DUE's global education and diversity strategic themes.

Employer Programs

There were 6,121 interviews held on campus this year, representing a 9% increase over AY2007. However, 395 employers recruited on campus in AY2008, a 28% decrease in employer activity. The economic downturn and an increase in the number of rising seniors receiving and accepting job offers from employers following completion of their summer internships are contributing to this. A new trend for internship recruiting is that employers appear to be recruiting interns in the fall, rather than in the spring, as had been the tradition.

Engineering (20%), investment banking (20%), and consulting (19%) were the top three industries recruiting on campus this year, accounting for 55% of hiring. Financial services (15%) fell to fourth place this year, probably because of current problems in the mortgage industry. Biotech/pharmaceuticals/petroleum/utilities ranked fifth, accounting for 10% of the employers recruiting.

MITCO collaborated with the Department of Energy (DOE), MIT's Office of Government and Community Relations, and other MIT departments in coordinating a customized recruiting program for DOE, including a presentation by secretary of energy Samuel W. Bodman '65, attended by nearly 200 students; a DOE Information Session with the DOE's chief financial officer attended by nearly 30 students; and two full interview schedules for full-time and internship positions with 74 student applicants. These efforts resulted in 13 internship hires and four potential full-time hires. This is particularly noteworthy in that all of this occurred in April, which is extremely late in the student recruiting cycle.

Seventy-three percent of undergraduates and 94% of master's students indicated that their position was related to their academic major. Nearly half of all graduates accepted offers with consulting and finance firms, which may belie the preceding statement. These employers seek out MIT graduates for their analytical and problem solving skills.

To both the students and the employers, these opportunities are viewed as directly related to their academic major.

The average salary for graduating seniors was $61,260, a 3.7% increase over the $59,072 average for 2006. Nearly all other degrees also saw an increase. This represents the third year of salary increases for graduating seniors, and multiyear increases for most graduate degree recipients.

Facility and Personnel Activities

SADF was relocated to a suite of offices in Building 12, colocating them with MITCO. MITCO received new space that will be used to create a much-needed employer services suite to better support employer needs.

Over the past year, three staff members left and five were hired. Heather Bois Bruskin, Nancy Crosby, and Bill Rivers left the organization. Melanie Parker was selected as the new executive director for MITCO and SADF. Additional new staff hired includes Bob Dolan, career development counselor; Camille Cottrell, receptionist/administrative assistant I; Alyssa Tasha, finance and IT representative; and Shanell Littlejohn, administrative assistant I for preprofessional programs.

Malgorzata Hedderick was promoted from assistant dean to associate dean for global education. Rachel Greenberg was promoted from counselor to assistant director, F/ASIP. A search is under way to hire a counselor for preprofessional advising. Jennifer Cook was promoted to the position of administrative assistant II. Sarra Shubart transferred from MITCO to an administrative assistant I position in SADF.

A new assistant dean for global education position was approved and a search is underway.

Professional Activities

Malgorzata Hedderick is a member of the DUE global theme team and the Faculty Advisory Committee.

Deborah Liverman was a member of the DUE diversity theme team until it was dissolved early in the year. She served on the MIT Committee on Race and Diversity and on the MLK Celebration Subcommittee.

Shonool Malik served on the global theme team, and on the Student Leadership Development Committee until last year. She currently serves on the Joint DUE-DSL Collaboration Committee.

Dr. John Nonnamaker coauthored and submitted an article addressing the creation of community for graduate students for publication in the *NASPA Journal*, which is currently under review, and served on the GSO Community Life Grants Committee.

Melanie Parker served as a member of the DUE global theme and recently became its chair.

Dr. Marilyn Wilson was a member of the DUE holistic student strategic theme team, served as a freshman advisor and advised four MIT freshmen, and wrote pre- and post-publication book reviews for books in the career field.

Future Plans/Issues

MITCO and SADF will be renovating a significant amount of office space this year, thanks to funding and support from the Committee for the Review of Space Planning, which should provide offices for new staff and alleviate overcrowding, enhance office flow, and create a more welcoming and functional environment for our clients. However, it should be noted that even with these changes, the facilities will not meet national standards in some critical areas and are not commensurate with peer institutions, based upon a recently completed benchmarking study. The most critical gaps are the lack of private counseling and employer interview space as well as a lack of computer lab, testing, and library space. Currently four out of nine of our full-time counselors do not have private offices, which compromises client confidentiality. None of the interview rooms offer privacy, which is awkward for both employers and students and we frequently receive negative feedback regarding this. All of our peer institutions provide enclosed interview rooms for recruiting. The size of our facilities is well below peer institution averages and the effect of this is particularly felt in program delivery. We believe that these issues are not commensurate with the reputation of MIT and it is our hope that in the future we will be able to find alternative space to resolve these deficits and bring our facilities closer to national standards.

Much needs to be done to standardize the student global education experience, particularly as it relates to health and safety, standard policies and guidelines, training, and a system for tracking students. SADF will soon become the Global Education Office and will begin to collaboratively lead improvements in this area.

A recently completed needs assessment of essential career and global competencies for students identified career exploration, career planning, employability, cross-cultural communication, knowledge of non-US history and cultures, and understanding of global, economic, and political trends as the most essential and least developed competencies. MIT administrators have emphasized the need for greater co-curricular competency and skill development among MIT students. We will be moving toward a competency-based model for career and global education.

Global education, in particular study abroad, is still not sufficiently integrated into the curriculum, obtaining transfer credit is difficult and the process is not seamless, and there is not wide support among faculty for some of these programs. GEO, in conjunction with the Faculty Advisory Committee, will begin to tackle these issues; however we will also need institutional support for this effort. Additionally, there are financial barriers to participation in study abroad programs, including the weak dollar, lack of financial aid availability during the summer and IAP periods, and a summer earnings expectation to meet self-help obligations. Seventeen percent of seniors said that paying for college affected their ability to participate in study abroad opportunities. In 2006, 76% of incoming freshmen said that there was some to a very good chance that they would participate in a study abroad program; however, academic integration issues

and financial barriers appear to contribute to a decline in interest as students progress through their studies.

We have reported on the great success of MIT student applicants for highly competitive fellowships, but what continues to characterize MIT efforts in the competitions is that too few of our very talented students end up applying for these prestigious and rewarding opportunities.

The level of staffing across our programs is below that of our peers. Based on a benchmarking study completed this year, MITCO has 2.5 fewer full-time staff and SADF has nearly four fewer full-time staff compared to our peers. We will be developing proposals to ensure that our staffing levels are sufficient to support the mission.

Based on the recent benchmarking study, MITCO's total budget allocation per student is 32% below our peer average. Institutional funding is actually higher than average; however, the revenue generated by employer fees and through fundraising is significantly below average. At most peer institutions, career services offices generate their revenue through career fair fees. At MIT, student organizations run career fairs and depend on the revenue for their own funding. MITCO attempts to offset this by charging employers for interview rooms; however, this activity generates significantly less than career fairs. Substandard interview space negatively impacts our ability to charge more and likely affects employer donations, as does the decentralized nature of recruiting services at MIT. Through our strategic planning process, MITCO will cultivate stronger relationships with employers, which should enhance employer support of MITCO.

Demand among alumni for career services is increasing and there are insufficient resources dedicated to this population. Their needs are unique and we know that strong alumni career services correlate with increased alumni satisfaction, support, and giving. We do not have a clear plan to respond to this demand; however, we do have an individual designated to serve the alumni population as a portion of his job and we plan to discuss this issue with the Alumni Association in the near future.

The size of the graduate student population, which is larger than the undergraduate population, presents a challenge in with regard to providing sufficient resources to meet their particular needs. This career services program does not receive permanent programmatic funding; we will continue to seek permanent funding for this area.

Internship programs are highly decentralized throughout MIT, which is challenging both to students and to employers, particularly those offering cross-disciplinary internships. Many of the institution's programs have caps or requirements on participation and there are gaps in students served. Most peer institutions have dedicated staff to provide central coordination within the career center. Our comprehensive internship program for freshmen is oversubscribed and has a waiting list. With additional resources we could expand this model program to serve more students, regardless of classification. As part of our reorganization we have added 0.5 FTE staff toward expanding internship program efforts beyond F/ASIP, which will provide a limited enhancement in this area.

The Preprofessional Advising program is underresourced relative to peer institution resources. We believe that this is a factor in our lower medical school acceptance rates

compared to peer institutions. A thorough benchmarking study to assess and compare MIT's prehealth advising system and operations with 14 peer institutions, including Harvard, Yale, and Princeton, was recently conducted and a report will be published soon. MITCO's strategic planning process will work on improvements to this. For the 2007 application cycle, the female prehealth community reached an all time high of 75%, furthering the need for more female advisors/mentors. An additional trend in prehealth advising has been the decrease in the number of faculty serving as prehealth advisors. Of the 11 new advisors recruited, only two were MIT/HST faculty, which is consistent with previous recruitment effort results. The number of faculty serving as prehealth advisors has decreased from 26 in AY2003 to our current level of 17. There is a need to recruit more faculty to best represent MIT applicants in the medical and other health profession admissions processes, as they are most familiar with the Institute's academic rigors and can best write evaluative letters attesting to student academic credentials.

Because MIT students are oriented toward the use of technology, we plan to leverage technology to innovatively deliver on-demand career development services and education to students.

Focus groups identified gaps in MITCO service, particularly in career planning and career exploration. They indicated that MITCO is known as only providing value in "end game" services related to employment. Only 20 percent of undergraduates indicated that they rely on MITCO for advice on career goals. MITCO will be working to implement a more comprehensive and holistic program model which will align with DUE's holistic student experience strategic initiative.

Although MIT attracts significant employer interest and participation, MITCO has done little to cultivate new employers. Strategic MIT initiatives such as the energy initiative provide a great opportunity to develop employer relationships that align with student interests and institutional priorities. MITCO will develop an employer outreach strategy that is aligned with MIT initiatives, strengths, and areas where there is currently a gap in employer representation.

In response to the declining number of MIT graduates pursuing careers in public service and the positive response to the Department of Energy recruiting effort, MITCO is launching a public service career initiative to heighten student awareness of careers in public service. MIT is one of five universities selected to host a Federal Career Day in 2008 that will be officially sponsored by the Office of Personnel's Call to Serve initiative. A committee has already been created and the fair will occur on October 22, 2008.

Melanie Parker
Executive Director, MIT Careers Office

Linn W. Hobbs
Chair, Presidential Committee on Foreign Scholarships
Professor of Materials Science and Nuclear Science and Engineering

More information about the MIT Careers Office can be found at http://web.mit.edu/career/www/.

Office of Educational Innovation and Technology

The Office of Educational Innovation and Technology (OEIT) engages with the MIT community to develop, disseminate, and advance the sustainability of educational innovations through the strategic use of technology.

OEIT focuses on two key areas to which it brings unique perspective, skills, and methodologies: bridging research and learning, and linking digital content to the curriculum. By channeling its energies in these two broad areas, OEIT enables educational innovation to shape MIT's efforts and readiness for 21st-century education.

Historically, innovations in educational technology at MIT have often remained the domain of the original innovators. OEIT acts as a conduit to communicate the availability of these educational innovations more widely to faculty. OEIT also facilitates the adoption of these innovations, wherever they may have been developed, to help improve teaching and learning at MIT.

OEIT strategy is based on investigating new educational technologies, bridging departments who share common uses of educational tools and approaches, implementing test beds to try out new approaches to teaching with technology, and facilitating the identification of transition plans to support those technologies that have demonstrable value so that they are delivered reliably and efficiently by the appropriate service unit on campus. OEIT staff collaborates with faculty, students, and administrative staff to identify, develop, and distribute innovative uses of educational technology at MIT. With strategic guidance from the MIT Council on Educational Technology and through close linkages with DUE's TLL, OFS, and the Office of Experiential Learning, OEIT communicates the availability of new educational innovations to faculty and students, and facilitates the adaptation and adoption of innovations to help improve teaching and learning at MIT. Finally, OEIT collaborates and provides leadership through the Academic Computing Coordination Group (ACCORD) with DUE's mission partners, notably IS&T and the MIT Libraries, to ensure that innovative technology applications are supported as sustainable services and that faculty at the Institute are able to avail themselves of these services in a seamless way.

OEIT's specific activities are driven by MIT's educational priorities and DUE's strategic themes (http://web.mit.edu/due/strategicplan.html#themes), in particular, the following:

- Advancing from teaching to learning in MIT classrooms

- Championing information technology for the provision of information to students and faculty

- Providing global educational opportunities that enable our students to appreciate and learn from other cultures.

We operate through seven areas of focus: (1) advancing the recommendations of the MIT Task Force on the Undergraduate Educational Commons, (2) research tools for learning, (3) active learning environments, (4) innovation diffusion, (5) dommunications and outreach, (6) student engagement in educational innovation, and (7) interdepartmental collaboration.

Guiding the activity in these areas is our adherence to the Innovation Cycle, which charts the life cycle of innovations through the following stages:

- Experimentation: conception and early experimentation, typically by faculty in the departments, labs, and centers

- Incubation: implementation as pilot projects by OEIT to ascertain their learning potential

- Transition: the articulation of a transition plan for those that demonstrate learning value *and* sustainability

- Service: delivery as a new service with the engagement of organizational units that can reliably deliver and maintain the new innovation for the long term

Accomplishments

Several of accomplishments OEIT's during AY2008 are noted below.

Advancing the Recommendations of the MIT Task Force on the Undergraduate Educational Commons

OEIT staff, along with colleagues in TLL and OFS, were significantly involved in supporting and evaluating the project-based learning (PBL) pilot subjects. Specific activities included:

- Developing tools for and supporting the development of subjects 6.01, 7.01x, 8.02, 18.01, and the project-based freshman seminars, including Terrascope

- Contributing to faculty consultation for specific PBL offerings (e.g., 4.001/J CityScope, 5.92 Energy, Environment and Society)

- Redesigning a former computer cluster (1-142) to serve as an experimental PBL learning space for 6.07J Projects in Microscale Engineering for the Life Sciences

- Providing extensive programming support for the Mission Planning Lab in 2.00AJ/16.00AJ, Fundamentals of Engineering Design: Explore Space, Sea, and Earth, and for 5.92 Energy, Environment, and Society

OEIT also staff contributed to the development of new programs and courses, including those supported by alumni grants:

- 6.081 Introduction to Electrical Engineering and Computer Science

- STS.015 Mapping Controversies: Preparing Scientists and Engineers for a More Complex World. OEIT is working with faculty on integrating this subject with the science core, and in training students in the usage of multimedia and web tools

- Mission 2011/Terrascope subjects. OEIT is working on incorporating blogs and wikis for team project work, and facilitating the usage of VOIP phones for homework submission and podcasting within Terrascope

In addition, we leveraged the GIS Lab (jointly run by OEIT and the MIT Libraries) to support Mission 2011/12.000 Solving Complex Problems and Terrascope, including

data acquisition, and developing GIS workshops. We provided consulting support for students in 11.422 Downtown Management Organizations and 11.423 Information, Asset-Building, and the Immigrant City.

Research Tools for Learning

Partnering with researchers in the Broad Institute and the departments of Biology, Physics, and Earth, Atmospheric, and Planetary Sciences, visualization tools (StarBiochem, StarBiogene, StarHydro) have been developed for proteins, genomics, hydrology, and work flow. The goal is to bring deeper insight into current science and engineering by making research software easily usable in the classroom. STARBiochem is being used by 1,000 MIT students, 200 Brandeis students, and 300 high school students. StarGP and BioGene have also been adopted by the Broad Institute's K-12 outreach program. In June 2008, OEIT's Star Group received a significant grant from the Davis Educational Foundation, for Bringing Biology Research Software into the Classroom. This grant supports the ongoing software development work of the Star Group that has already produced StarBiochem, StarHydro, StarBiogene, StarHPC, and StarMolSim. This work also won an Infinite Mile Award in AY2008. Through the StarBiogene project, pipelines have been created to run a specific set of visualizers used for material intended for 7.01x Introductory Biology. Professor Eric Lander, instructor for that subject, has proposed developing more tools that follow the StarBiogene model.

As a similar visualization project, OEIT has developed a GIS interface to the simulation to determine the metabolic impact for humans traversing different potential terrain. This is used for planning route optimization for geologists, astronauts, urban planners, etc. This work is being done with Professor Dava Newman of Aero/Astro and the objective is to build upon a graduate research project to turn it into a teaching tool and thus help bring research tools into the classroom.

Active Learning Environments

Active learning environments comprise both physical and virtual spaces. OEIT manages four innovative physical spaces and the virtual world simulation currently implemented using Second Life. The innovative physical flexible learning spaces operated by OEIT support the growing interest in and subject usage of digital media authoring, production, and design. The two spaces of the New Media Center (NMC) address basic media authoring and instruction (26-139) and the need to move content into and out of digital form (the Digital Input/Output Center, 4-035). Ongoing 2-D data visualization in 37-312 meets needs in courses from chemistry to urban studies and planning. The project-based learning lab (1-142) is the most nascent of these spaces and is in transition to become a valuable study and learning environment for active learning through project and problem-based work.

OEIT has taken the lead in introducing the Second Life virtual environment to the MIT community, providing an opportunity to explore the educational value of virtual worlds. Working closely with the New Media Consortium and with a small set of MIT faculty serving as an ad hoc advisory group, we turned to MIT students to help us understand the possibilities of virtual worlds. A student design competition sponsored by the $100K MIT Entrepreneurship Competition and the Education Arcade challenged teams to

design and build three-dimensional personal living pods. With these early experiments, the MIT Second Life simulator opened in September 2007 and has been active ever since.

OEIT worked in collaboration with MIT Facilities and others in DUE to review the success of the project-based learning space in 1-142 based on its spring 2008 reconfiguration to support 6.07J. Key attributes of project-based learning spaces are collaborative work areas, team presentation space, support services (e.g., bench space for mixing chemicals, sink, etc.), storage, and persistent information presentation space.

Proposals were developed for reconfiguring the New Media Center (26-139) and the Digital I/O Center (proposed for 4-035) in collaboration with the Edgerton Center, including an internal CRSP request for space reconfiguration to extend the functionality of this space.

Multimedia capabilities in 26-139, 4-035, and 37-312 clusters were upgraded, and the digital photography studio formerly in the Edgerton Center was relocated to 4-035 to provide greater access to students.

The Edgerton Center has acquired funding to digitize and make Doc Edgerton's materials (tens of thousands of 35mm slides, 20 hours of film and the entire Doc Edgerton notebook archives) available online. Following a successful prototype to demonstrate viability, OEIT is engaged in developing user-facing applications for exhibiting this collection and for gathering descriptive metadata from the global community. This project may have further ramifications for other 150th anniversary projects.

Innovation Diffusion

iCampus

Over the past decade, the MIT iCampus project has generated significant faculty educational technology projects. DUE and OEIT are committed to continue the communication outreach and dissemination of a select set of iCampus initiatives. This effort has three basic objectives: (1) ensure that there is a continuing MIT presence in the projects pioneered by the iCampus Alliance, (2) encourage the dissemination and adoption of specific iCampus projects among institutions around the world, leveraging the disciplinary and technical communities that are predisposed to embrace change, and (3) promote the spread and incorporation of iCampus projects across a wider spectrum of MIT faculty and courses. The premise here is that external adoption of iCampus is strongly affected by the perception of value and demonstrated use of these technologies at MIT.

Selected accomplishments of this past year are described below.

iLab celebrated the 10th year of iLabs, in collaboration with Center for Educational Computing Initiatives (CECI). The celebration was marked by a CrossTalk that included representatives of iLab development partners from three countries. iLab team presentations were made at online remote laboratory conferences, the Virtual High Schools annual meeting, and at more than half a dozen talks to different institutions around the world. OEIT participated on a National Science Foundation grant to CECI

that was awarded this past year for $996,683 to MIT and Northwestern University, along with high school partners from the Illinois Math and Science Academy (Chicago) and the Queensland Math and Science Academy (Toowong, Queensland, Australia). In addition, significant progress was made toward the founding of an iLab Consortium, expected to be announced in fall 2008.

A project to explore the use of tablet PCs and the Classroom Learning Partner (CLP) environment for active and collaborative learning in freshman chemistry (5.111) was undertaken under the direction of Kimberle Koile, one of the original principal investigators of this project. Project deliverables include a report summarizing the deployment experience, a set of chemistry CLP presentations, and as a generic downloadable version of CLP.

In collaborating with Professor Peter Donaldson, the HyperStudio, and the Global Shakespeare Project in the School of Humanities, Arts, and Sciences (SHASS), we are helping to extend the use and sustainability of the Cross Media Annotation System (XMAS) environment by making it a web-based application and to evaluate the sustainability of the XMAS system with an eye towards the creation of an online video annotation module that would be a part of Repertoire. Repertoire is an evolving platform that supports the process of scholarly/educational activities in the humanities, such as the close reading of media documents and the ability for researchers to share and discuss their findings with other users. Drawing from the functionality and lessons learned from XMAS, the video module will allow users to view and create their own video clip by setting in and out points, annotate and tag the clip or portions of it, include the video clip in a multimedia essay, and share their work with other users, among other functions. We are also exploring opportunities to link it with other applications such as Spoken Lecture to render a rich environment for video-based learning.

Technology Enabled Active Learning (TEAL) continues to garner national and international interest. Groups from Japan, Chile, Australia, and Denmark visited MIT to see the TEAL classrooms first hand and talk about active learning. High school collaboration with the Windward School (Los Angeles, CA) has led to the construction of a new science building modeling the TEAL format. OEIT participated in the TEAL departmental review, including working in collaboration with an architectural firm (Imai and Associates), whose work to refine the physical design of the TEAL classroom spaces continues.

Spoken Lecture continues to be developed in the Computer Science and Artificial Intelligence Laboratory's Spoken Language Systems group led by Dr. James Glass. OEIT's engagement has focused on the release engineering required to move this project from the experiment/research quadrant of the innovation cycle to the incubate stage, where a focused pilot implementation can be conducted. The principal work has centered on identifying the workflow to be coded into a new Apple tool, Podcast Producer. Plans are to have a pilot project up in time for testing during fall 2008.

Open Knowledge Initiative

The Open Knowledge Initiative (OKI), http://www.okiproject.org/ develops and promotes specifications known as open service interface definitions (OSID) that

enable sustainable interoperability and integration by defining standards for service-oriented architecture. The OKI specification that has had the most impact at MIT and among OEIT projects is the repository OSID. This service definition covers issues of interoperability between content repository services (such as DSpace and OpenCourseWare) with educational applications that need direct access to content. To date the repository OSID has been a pivotal aspect of projects such as the Visualizing Cultures image data-viewer application as well as the Stellar image tool. An additional value of the OKI repository work has been in the ability it is now giving us to consider externally developed applications for inclusion and integration in the MIT educational technology environment. Such applications include the Visual Understanding Environment (VUE), a concept mapping tool developed at Tufts University and the Pachyderm web presentation tool developed by San José State University. Current projects at MIT that we expect will build further on this OSID work include the Edgerton Archives Project, Spoken Lecture, and XMAS.

Stellar Image Tool, Wikis, and Blogs

OEIT has seen a successful transition of some of the innovative technologies developed for Visualizing Cultures and M: Media to a sustainable component of MIT's learning management systems, the Stellar image Tool. In 2006 OEIT had successfully transitioned the Stellar image tool that it had developed to IS&T's Infrastructure Software Development and Architecture (ISDA) group. Similarly, in 2007 OEIT successfully transitioned wikis and blogs whose educational use it piloted to ISDA for management as an enterprise service. This work continues now in the ISDA group, providing further infrastructure support for image-based educational content and collaboration tools. The transition work has relied on the technical framework provided by OKI, which is partially supported by OEIT, and continues to be a key component of developing sustainable applications.

Communication and Outreach

OEIT's educational outreach strategy aims to facilitate awareness and deepen understanding and transference of educational innovations at MIT and elsewhere. We intend our educational outreach efforts to go beyond being a showcase to being a vehicle for sharing and disseminating innovative teaching and learning practices, leading to adoption and adaptation as appropriate and eventually to successful educational transformation. Toward this end we want to enable the development of communities of interest and practice, encourage knowledge sharing through forums, and employ web multimedia and knowledge management technologies for finding and utilizing appropriate educational resources.

OEIT has undertaken the following activities in 2008 as part of its communication and educational outreach.

A new website, http://web.mit.edu/oeit/, was launched featuring a gallery of OEIT projects to inform the MIT community about how technology enables educational innovation activities at MIT, their scope, the technology applications involved, and their potential. The OEIT website is adding interactive capabilities characteristic of Web 2.0, helping to extend the work of OEIT to more faculty at MIT. The goal of the site is to build community around educational innovation and technology.

Crosstalk, http://web.mit.edu/acs/Crosstalk/, is OEIT's forum for sharing strategies, solutions, and issues related to transformation in educational practice through the use of information technology. Three Crosstalks were held in AY2008.

As part of its outreach and communication strategy OEIT's leadership team met with department heads and faculty to communicate about OEIT and ACCORD, to learn about areas of educational innovation of interest to them, and to understand the barriers and opportunities they see for adoption of educational technology.

The DUE Newsletter was launched in February 2007, and OEIT has used this channel to communicate regularly and frequently about innovative educational projects conducted with faculty and others. OEIT is working with other units in DUE to develop a video and web showcase of MIT educational initiatives that highlight curriculum innovation at MIT, called Extraordinary Learning.

OEIT's outreach efforts also include spreading the word about technologies that support student learning and faculty instruction developed by faculty at MIT to other colleges, universities, and educational settings around the world. This commitment is expressed in the open source, open content, and open sharing of MIT innovations to faculty and students wherever it can be of value. Toward this end OEIT staff has made presentations at several national and international conferences, including some targeted specifically for iCampus outreach. Presentations include those at EDUCAUSE (Learning Spaces), OpenLearn (Open University, UK), Online Education, Northeast Regional Computing Program, International Society for the Scholarship of Teaching and Learning, New Media Centers Annual Conference, ED-MEDIA 2008 World Conference on Educational Multimedia, Hypermedia and Telecommunications, and the Sakai Conference.

Student Engagement in Educational Innovation

OEIT supports student initiatives that enhance innovative applications of technology to enhance learning.

OEIT arranged for a new annual student award in May 2008. The Microsoft Research iCampus Technology Innovation Student (MRiTIS) Prize seeks to recognize and inspire technology innovation in improving living and learning in the 21st century among the MIT community. The prize is awarded annually to an MIT student or student group who has created or improved a product or process, applied a technology in a new way, redesigned a system, or in other ways demonstrated value to learning and community at MIT. MRiTIS Prizes are for projects with results that have been or can be broadly disseminated without restriction, in the tradition of open academic research.

OpenLabWare (OLW), http://olw.mit.edu/, is a student project that is focused on making the process and results of MIT research experiments available to educators and the general public. Similar to OpenCourseWare (OCW), OLW presents an inside view of selected research projects, with the goal of enhancing the understanding of the laboratory process and thus getting students excited about research at MIT. OEIT is working this summer with Jeremy Flores, a junior at MIT in Course 6, who is the new director of OLW. Jeremy will also be a mentor from OEIT for the Interphase program that is administered by the Office of Minority Education.

OEIT sponsored This American Summer, an independent project of seniors Alexander Guerra, David Sheets, and Danbee Kim. For 72 days, the student team is traveling over 19,000 miles around the United States and posting regular video, photo, and written journal entries for a global audience (http://www.thisamericansummer.org/). By using the latest in consumer electronics, mobile internet access, and web software, This American Summer is pushing the limits of user-created media.

Interdepartmental Collaboration

Course and Learning Administration

In the last year, OEIT facilitated the development of the Online Subject Evaluation/Who's Teaching What online application (a joint DUE-IS&T project for OFS), which aims to move the Institute from the current paper-based system to an online form over the next two to three years. The beta pilot was implemented during spring 2008, with the online subject evaluation component piloted May 1–16, 2008, so that students in the pilot subjects could evaluate instructors and subjects online. The results of the pilot implementation were assessed by the project team, the DUE-IS&T Project Steering Committee, and the Subject Evaluation Faculty Advisory Group in May and June to inform the move from beta pilot to production pilot during AY2009. The beta pilot project (http://web.mit.edu/se-project/) included four departments—Physics, Chemical Engineering, Literature, and Linguistics and Philosophy—and covered 22 subjects, 78 instructors, and 1,200 enrollments.

ACCORD

The Academic Computing Coordination Group (ACCORD, http://web.mit.edu/accord/) was launched in 2007 with Daniel Hastings, dean for undergraduate education; Ann Wolpert, director of the Libraries; and Jerrold Grochow, vice president for information services and technology as its sponsors. The past year focused on developing ACCORD's strategy and work plan with the objective of working towards ACCORD's mission of ensuring that all academic computing service providers on campus work together to provide a seamless and satisfying experience for faculty and students.

ACCORD has revitalized the educational technology community at MIT. It convenes the Accordiacs, a group comprising 44 academic technology service and support providers from IS&T, the Libraries, OpenCourseWare, DUE, the Sloan School, and other departments. This community met and worked throughout the year to define key activities and concrete deliverables for coordinating academic computing services across MIT. Discussions and presentations at the regular group meetings included topics such as academic software strategy, software for General Institute Requirements, wiki services, data and GIS services, and readiness for fall 2008.

The focus is on communicating ACCORD's role to faculty and staff and understanding needs. In August 2007, ACCORD launched a revamped and updated Teaching with Technology website (http://web.mit.edu/teachtech/) to provide a launching pad for the MIT community to start their search for appropriate help and partnerships. A new brochure was also created and mailed to each faculty member in August 2007. A wiki (https://wikis.mit.edu/confluence/display/ACCORD/Home/) was created for

academic computing service providers across campus to share profiles and information. ACCORD met with the MIT Council for Educational Technology, the Committee on the Undergraduate Program, the DUE Advisory Group, the SHASS Council, the Undergraduate Academic Administrators Group, and several departments, and had a booth at the new faculty orientation as well as at the Community@Sloan breakfast. Announcements were made at IT-SPARC, in *Tech Talk*, the IS&T and DUE newsletters, and in communications from the MIT Libraries.

ACCORD launched three illustrative use case exercises—Image Tools, Stellar-OCW-Dspace, and Video in Support of Teaching and Learning—in response to needs expressed by faculty and the MIT community and with a view to determine how best to provide seamless services in areas that involved multiple organizations.

Challenges

OEIT is a new organization, formed in 2007, primarily from elements of what was Academic Computing in the IS&T service unit, along with a few staff from Academic Media Production Services. Our identity and mission are new to our community. As such, it faces several issues.

First, there is a lack of post-reorganization clarity in the community about the role of different units engaged in academic technology support. OEIT's focus on supporting educational innovation rather than providing sustaining services needs to be understood by the community and further internalized by OEIT's own staff. The new organizational models that have been put in place have potential but require significant communication and systemic readjustment of roles.

Second, the availability of sufficient, sustainable resources to support collaboration, dissemination, adoption, and engagement with faculty in educational technology experiments is an issue. OEIT needs base funding designated for several areas. Capital investment is needed for specialized hardware and software for application development and testing environments as well as for physical/virtual infrastructure pilot projects. OEIT's entire budget for equipment and software is tied to the maintenance of current projects and leaves no room to support new initiatives or application development. OEIT's predecessor, Academic Computing, consistently leveraged IS&T "big initiative" funding and had flexibility within its equipment budget for this purpose. Support is also needed for the ongoing maintenance and development of spaces to meet emerging educational requirements. In addition, while there is short-term targeted support for outreach and diffusion of a small set of iCampus projects (secured from Microsoft at the close of that research partnership), the resources for sustaining them and ongoing diffusion is currently not available.

There is promising but as yet unrealized value in supporting end-to-end sustainable educational innovation through collaboration among DUE offices. There have been some successes that need to be built upon and expanded. It would be valuable to collectively create an approach to developing the processes for and appreciation of activities that can leverage advances in technology-enabled learning and become a unified force for supporting educational innovation at MIT.

Awards

DUE Infinite Mile awards were conferred on the STAR (Software Tools for Academics and Researchers) team comprising Charles Shubert, Ivica Ceraj, and Justin Riley for innovation and creativity, and on Mary Curtin for community and customer service.

Staff

OEIT accomplishments and successes are a result of its dedicated and talented staff, who mix their competencies in technology, education, strategic planning, specific disciplines, project management, and administration. Molly Ruggles joined OEIT as an educational technology consultant and Joshua Allen began as the learning spaces systems administrator, both in October 2007. Mary Curtin was promoted to senior administrative assistant in October 2007 and Justin Riley was extended by a year till February 2009 in the role of programmer analyst II. Katie Livingston-Vale left in January 2008 and joined the Harvard University Faculty of Arts and Sciences as director of the instructional computing group. OEIT's other staff include James R. Cain, Ivica Ceraj, Violeta Ivanova, Judith Leonard, Phillip Long, Andrew McKinney, Jeffrey Merriman, Amitava 'Babi' Mitra, Daniel Sheehan, Charles Shubert, and Peter Wilkins.

M. S. Vijay Kumar
Director and Senior Associate Dean

More information about the Office of Educational Innovation and Technology can be found at http://web.mit.edu/oeit/.

Office of Experiential Learning

Highlights and New Directions

Created in summer 2006, the Office of Experiential Learning (OEL) brings together the Edgerton Center, Concourse, and Terrascope. The director of OEL is Professor J. Kim Vandiver, the dean for undergraduate research and the director of the Edgerton Center. The faculty directors for Terrascope and Concourse are, respectively, Professors Rafael Bras and Robert Rose. Each director has provided a separate annual report, which follows this brief introduction.

There are notable changes in leadership about to occur. As planned two years ago, Professor Samuel Bowring will take over as Terrascope director in July 2008. Professor Rafael Bras has announced that he is leaving MIT. He has been a tremendous steward of the Terrascope program. His teaching position in Terrascope will be filled by Professor Charles Harvey of the Department of Civil and Environmental Engineering.

During the next academic year a search will be held to find a replacement for Professor Robert Rose as director of Concourse. He will be retiring from the position after many years of devoted leadership.

The individual reports for the Edgerton Center, Concourse, and Terrascope follow.

Edgerton Center

The mission of the Edgerton Center is to uphold the legacy of Harold "Doc" Edgerton by promoting hands-on and project-based learning by offering subjects, supporting student clubs and teams, involving students in international development projects, supporting individual student inventors, maintaining MIT's expertise in high-speed and scientific photography, and improving K–12 education at local, state, and national levels.

K-12 Outreach

The Edgerton Center began a program 12 years ago to bring fourth through eighth grade students from the Cambridge Public Schools to MIT as an enrichment to their studies. Teachers in grades four to eight bring their students to the Center for a half-day project-based lesson, which is integrated with each grade level's required curriculum. As the students go on to high school, they can continue their MIT connection by joining Team 97, the Cambridge entry into FIRST Robotics Team, where MIT students mentor the budding high-school technologists. This year Team 97 made it to the final match at the Boston Regional competition. Our 12-year outreach effort in Cambridge has paid off. In the beginning MIT was receiving zero college applicants from Cambridge Rindge and Latin High School. Today we receive 8 to 14 applicants per year and 1 to 3 Rindge and Latin students enroll at MIT annually.

The Cambridge success gave us the momentum to begin working in Boston four years ago. Our principal focus was at the John D. O'Bryant School of Math and Science, in Roxbury. For the recent school year, Edgerton Center staff member Ed Moriarty was on site and in the classroom most days, working on a new four-year Engineering Pathway curriculum. We are delighted to report that this spring two O'Bryant seniors were admitted to MIT and will be enrolling as freshmen in September. In June Mr. Moriarty received a DUE 2008 Infinite Mile Award, in part for his work at O'Bryant.

In spring 2008 the Edgerton Center began working with the Gloucester Public Schools on a project intended to build interest in STEM fields among middle and high school students. The experience gained in this project will be used to design a program that will empower MIT alumni around the nation to become involved in improving science, engineering, and math education in their local schools. During spring 2008, Edgerton Center staff worked with the Gloucester superintendent of schools, teachers, and principals to initiate the project. The project includes teacher professional development, exporting lessons developed here to the Gloucester classrooms, establishing or enhancing after-school programs, and a summer camp. The project includes several other MIT partners, including the Lemelson-MIT Program, the MIT Sea Grant program, the Center for Environmental Health Sciences, and the MIT Museum.

International Development Initiative

Our International Development Initiative (IDI) is a collaboration with the Public Service Center. Its activities include the IDEAS competition, public service fellowships, grants to individual students, and D-Lab subjects. D-lab teaches how to identify problems

in the developing world in health, agriculture, energy, and education, and then find sustainable solutions. In teams of four or five, D-lab students spent the month of January 2008 working on sustainable development projects in eight different countries around the world.

Along with MIT International Science and Technology Initiatives (MISTI) and MIT's study abroad programs, IDI's international public service programs are one of the three main ways for MIT undergraduates to undergo transformative international experiences. MIT has recently made the commitment to increase international opportunities for our students, and the IDI programs are growing to meet this goal. Fundraising is a critical part of the effort. The IDI program receives approximately $150,000 per year in support from the Lemelson Foundation. The provost has granted an additional $160,000 for the 2008–2009 academic year to support D-lab, and the Campaign for Students has a focus on IDI activities.

Last summer we ran the first-ever International Development Design Summit (IDDS), held here at MIT. For one month, 60 people from 20 countries worked on 10 projects in five workshops, sharing a creative and collaborative experience. The 60 international participants included students, teachers, farmers, doctors, and bicycle mechanics. All came to MIT to develop their capacity for innovation and creativity—critical for creating long-term sustainable improvements. Our goal was to teach them the design process and how to better engage members of their community in active problem solving.

In the traditional model of development, communities receive donated technology, and, while they may be trained in how to maintain and repair the technology, they are rarely taught or encouraged to evolve the technology and adapt it to their needs. One of the goals of our annual IDDS is to demonstrate a model where a user-based community of active, creative designers can invent, innovate, and inspire each other to create new technologies. As an IDDS participant put it, "IDDS 2007 has left a permanent design scar on my mind. I think design, speak design, and act design." Participants have been transformed from passive recipients of technology to active creators of technology. These are now people who believe that they can—and should—advance the current technology; people who will inspire their friends, neighbors, and colleagues to join in creating and sharing sustainable technology to develop their communities. IDDS 2008 is being held at MIT in July 2008 with the support of a $250,000 grant from the Rockefeller Foundation.

Hands-on Learning for MIT students

Student clubs and teams: The center is the home for approximately 23 student clubs and teams, including the Solar Electric Vehicle Team and the Formula SAE racecar team. Our most ambitious team in recent years has been the Vehicle Design Summit, which was started in 2006 by undergraduate engineering majors Robyn Allen and Anna Jaffe. After bringing together 46 students from around the world in summer 2006 to design and build energy-efficient concept vehicles, they next set their sights on building a 200 MPG equivalent commuter vehicle, which could be put into production. They have raised hundreds of thousands of dollars to support the project, and in June–July 2008 are holding their second design and fabrication summit in Italy at one of their partner schools. By the end of the summer they intend to complete a running prototype vehicle. The team consists of students from approximately 15 universities around the world.

New project space: The center supports hands-on learning in many ways. One is the operation of a student shop, which is managed by Mark Belanger. Another is a project garage space at 7 Emily Street in Cambridge. We learned in November 2007 that we would have to vacate the space by May 2008. After months of searching, a new project space has been identified. With the help of Greg Raposa, John Dunbar, and Professor Lorna Gibson, the associate provost with responsibility for space planning, we identified new space in N51, behind the MIT Museum, to meet this need. This is an exciting opportunity for the Edgerton Center to be able to consolidate team project space in a building where we can showcase student works, provide a central resource of tools, and provide much better staff supervision.

Hands-on academic offerings: The center offers 20 to 25 subjects for credit each year, including 6.163 Strobe Project Lab and six subjects associated with D-lab. Two of the D-lab subjects are the beginning of a new initiative called Mobility Lab, which includes wheelchair design and prosthetics and orthotics design. MIT students have already made creative advances in wheelchair design and in reducing the cost of prosthetic devices. Our summer professional subject in high-speed photography had a banner year, running at full capacity.

Edgerton Archive Project

With a grant of $180,000 from the Harold and Esther Edgerton Family Foundation, we have begun a project to put a large fraction of the "Doc" Edgerton collections in a web-based archive. Within the next year, web visitors will be able to access all of Doc's notebooks, 20 hours of high-speed movies, 7,000 images taken by Doc and 12,000 slides of Doc, students, and colleagues engaged in activities around the world. We hope that friends of Doc will take advantage of a web-based interface to contribute information about many of the photographs, which at present have unknown people, settings, dates, and activities. This is a joint effort of the MIT Libraries, the MIT Archives, the MIT Museum, Academic Media Production Services, the Office of Educational Innovation and Technology, and the Edgerton Center.

Finances and Funding

We have been quite successful in obtaining external support for expanding the International Development Initiative (over $400,000 this year) and our K-12 Outreach effort ($157,000 this year). Additional support from the provost ($160,000) has allowed us expand our D-Lab subjects to accommodate 50 students in the coming year. Of critical importance has been the recent increase in endowment payouts, which has reversed the effects of many years of inflation.

Personnel

Jessica Garrett has joined the Edgerton Center staff as the project coordinator for our work with the Gloucester Public School system. Laura Sampath has joined the staff of the Edgerton Center as the manager of the International Development Initiative, working closely with Amy Smith. Paula Cogliano has joined the Office of Experiential Learning providing administrative support for Professor Vandiver in his capacity as dean for undergraduate research, where he oversees the Edgerton Center as well as the Concourse and Terrascope freshman-year programs.

Concourse Program

Concourse is a highly structured and integrated program for freshmen that covers the standard core curriculum in mathematics, physics, chemistry, and the humanities. The structure of Concourse follows that of the standard curriculum, with scheduled lectures, recitations, problem sets, and quizzes. Small class size (60 students classroom maximum) and extensive personal interaction with senior faculty and tutors provide students with the intimate atmosphere of a small school while retaining the excitement and resources of a large institution like MIT.

Personnel

Members of the Concourse faculty and staff for 2007–2008 were Dr. James F. Bredt Jr., senior research associate in the Department of Mechanical Engineering; Dr. Wyn Kelley, senior lecturer, Literature Section; Dr. John Lewis, senior lecturer, Department of Mathematics; Dr. Sekazi Mtingwa, senior lecturer in physics and faculty director of Seminar XL in the Office of Minority Education; Dr. Sahana Murthy, Department of Physics; Dr. Jeremy Orloff, lecturer, School of Science; Professor Robert M. Rose, Department of Materials Science and Engineering; Dr. Gabrielle Stoy, Department of Mathematics; Professor Jeremy M. Wolfe, senior lecturer in the Department of Brain and Cognitive Sciences and professor of ophthalmology at Harvard Medical School; and undergraduates. We employed 19 undergraduates in the fall and 10 in the spring as graders and teaching assistants in chemistry, physics, calculus, and differential equations.

Staffing changes for the coming year include Jessica Wong and Cheuk Leung (teaching as a team), who will replace Dr. James F. Bredt Jr. as recitation instructor for 3.091 Introduction to Solid State Chemistry. Dr. Sahana Murthy will leave MIT after the fall term. We are presently seeking an instructor in physics to replace Dr. Murthy for the spring term. For the 2009 spring term HASS course, Professor John Hildebidle will replace Dr. Kelley, who will be on leave for the next academic year.

Enrollment

Interest in Concourse continues. As in recent years, initial registration during orientation week was well over the limit of 60 and a lottery was used to reduce the number; later in the term, by the drop date, the number remaining was 51. For the spring term, 33 students were registered.

Teaching and Curriculum

SP.330 Psychology and Free Will, a HASS-D, Category 4, Communication-Intensive in the Humanities, Arts, and Social Sciences (CI-H) subject, was offered as the humanities elective in the fall term. In the spring term, SP.314 Love and Aggression (HASS-D, Category 1, CI-H) was offered. Next year, SP.318 Introduction to Psychology will be offered in the fall term and SP.321 Madness and Literature (HASS-D, Category 1, CI-H) will be offered in the spring.

Accomplishments

Pedagogical changes in the current year were consequences of the second Concourse retreat, which occurred during the week of June 18, 2007. The retreat was described in

our previous report, in which the possibility of coordination of the first-year curriculum around a central idea was examined. The goal was to generate more intellectual passion and excitement. It was decided to first approach the rapidly emerging field of brain and cognitive sciences. During the fall and spring terms the standard presentations of math, physics, and chemistry were enriched in direct applications of the standard topics to the study of the brain and nervous system. The spring term saw the birth of what came to be called the "Giant Axon Project." The goal, for five first-year volunteers self-selected from the Concourse class of 2011, was to simulate in macro the operation of an axon and, if time and resources permitted, to simulate the onset of multiple sclerosis. The project was undertaken in the Edgerton Center. The project was scheduled and structured so that the anticipated experimental issues would build on what had been learned in chemistry in the fall term and coordinate with topics in the 8.02 Physics II and 18.03 Differential Equations spring term syllabi, to reinforce and stimulate the learning process. This first attempt was highly successful. For further detail and a final report, a CD (PowerPoint) and DVD are available from Concourse or from the Teaching for Learning Network (TfLN).

Terrascope

The Terrascope program (http://web.mit.edu/terrascope/) is a year-long program in which MIT freshmen work collaboratively to find solutions to complex interdisciplinary problems in areas related to the Earth system. The program couples theoretical problem solving with hands-on work in engineering design and construction. They learn to communicate their findings to diverse audiences in formats ranging from formal presentations to interactive museum-style exhibits to web pages to radio broadcast segments. Nearly all work is done in teams, as the ability to work together is an important Terrascope objective.

Program Description

Terrascope students begin the year by enrolling in the nine-unit fall subject 12.000 Solving Complex Problems (also known as Mission 2xxx), in which they work in teams to propose solutions to a complex problem that requires a multidisciplinary approach. In spring, they broaden and deepen their understanding of the problem in 1.016 Communicating Complex Environmental Issues: Designing and Building Interactive Museum Exhibits. An optional spring subject, Terrascope Radio provides a way for Terrascope students to receive CI-H credit, as they write, record, and produce a radio segment on some aspect of their year's study. Terrascope also offers an optional one-week credit-bearing subject on museum design and construction during IAP as a way to jump start students' spring semester experience.

The highlight of the year is a one-week field experience during which students visit the site that has been the geographic focus of their work to assess—and adjust—their thinking about the problem. Terrascope students and faculty meet each week over lunch to hear about current research in Earth system science and engineering, and other topics. Faculty in Civil and Environmental Engineering and Earth, Atmospheric, and Planetary Science, as well as Terrascope staff, serve as freshman advisors for Terrascope students.

Program Highlights

The Terrascope theme for 2007-2008 was the oceans, and in particular, the state of the world's fisheries. Students in Mission 2011 began the fall semester by developing a complex proposal for managing fish stocks around the globe. In early December, they presented and defended their proposal in front of a panel of internationally recognized experts. A website displaying students' solutions to the problem, as well as a link to the webcast of fall's final presentations, can be found at http://web.mit.edu/12.000/www/ m2011/finalwebsite/.

In the spring subject (1.016), small teams of students designed, engineered, and built large-scale interactive exhibits to teach others about some aspect of their year-long project on saving ocean fisheries. They also covered aspects of fisheries they experienced during their spring break field trip to Iceland. High school students critiqued prototypes, and museum design professionals consulted on design development and reviewed final projects.

Students in Terrascope Radio developed and produced a segment using interviews and other material gathered on-site in Iceland. The program aired on WMBR and is now being made available for rebroadcast on public radio stations nationwide. You can listen to the radio program produced by students in Terrascope Radio at http://web.mit.edu/ terrascope-radio/Iceland-Volcanoes,GeysersAndFish,OhMy.mp3.

Spring Break Field Research Trip to Iceland

In March 2008, 55 students and faculty spent a week in Iceland, a country whose fishery-management policies and techniques are often held up as a model of effectiveness. The purpose of this visit was to allow students to see the complexity of the problem they had been studying from a distance, as well as meet with people who would be affected by the solutions they proposed. Through a variety of site visits, they learned about Iceland's fishing and whaling industry, geothermal power generation, geology, and culture. Terrascope is grateful to the Henry Luce Foundation for generously supporting the annual field expeditions from 2005 to 2008. If you'd like to hear directly from Terrascope students about their visit to Iceland, you can go to their collected trip blogs at http:// scripts.mit.edu/~brehm/icelandblog/.

Accomplishments and Outreach

The National Science Foundation has funded a three-year project titled Terrascope Youth Radio. This project will create partnerships with MIT, the City of Cambridge, Cambridge School System, Science Friday, and others. The purpose of this project is to create a program in which urban teens will develop, report, write, produce, and broadcast radio segments on environmental and Earth-system science. Terrascope's undergraduate students will be engaged in the program not only through teaching but also by developing curricula.

Student exhibits developed as part of the Terrascope subject 1.016 Communicating Complex Environmental Issues were adopted by museums including the Gloucester Maritime Heritage Center, the Needham Science Center, the Prospect Hill Academy, and the Children's Museum of Somerset County, NJ, which is currently preparing the displays to be exhibited to an audience of roughly 4,000 visitors at this summer's local 4H fair.

As a result of work in Mission 2011, students have founded an approved MIT student group: Society for Ocean Conservation.

Students and faculty from three local schools engaged with Terrascope students in the spring subject 1.016 Communicating Complex Environmental Issues, by critiquing prototypes and final exhibits. Their involvement has let to a reciprocal relation in which Terrascope students will assist these students on design projects.

Terrascope is currently compiling results of six years of assessment data for the program. Preliminary results are extremely positive, and show that areas of the program that were specifically targeted show significant growth.

Dr. Epstein is a coauthor on a paper entitled "A Museum Learning Lab" in the April/May 2008 edition of *The Science Teacher*.

Staff and Enrollment

Rafael Bras, Edward A. Abdun-Nur professor of civil and environmental engineering, directed Terrascope in 2007–2008. Mission 2011 (12.000) was taught by Sam Bowring, professor of earth, atmospheric, and planetary sciences, together with Professor Bras and with help from teaching assistant Mariela Perignon. Professor Bras and Dr. Ari Epstein taught 1.016, with significant help from Steven Rudolph, technical assistant in the School of Engineering. Dr. Epstein was the lead instructor for Terrascope Radio. The fall subject, 12.000 Solving Complex Problems, was completed by 59 students, while 37 continued on during the spring term and participated in subject 1.016 Communicating Complex Environmental Issues. Debra Aczel was Terrascope's program administrator, and Ruth Weinrib was the administrative assistant. Maria Shkolnik was the administrator for Mission 2011.

The faculty and staff of Terrascope would like to express our deep gratitude to Professor Bras for his many contributions, including his significant role in founding the program. We would not be here without him. We wish him well as he prepares to leave MIT.

J. Kim Vandiver
Dean for Undergraduate Research, Director, Office of Experiential Learning, and Professor of Mechanical and Ocean Engineering

Robert M. Rose
Director, Concourse, and Professor of Materials Science and Engineering

Rafael Bras
Director, Terrascope (2007–2008), and Edward A. Abdun-Nur Professor of Civil and Environmental Engineering

Samuel Bowring
Director, Terrascope (2008–2009), and Professor of Earth, Atmospheric, and Planetary Sciences

More information about the Edgerton Center, Concourse Program, and Terrascope can be found at http://web. mit.edu/edgerton/, http://web.mit.edu/concourse/www/, and http://web.mit.edu/terrascope/.

Office of Faculty Support

In its second year of existence, the Office of Faculty Support (OFS) continued to pursue its mission of helping faculty develop and coordinate the undergraduate curriculum and educational programming, supporting faculty governance, and providing information related to undergraduate education. Specific responsibilities this year to advance the DUE theme of Catalyzing the Undergraduate Commons included staffing the Educational Commons Subcommittee and all working groups spawned from that activity, moving from double degrees to double majors, the production and release of the Communication Requirement Implementation Assessment Report, and planning and piloting an Institute-wide online subject evaluation system. Ongoing OFS activities include supporting the Committee on the Undergraduate Program (CUP), its Subcommittee on the Communication Requirement (SOCR), and other committees related to the undergraduate curriculum such as the Undergraduate Officers; overseeing the Communication Requirement; managing the selection process for and distribution of curriculum development funds; and faculty outreach.

Catalyzing the Undergraduate Commons

Staff to the Educational Commons Subcommittee

ECS of the CUP, staffed through OFS, was formed in mid-October 2007 to refine further the work of the Task Force on the Undergraduate Educational Commons. After an academic year of weekly meetings, ECS released an interim report of its work for the May faculty meeting, and is collecting feedback through its website (http://web.mit.edu/ecs/). OFS staff were instrumental in bringing this report together and creating the website, and will continue to support ECS members as they develop their ideas over the summer via three faculty working groups as well as full committee meetings, and into the fall when they will report a series of concrete action items to the faculty.

Double Degrees to Double Majors

During the year, members of the OFS and the Registrar's Office led the process and worked within the faculty committee system, including the Committee on the Undergraduate Program and the Committee on Curricula, to develop a proposal to replace double degrees with double majors in the undergraduate program. The process culminated in a successful faculty vote in April. Transition planning is underway.

Communication Requirement Implementation Assessment

During 2005–2006, a program evaluation was launched to study the effectiveness of implementation of the Communication Requirement. This effort continued through the 2006–2007 academic year and included student surveys, facilitated roundtable discussions with faculty and students, and development of a pilot evaluation tool. After many preliminary discussions with key stakeholders throughout the Institute, The Report on the Assessment of the Implementation of the Undergraduate Communication Requirement was published on the Communication Requirement website in May. These activities are discussed in more detail in the SOCR section of the Faculty Chair's report. Staff members in the OFS were deeply involved in supporting all aspects of the evaluation and spent considerable time creating presentation materials and finalizing the final report.

The full report is available to those with an MIT Certificate at https://web.mit.edu/commreq/restricted/CR_Assessment_Report.pdf; the Executive Summary is available (without certificate) at http://web.mit.edu/commreq/CR_Assessment_ExSummary.pdf.

Subject Evaluation Project

This spring OFS, in collaboration with staff from OEIT and IS&T, piloted a new Who's Teaching What system and an online Subject Evaluation System. The goal of this multiyear project is to move the Institute-wide subject evaluation from a paper-based system to an online system by the end of FY2010.

Faculty and staff in four departments—Chemical Engineering, Linguistics and Philosophy, Literature, and Physics—worked with the project team to identify 22 subjects for the pilot and enter data on these subjects into the new Who's Teaching What (WTW) system, developed by IS&T. Through WTW, departments can review teaching data and transmit it to the online subject evaluation engine. Teaching data consists of subject, teacher, and student data; links of teachers to classes within a subject; and links of students to those classes. The structure of subjects in WTW reflects what's actually happening within a subject—who is teaching lectures, recitations, and labs and who is enrolled in each section. The system accommodates configurations that currently can be created only by manual intervention, such as different classes taught under the same subject number.

Data from WTW is then transferred to Digital Measures, the vendor providing the online evaluation system. In early May students in the 22 subjects were invited to evaluate their subjects online. They completed 669 evaluations, including ratings and comments for 75 instructors. There was a wide variation in response rates among individual subjects, ranging from a low of 34 percent to a high of 94 percent. Based on a preliminary review of evaluation results, ratings of subjects and instructors seem to be consistent with results from the paper system, but more analysis will be done this summer.

Customized reports have been developed for departments and individual instructors so that they can see summaries of responses as well as individual (but anonymous) student responses. These reports include not only quantitative data but also student comments.

OFS has established a Subject Evaluation Advisory Group, composed of faculty, staff, and students from all five schools. The group met monthly to discuss proposed changes to policies and procedures regarding evaluations. More information on the project is available at http://web.mit.edu/se-project/.

While developing an online subject evaluation, OFS continues to administer the paper system used in evaluating more than 700 subjects each term. Summary reports of quantitative responses for the pilot subjects and the paper system are available for members of the MIT community at https://web.mit.edu/acadinfo/sse/.

Support to Faculty Governance

While many offices within DUE have close administrative relationships with standing committees of the faculty, support and coordination of faculty governance activities related to undergraduate education is central to the mission of the Office of Faculty

Support. These responsibilities strengthen relationships between DUE and faculty, and OFS staff (working with those in other DUE offices) endeavor to ensure that governance efforts are as well aligned as possible.

CUP is staffed and supported by OFS, providing a valuable link between the work of DUE and that of the faculty committee with primary responsibility for MIT's undergraduate program. During the past year, the office worked closely with the committee to complete and report on a review of ABC/No Record grading for first-year undergraduates and the experimental sophomore Exploratory Subject option. In support of CUP's recommendation that the Exploratory Subject be made a permanent grading option, staff in OFS collaborated with staff from the Registrar's Office, the Office of Undergraduate Advising and Academic Programming (UAAP), and Student and Administrative Information Services (SAIS) in planning for permanent policies and processes to support it. Working in collaboration with the CUP, OFS continued to support and coordinate the pilot project-based subjects in planning and assessment, in conjunction with TLL, the Office of Institutional Research, and the School of Engineering. OFS worked with the committee to review the SB program in Comparative Media Studies and a proposal to develop a Master's of Finance program.

Administration of the MIT Communication Requirement

OFS coordinates the administration of the Communication Requirement and supports the work of the SOCR. OFS continues working with other offices within DUE—especially the Registrar's Office and the UAAP—regarding procedures and policies associated with the requirement. OFS interacts regularly with the HASS Education Office and with the chair of the HASS Overview Committee on matters pertaining to the communication-intensive subjects in HASS. Staff work closely with the undergraduate officers and academic administrators in the departments to ensure that the Communication-Intensive subjects in the Major (CI-M) are running smoothly and that students are satisfying the requirement as specified by the faculty. OFS receives proposals for new CI-M subjects and coordinates their review by SOCR before forwarding them to the Committee on Curricula for final approval.

The office has primary responsibility for auditing students' progress in the requirement and spends considerable time on this activity. The office also receives petitions from students seeking exceptions to aspects of the requirement and advises students on all aspects of its satisfaction. In the coming year, OFS will be developing more comprehensive FileMaker databases to support these activities. Since effective collaboration among members of SOCR, the Committee on Academic Performance (CAP), and staff in OFS is an important aspect of tracking and enforcing students' progress toward completion of the requirement, staff work to maintain strong communication among these constituencies. This year, these staff members collaborated with representatives from the Registrar's Office to revise the CAP's warning codes for undergraduates.

OFS works with DUE to assess budget requests associated with CI-M subjects and other components of the requirement, and to allocate the support necessary for their delivery. Staff in OFS have begun a close review of the Communication Requirement budget in order to better understand the modest growth that has occurred in the budget. This study will serve as a guide in preparing the proposal for the FY2010 budget.

More information about the Communication Requirement can be found at http://web.mit.edu/commreq/.

Curriculum Development Funds

More than $600,000 was awarded to 19 faculty groups developing new subjects. Funding for these awards came from the d'Arbeloff Fund for Excellence in Education and from the Alumni Class Funds supported by the classes of 1951, 1955, 1972, and 1999. Both funds are administered by OFS.

The d'Arbeloff Fund for Excellence in Education was established through a generous $10M gift from Brit (SM '61) and Alex ('49) d'Arbeloff to support projects designed to enhance and potentially transform the academic experience of MIT's undergraduate students. The Call for Preliminary Proposals in fall 2007 did not delineate particular target areas as was done in the prior two years, but encouraged a wider spectrum of creative and innovative proposals. While noting the recommendations of the Task Force on the Undergraduate Educational Commons and ongoing efforts to improve students' first-year experiences, the call for proposals encouraged development of experimental subjects and other types of educational experiences that illuminate best practices for interdisciplinary learning or that build on the distinctive potential of MIT's faculty.

In continued work with the subjects supported with the d'Arbeloff Fund for Excellence in Education, OFS staff, in conjunction with the Office of Institutional Research and the Teaching and Learning Laboratory, assessed project-based subjects that ran this year. The HASS subjects were assessed through the staff of the Teaching and Learning Laboratory. The six d'Arbeloff awards included four new grants and two project renewals.

The Alumni Class Funds, through the support of alumni from the classes of 1951, 1955, 1972, and 1999, provide resources to MIT faculty for innovative educational projects, particularly to enhance undergraduate education. Awards serve as seed money for high-risk initiatives aimed at improving the quality of teaching and enriching the learning experience through creative curricular and pedagogical changes and the imaginative use of technology. Thirteen new one-year grants were made from the Alumni Class Funds.

As well as administering the awards, this year OFS took a lead in celebrating and disseminating the achievements of some of the faculty winners. In October OFS hosted "Redefining the MIT Classroom: Award-Winning Experiments in Curricular Change," a celebration of curricular innovation made possible by the Alumni Class Funds. Faculty and staff from across the Institute, along with members of the classes of 1951 and 1972 gathered over a light lunch. Three panel discussions by recent Alumni Class Fund awardees outlined projects that provided hands-on experiences to enhance student learning both inside and outside the classroom.

Professors Anne McCants, Will Broadhead, and Meg Jacobs from History described new web-based investigation tools designed to provide students with a greater understanding of the process of examining history beyond what is possible through books alone. Professors George Verghese and Tomas Lozano-Perez from Electrical Engineering and Computer Science spoke about developing a new curriculum that employs hands-on projects to help students create a unifying and tangible experiment

using interconnected concepts that cut across electrical engineering and computer science. Professor and MIT Museum director John Durant and Emily Watson, a graduate student in materials science and engineering, described how five students in a subject in science, technology, and society created the "Human Genome Trail" project during the first Cambridge Science Festival.

In the spring OFS honored this year's and last year's awardees at a luncheon where they could share ideas about projects. They also had the opportunity to meet staff from OFS, OEIT, and TLL who could support their efforts to improve undergraduate curriculum.

Finally, this year OFS began to document the ongoing status and impact of previously awarded projects beyond the initial period of the project. Working from the participants' final reports but also collecting data from departments and individuals, the OFS began to compile a database of successes, challenges, and changes in curricular innovation.

Faculty Outreach

During AY2007–2008, OFS and TLL organized two dinners that brought together faculty from different schools and disciplines to discuss the topics of ethics and diversity (respectively) within the context of undergraduate education. These events included organized readings and contacts, as well as lively discussion about the topic from a wide range of perspectives. They contributed to ongoing efforts establishing a cross-disciplinary ethics concentration in SHASS and a cross-school referral service for faculty inquiring about guest speakers or collaborators on ethical issues discussed in classes. The diversity dinner was designed in consultation with the Office of Minority Education, as a contribution to the DUE's strategic theme.

The public luncheon accompanying the presentations by Alumni Class Funds recipients that OFS organized (see Curriculum Development Funds) similarly brought faculty from different areas together for a lively exchange of perspectives on undergraduate educational innovation. In addition, OFS contributed some funding and Dean Henderson participated in a multidisciplinary 2007 summer workshop initiated by Professor Bernhardt Trout, which included MIT faculty from SHASS and Engineering.

OFS staffed monthly meetings of the departmental undergraduate officers this year, where issues such as global exchange programs, curricular reforms, the new student information system vision, and the Communication Requirement Assessment Report were discussed. Because of the premium on faculty time and the extra demands on those faculty who serve as undergraduate education officers, it continues to be challenging to find effective routes of communication with departments; meaningful incentives and rewards for faculty contributions to undergraduate education outside their home departments are perceived as negligible or nonexistent. The highly committed subset of faculty who contribute extensively to faculty governance and quality undergraduate education is stretched thin indeed. OFS continues to work to address this challenge of a decentralized, department- and research-focused institution.

Infrastructural Changes

OFS successfully managed a complex move into new space in Building 12, which has presented exceptional challenges both facilities-related and organizational. Extra efforts were made to integrate staff who perforce must focus on quite disparate projects (such as the Subject Evaluation Project, the Communications Requirement, and Task Force Implementation, to name the three largest areas of current commitment).

Staff Changes

There have been numerous staffing changes and additions in OFS over the last year. Robert Schuman left OFS in July to join UAAP. In August, Genevre Filiault moved into a new position as staff associate with primary responsibility for staffing the activities of CUP's ECS. Maria Pilar Barreto joined the office as an administrative assistant in September and left in May to attend graduate school. Patricia Fernandes came to OFS in mid-October from the HASS Education Office and is working as a senior administrative assistant supporting the Communication Requirement and CUP. Also in October, Rosanne Santucci returned to MIT as a communications and data specialist, working primarily with the online subject evaluation project, and Anna Frazer assumed a new role as associate dean for curriculum and faculty support. Taking on the responsibilities of the assistant dean for the Communication Requirement, Kathleen MacArthur joined OFS in December from the Writing Across the Curriculum program. In June, Margaret Udden came to OFS as an administrative assistant from Aeronautics and Astronautics. Despite the unusual amount of turnover in particular positions, the staff has worked collectively and well to maintain a consistently excellent level of service to the community.

Of the 11 people who work full or part-time in OFS, three—Mary Enterline, Gen Filiault, and Rosanne Santucci—earned Infinite Mile Awards within DUE, and two more were nominated. This high proportional representation is testimony to the dedication and excellence of OFS staff.

Diana Henderson
Dean for Curriculum and Faculty Support

More information about the Office of Curriculum and Faculty Support can be found at http://web.mit.edu/ facultysupport/.

MIT Office of Minority Education

The mission of the Office of Minority Education (OME) at MIT is to recognize and propagate academic excellence among students of underrepresented minority groups, with the ultimate goal of developing leaders in the academy, industry, and society. OME supports MIT's academic mission to provide the best possible education for all students while serving the nation's need to have underrepresented and underserved students in science and engineering fields pursue higher education and success in these fields.

In the current academic year, OME developed a vision statement that reflects our student-centric ethic of care: Mindful of each student's infinite possibilities for personal, academic, and professional growth, the Office of Minority Education builds lasting relationships through high expectations, great support, and rigorous demands. With this ethic, we can be the best at assisting students to navigate barriers with resilience and discover their true purpose in life. To fulfill this ethic, we have focused this year on scaling up existing programs, strengthening staffing, building infrastructure, and fundraising.

We organize our programs around the following thrusts: academic excellence, faculty engagement, and leadership development.

Academic Excellence

Interphase

Our flagship Interphase program is a rigorous residential academic program for admitted freshmen in the summer preceding matriculation. The seven-and-a-half-week program builds community and confidence while fostering high achievement and content mastery for underrepresented minorities (African Americans, Hispanics, Latinos, and Native Americans) and other students who have overcome significant odds to be admitted to MIT.

The selection process for the Interphase program changed for the summer 2007 program from an open application to one in which selected admitted freshmen were invited to attend by OME and the Office of Admissions. The spaces for the invited group were filled on a first-come first-served basis. Other admitted students were encouraged to apply for remaining openings.

For Interphase 2007, 132 incoming freshmen were invited and 24 additional freshmen applied; 61 of the invited attended, and a total of 79 participated in the program—up from 71 students in 2006. Interphase continues to attract MIT faculty and graduate and undergraduate students who return each year to serve as instructors and teaching assistants. The 2007 instructional and residential staff was comprised of 11 instructors and 20 tutors.

We made the following curricula changes as well:

- Reduced the number of sections and covered topics to foster deep understanding of key foundational concepts and skills

- Replaced the writing course with an expanded humanities offering that examined issues of race and identity

- Modeled subject recitations after OME's Seminar XL facilitated workshops to reinforce study groups, content mastery, and the development of critical thinking and problem-solving skills

- Shifted learning objectives from placing out of freshmen core subjects to emphasizing conceptual thinking

In addition to these curricular changes, we added a pre-UROP component that allowed Interphase participants to shadow a UROP student or faculty member in a lab. Fifty Interphase students were matched with a mentor. The other students attended a series of workshops on how to obtain UROPs.

Seminar XL

Seminar XL is an academic enrichment seminar principally for freshmen that uses an innovative and effective small-group learning concept. Modeled after Dr. Uri Treisman's Challenge Calculus Workshops, the program's objective is to develop the participants' mastery of both core subject matter and analytical skills while helping them to acquire essential collaborative learning strategies that lay the groundwork for future success in advanced coursework. In Seminar XL, groups of four to six students meet for 90 minutes twice per week during the semester to share their understanding of course concepts and problem-solving methods. A facilitator, typically a research scientist, graduate student, or an upperclassman, guides each working group. First-year students can receive course credit, provided they attend at least 80 percent of the working group sessions.

After the fifth week of the semester, students who request assistance are not eligible for the standard Seminar XL but can enroll in Seminar XL Limited Edition (LE), which operates on the same schedule. There is no course credit awarded, but past students have benefited greatly from this service.

Recent statistics for enrollments in Seminar XL and Seminar XL LE are as follows:

Program	Fall 2006	Spring 2007	Fall 2007	Spring 2008
Seminar XL	49	46	94	98
Seminar XL LE	39	42	14	12

The almost doubling of fall and spring enrollments strained available resources. Many of the facilitators saw their group size increase from the ideal four to five students to eight to nine students. We have received additional Institute funding to hire additional facilitators for the coming year.

Tutorial Service Room

The Tutorial Services Room (TSR) offers tutoring to undergraduate students by appointment. Student-organized and managed, with close supervision by OME senior staff, TSR provides one-on-one tutoring, question and answer sessions, test reviews, and final exam reviews. It matches a student who seeks tutorial assistance with a graduate student or an upperclassman. Typically, the students seeking assistance are first-year students, although users come from all years.

A pilot program was undertaken by the TSR in fall 2007 to expand its services from outside of its dedicated space in 12-124 to the dining hall at MacGregor House and to classrooms adjacent to 12-124. Dedicated tutors were available between 8:00 pm and midnight for students to drop by with questions related to a specific subject. As with Seminar XL, this was met with more success than expected, which left our primary resource, tutors, highly strained. For spring 2008, TSR logged 1,518 student tutor hours,

up from the fall 2007 semester. In order to maintain existing quality and service levels, additional support will be required from the departments with first-year courses. For the 2008–2009 academic year, we have received additional Institute funding to absorb the growing demand.

Mentor Advocate Partnership (MAP)

The Mentor Advocate Partnership (MAP) is a volunteer mentoring program for MIT students that seeks to foster their holistic development along both academic and nonacademic dimensions. OME created MAP because building strong relationships throughout the college experience plays an integral role in academic success and personal satisfaction at MIT. At the core of MAP is a sincere, trusting partnership between a student and staff/faculty that has the potential to persist throughout the undergraduate years. In its second year, MAP was expanded to include 16 new mentors and 33 freshmen in the program. Three OME deans and the OME faculty director continued to mentor 17 sophomores through the program. Surveys of students and mentors indicated that the vast majority of those who responded felt that MAP was beneficial and would recommend the program to others.

Laureates and Leaders

The Laureates and Leaders Program prepares undergraduate students for graduate study. Students are identified as early as their freshman year by their interest in advanced studies and a strong MIT academic record. In the ensuing undergraduate years, the program provides faculty and staff mentoring, informational workshops, and financial assistance for research, technical presentations, and exam fees. This year, the pilot cohort of 10 juniors, now in their second year of the program, were presented with workshops to prepare them for graduate admissions. Workshops helped students identify graduate programs of interest, research faculty conducting research of interest, apply for fellowships, and write personal statements. Also this year, the second cohort of 20 freshmen and sophomores were selected. The second cohort was provided with an orientation and welcome session and a workshop to prepare personal mission statements. We project that 20 students will be admitted to the third cohort in spring 2009.

Faculty Engagement

UROP Fellowships

There is consensus among faculty that, aside from its intrinsic academic and intellectual value, undergraduate research is beneficial to students because it provides a mechanism for forging closer ties with faculty. Yet underrepresented minorities participate in UROPs at lower rates than the average undergraduate student population.

OME worked closely with the UROP office and our corporate partners to supplement 7 UROP projects in 2007–2008, down from 18 last year. All told, OME and its corporate partners provided over $29K in supplemental UROP funding this academic year, down from $37K in 2006–2007. We believe the reduction reflects the impact of the Institute's new UROP financial aid program, which guarantees funding of one UROP for financial aid recipients. Finally, OME and UAAP worked closely to give Interphasers

an introduction to UROP by matching them with an undergraduate mentor during Interphase. The program is modeled after the UAAP IAP Mentor Program.

OME Faculty Advisory Council

The OME Faculty Advisory Council comprises nine faculty members from a variety of disciplines and departments. It is chaired by Professor Robert Redwine. The OME director met individually with each council member to determine new areas of engagement. In addition, the council met once during the academic year. In the coming year, the OME director will recruit new members and work with members to establish a charter.

Leadership Development

OME Student Advisory Council

The OME Student Advisory Council (OMESAC) comprises the presidents of 16 student groups that primarily serve underrepresented undergraduate populations. The council met seven times over the academic year to coordinate and publicize student group events, receive OME staff and program updates, and participate in cross-group discussions. As a result of student feedback, OME plans to expand the advisory capacity of the council to include making recommendations on student group funding proposals.

Leadership Development Workshop Series

The Leadership Development Workshop Series is designed to support student leaders as they balance managing their organizations and excelling academically. In September, 57 students attended the second annual Leadership Development Retreat at Endicott House. Following the retreat, OME sponsored five monthly workshops for the executive board members of OMESAC's organizations.

Led by MIT staff, alumni, and students, the workshops explored topics ranging from budgeting and fundraising to recruitment and succession planning. Fifty students participated in the workshops, with 26 students attending two or more. A special dinner on May 8 recognized the achievements of the student leaders and workshop presenters.

Second Summer Program

The Second Summer Program is a cooperative educational program for freshmen that enriches and supports students' intellectual growth while helping them develop a keener sense of their professional possibilities. Program interns experientially learn engineering and design development processes, explore possible fields of interest, enjoy the satisfaction of making real contributions in the workplace, and return to their classrooms in the fall with a depth of experience that greatly enhances their learning.

Ten students were enrolled this year, down from 20 in 2007. During IAP, the freshmen formed four engineering design teams to conceive, design, and build a product prototype. The class was taught by Professor Dan Frey. Students also attended an NSF engineering research conference in Knoxville, Tennessee. Of the participants, eight were placed in internships with corporate sponsors from the OME Industrial Advisory Council for Minority Education (IACME).

Staffing

OME experienced several staff changes in the current academic year. Associate dean Tammy Stevens joined OME in January 2008 to fill a nine-month vacancy. In addition, OME hired a coordinator to lead the Mentor Advocate Partnership and Leadership Development programs. Assistant dean Karina Vielma announced her plans to return to graduate school to pursue a doctorate in mathematics education. Ms. Elsie Otero was hired to replace her.

Building Infrastructure

Research

OME hired a research intern from the Harvard Graduate School of Education to conduct an analysis of the effect of Interphase and Seminar XL. The analysis found that freshmen who participate in Interphase and Seminar XL (compared to those invited but who decline to attend) do markedly better their freshman year. In addition, we are continuing a longitudinal study of persistence for the 2006 Interphase students. These findings will inform several OME programs and Institute units. In the coming year, we hope to expand our research function to inform living and learning at MIT.

Office of Minority Education Student Information System

OME contracted with two divisions of MIT Information Services and Technology: Departmental Consulting and Application Development and ISDA to build a new database system to manage student program information and counseling and advising efforts. The OME Student Information System (OMESIS) will document student visits and ensure that students are being followed up. This student visit data will inform CAP deliberations, in which an OME representative participates.

March 2008 marked the beginning of Phase I of this project, which involved requirements gathering for data related to student counseling and Interphase and Seminar XL. ISDA began designing the back-end system in April 2008. The working beta version of the database front-end is slated to begin field testing in November 2008.

Website

OME designed and implemented Phase II of website updates by adding 3rd- and 4th-level pages for the OME Programs and Services section. The project included new pages for Interphase, Laureates and Leaders, Leadership Development, and the Mentor Advocate Partnership Program. The updated site went live in February 2008.

Fundraising

Foundation Relations

OME worked with Foundation Relations to secure $160K in new funding for the Laureates and Leaders and Mentor Advocate Partnership Programs. In addition, we continue to seek multiyear grants to enable us to scale Laureates and Leaders.

Industrial Advisory Council for Minority Education

Management of the OME Industrial Advisory Council for Minority Education (IACME) returned to OME in the 2006–2007 academic year. Thirteen companies attended one or both of our semiannual meetings. The spring meeting was held to coincide with the Second Summer Engineering Design presentations. Council members served as judges for the competition, then hosted a networking session. One company joined IACME during this academic year. The council is developing an e-mentoring program and tech bowl competition that will engage students.

Karl Reid
Associate Dean and Director

More information about the Office of Minority Education can be found at http://web.mit.edu/ome/.

Office of the Registrar

The Office of the Registrar promotes the educational goals of MIT by

- Conveying to the MIT community and beyond accurate, timely information and providing services related to enrollment, registration, and graduation

- Implementing and enforcing academic and administrative policies related to the above

- Creating, updating, preserving, and issuing academic records for past and current students and alumni

- Developing and communicating official subject, schedule, and curricular program information

- Managing and maintaining classroom space

To fulfill its mission, the Office of the Registrar works with faculty members, Institute and faculty committees, departments, staff, and students to guide and assist development and modification of educational policies and procedures in accordance with Institute policy and local, state, and federal laws. The office continues to gather, maintain, interpret, and share information through new technologies, broadened capacities, and enhanced communications in areas the Institute has entrusted to its charge.

Accomplishments

The Institute continued to rely on the Registrar's Office in various and complex ways. The staff worked hard to support important educational initiatives during a year when faculty committees were extremely active. We collaborated with each of DUE's strategic theme teams and headed the team for information technology. We achieved the highest level of service, accuracy, and integrity. As always, we continued to exploit the robustness of the MIT student information system (MITSIS) in meeting all of the challenges within this dynamic environment.

Technological Highlights

In partnership with MIT Student Services Information Technology, we

- Participated extensively in Student System Vision Project workshops

- Coordinated the review and revision of Vision workshop reports that encompassed operational areas

- Implemented a new tuition scheme for nonresident students

- Implemented the permanent exploratory subject option for sophomores

- Implemented a new website for the collection of student emergency information

Policy Work

We played a major role in advising senior administrators on several complex student issues involving tuition, registration, scheduling, and degree programs. Highlights are listed below.

- Registrar's Office staff worked with the Committee on Curricula (COC) to approve major curriculum changes including revised degree programs for Course 4 and 4B, including the introduction of a new computation design stream; approved a new minor in management science and reviewed the proposed master of finance program for its impact on current undergraduate students for Course 15; and as part of a larger review for Course CMS, approved a proposal to make the SB program permanent

- In partnership with Office of Faculty Support, we provided deep analysis of the shift from double degrees to double majors. With our help, the faculty successfully approved the change in policy effective for students graduating in 2010 and later

- Worked with the Committee on Graduate Programs (CGP) on the Pass/D/Fail option for graduate students

- Provided data and analysis with respect to the scheduling of freshman subjects and classroom utilization for the Classroom Committee and subsequent presentations to the Dean's Group and School of Science

- Led the group of members from the DUE, Senior Counsel, and Provost's Office in signing the agreement to join the National Student Clearinghouse

- Worked with the Committee on Student Information Policy to advise Academic Council regarding the change to include student birth date as part of directory information

- Participated in emergency planning

Operational Highlights

- Worked with COC to approve 85 new undergraduate subjects; new subjects include 44 new HASS electives (22 of which are affiliated with the new modular Globalization subject offered by Course 21F), two new subjects that are restricted

electives in science and technology (REST), and four new communication-intensive HASS subjects, three of which are also HASS-D subjects; COC approved major revisions to 526 existing undergraduate subjects

- Worked with the CGP to approve 82 new graduate subjects and to make substantial revisions to 608 existing graduate subjects

- Processed 1,878 editorial changes to graduate and undergraduate subjects

- Worked with COC and the Department of Aeronautics and Astronautics to approve a new exchange program between Course 16 and the University of Pretoria

- In consultation with COC and academic departments, made formatting changes to the Course Catalogue to distinguish clearly between prerequisites and corequisites and to identify subjects that fulfill the science GIRs in a consistent manner

- Scheduled and allocated rooms for approximately 2,400 subjects for both the fall and spring terms

- Made room assignments for 15,107 ad hoc classroom reservations and processed 6,925 reservations for academic classes, exams, reviews, tutorials, and office hours

- In responding to 21,120 scheduling requests and 2,571 maintenance requests, the staff generated 24,055 email replies

- Migrated to an online service for credit card payments for transcripts and replacement diplomas

Classroom Management Highlights

- Led the effort as client for the renovation of classrooms 4-145, 4-149, 4-153, 8-119, and 8-205; renovations included modern room heating, ventilation and air-conditioning systems, new seating, and ceiling, wall, and floor treatments. All classrooms were installed with new Level IV audiovisual systems.

- Installed new sliding chalkboards and chalkboard lighting in lecture hall 34-101

- New student tables and chairs were installed in classroom 36-112

- Installed new fixed seating in lecture halls 56-114, E51-057, E51-372, E51-376, and E51-395

- Installed new tile floor in 24-307 and new drapes in 56-154 and purchased new classroom seating and instructor's tables for inventory

- Installed new tablet armchairs and instructor's tables in 4-148, 4-152, 4-156, and 4-160

- Installed new tablet armchairs in classrooms 34-301, 34-302, 34-303, and 34-304

- Installed new audiovisual system in 56-114; replaced video projector, VCR/DVD player, Media Link control system, and new plate for connection points for laptops

- Installed new Level IV audiovisual system in classroom 16-160; installation included new video projector, program audio, and connection points for laptops

- New Media Link control systems and associated mill work were installed in 1-190, 1-132, 1-134, 1-135, 1-246, and 33-319

- New video projectors were installed in 1-135, 1-246, and 3-270; new video projectors and control systems were installed in 4-270

Data Requests Highlights

- Provided data and advice to CUP subcommittees on the sophomore exploratory subject and freshman pass/no record grading experiments

- Provided data and advice to working group on double majors; involved in implementation of double majors

- Involved in implementation of new collection and retention methods regarding student racial and ethnic data

- Provided data for DUE Visiting Committee

- Provided graduation and retention rate data, as well as class size data, for multiple internal and external and government reports

- Processed more than 1,000 ad hoc data requests

Registration

In AY2007–2008, student enrollment was 10,220, compared with 10,253 in 2006–2007. There were 4,172 undergraduates (4,127 the previous year) and 6,048 graduate students (6,126 the previous year). The international student population was 2,578, representing 8.3 percent of the undergraduate and 36.9 percent of the graduate populations. These students were citizens of 111 countries. (Students with permanent resident status are included with US citizens.)

In 2007–2008, there were 3,679 women students (1,857 undergraduate and 1,822 graduate) at the Institute, compared with 3,638 (1,817 undergraduate and 1,821 graduate) in 2006–2007. In September 2007, 496 first-year women entered MIT, representing 46.2 percent of the freshman class of 1,073 students.

In 2007–2008, there were, as self-reported by students, 2,922 minority students (1,921 undergraduate and 1,001 graduate) at the Institute, compared with 2,907 (1,881 undergraduate and 1,026 graduate) in 2006–2007. Minority students included 415 African Americans (non-Hispanic), 73 Native Americans, 656 Hispanic Americans, and 1,778 Asian Americans. The first-year class entering in September 2007 included 513 minority students, representing 47.8 percent of the class.

Degrees Awarded

Degrees awarded by the Institute in 2007–2008 included 1,217 bachelor's degrees, 1,498 master's degrees, 11 engineer's degrees, and 599 doctoral degrees—a total of 3,325 (compared with 3,209 in 2006–2007).

Personnel Changes

Martha Janus was hired as an administrative assistant in the Catalog Section.

Mary Callahan
Registrar

More information about the Office of the Registrar can be found at http//web.mit.edu/registrar/.

Reserve Officer Training Corps

Air Force Reserve Officer Training Corps

The mission of the Air Force Reserve Office Training Corps (AFROTC) is to develop quality leaders for the US Air Force.

Accomplishments

The 2007–2008 academic year was a good one for AFROTC at MIT. The quality of our cadet corps continued to improve and our cadets were recognized by the Air Force for their performance. In fact, our unit was nominated as the top small detachment in the Northeast region, and will be competing for top small detachment in the nation. In addition, our cadets had several noteworthy accomplishments and performed community service activities for both MIT and the Cambridge area.

There were no turnovers in staff, which made this past year a highly productive one. Captain Melissa Keller oversaw continued change in the Leadership Laboratory curriculum as our training shifts toward a more deployment-focused mindset. Captain Hort was recognized as the top unit admissions officer in the nation and as a DUE Infinite Mile Award winner for leadership. Last fall, the Air Force recognized the high level of performance and professionalism of Technical Sergeant Vincent Meno and Staff Sergeant Andrew Sparks, with both being promoted to the next higher grade.

Three years ago, we set a goal of reaching 20 percent annual growth in our program. This year we fell short of our goal but maintained our cadet corps size at a time when most detachments across the nation are shrinking. This year we also had a significantly larger commissioning class than last year's class of three, with five commissioning in June and three more commissioning in October. Additionally, we project 15 cadets will join our program in the fall, and we anticipate we will start the year having met our 20 percent goal. Part of this success is due to our participation in a variety of MIT programs, such as the Campus Preview Weekend, the Undergraduate Practice Opportunities Program, and Minority Introduction to Engineering and Science. Not only does our detachment benefit from participation in these programs, but hopefully those programs benefit from our involvement as well.

While our primary focus is on increasing the size of our cadet corps, we have not sacrificed the quality we expect from our cadets. For the second straight year, the

Year-end Enrollment in Air Force ROTC as of June 2008

	Freshmen	Sophomores	Juniors	Seniors	Total
MIT	6	2	10	5	23
Harvard	2	0	0	2	4
Tufts	1	1	2	1	5
Wellesley	0	0	1	0	1
Salem State	0	1	1	0	2
Gordon	1	0	0	0	1
Total	**10**	**4**	**14**	**8**	**36**

academic and fitness scores of our cadets have increased, which has made them more competitive candidates for Air Force opportunities. Additionally one of our MIT junior cadets was recognized as the Air Force Association Cadet of the Year.

We started the fall term with our fifth annual cadet wing strategic planning conference and completed our leadership training plan for the entire academic year. In September, we held new student orientation for nine new cadets at Fort Devens Army Reserve Forces Training Area. One of our joint-service events—the field day—was moved to the fall to reduce the schedule burden on the cadets. We also held our annual dining-in with guest speaker Major General Robert Steel, the commandant of the National War College in Washington, DC.

We started the spring term by sending two cadets to Westover Air National Guard Base for an orientation flight on a C-5 transport aircraft, and another four on joint-detachment base visits to McGuire AFB, New Jersey and Dover AFB, Delaware. The cadets planned two especially innovative Leadership Laboratories, a pandemic flu exercise cohosted with MIT staff and a cultural awareness event designed to introduce cadets to cultural issues faced during deployments. After that, our major activities were tri-service events with our Army and Navy ROTC counterparts. In March, Professor Don Snider from the Political Science department at West Point provided the keynote speech for our Tri-Service Military Ball. In April, we conducted a very successful pass-in-review and our annual awards ceremony. We ended the academic year by commissioning our five graduating seniors as second lieutenants. Three more will be commissioned this October.

In extracurricular activities, we inducted six new cadets into the Arnold Air Society (our cadet community service organization) and sent a recent high of three cadets to the National Conclave in Chicago. In addition, the cadet wing hosted 34 voluntary events over the course of the year, including morale events and additional training. We flew six aircraft sorties in the Flight Orientation Program out of Hanscom Air Force Base, and that program continues to be a huge hit with the freshmen. The freshmen class also stepped up to the challenge, and held a highly successful ROTC Orientation day for 45 high school Civil Air Patrol cadets.

Our forecast for next year looks great. We expect to add roughly 15 cadets to our corps next year, with the majority of those being MIT freshmen (9).

Staffing Changes

We expect significant changes in our staff for the next academic year. We will be saying farewell to our commander, Lieutenant Colonel Timothy Slauenwhite. His replacement is Lieutenant Colonel Lawrence McLaughlin. Additionally we will be losing Captain Melissa Keller. We have an inbound personnelist, Technical Sergeant Joyce Shephard, and a one day/week reservist, Captain Jessica Phelps.

Lieutenant Colonel Timothy Slauenwhite
United States Air Force

More information about the Air Force Reserve Officer Training Corps can be found at http://web.mit.edu/afrotc/www/.

Army Reserve Officers Training Corps

The mission of the Army Reserve Officers Training Corps (AROTC) is to commission the future officer leadership of the US Army and to motivate young people to be better citizens. Our vision is twofold:

- To be recognized as the best university leader development program in the nation, honing and sharpening the leadership and management qualities of some of the most gifted young Americans who will lead our nation and our Army in the twenty-first century.

- To transcend institutions whereby future leaders of government, industry, business, and and academia carry with them core values and leadership based on experience of service to nation through ROTC.

Accomplishments

We commissioned seven officers this year, falling short of our Army-assigned viability goal of 12. One of these officers was from MIT. As of June 30, 2008, 67 students were enrolled in the Army ROTC program, an increase of eight cadets from last year.

Year-end Enrollment in Army ROTC as of June 2008

	Freshmen	Sophomores	Juniors	Seniors	Total
MIT	6	1	3	1	11
Harvard	2	5	7	2	16
Wellesley	0	1	0	1	2
Tufts	3	0	4	1	8
North Shore Schools	17	8	2	3	30
Total	**28**	**15**	**16**	**8**	**67**

Our cadets continue to achieve excellence academically, physically, militarily, and morally/ethically. At the annual Leader Development and Assessment Course conducted at Fort Lewis, Washington, attended by more than 4,000 rising seniors nationally, our cadets exceeded local, regional, and national averages in nearly all measurable areas, as they do every year. The cadets in the program are excellent scholar-athlete-leaders.

Our instructors continue to excel at classroom leadership instruction and hands-on training of cadets and of non-ROTC students here at MIT. Army ROTC continues to be a preeminent source of high-quality leadership instruction at MIT. Our cadre participated in its eleventh consecutive year instructing for the IAP Leadership and Management session, accredited by the Sloan School and cotaught by Sloan students. The class contains both classroom and hands-on leadership opportunities in the form of a leadership reaction course, which is set up and run from the MIT indoor track during one of the course days. The participation, leadership expertise, and real-world experiences of the Army Cadre, most of whom have personal leadership experience in Iraq, was regarded very highly by the students, as it is every year. In the after-course review, the students (all of whom were international students this year) commented that they would like to have seen even greater involvement by the Army Cadre in the leadership seminar.

MIT Army ROTC started off the academic year with the cadet orientation in September, where 16 recently enrolled cadets from our seven schools were indoctrinated into cadet life and taught basic knowledge, such as saluting, marching, and tactics. Orientation was an all-day event held on the MIT campus and at Camp Curtis Guild in Reading, Massachusetts. During the last weekend of October, we had our fall field training exercise at the Fort Devens Army Reserve Forces Training Area. We performed rappelling and land navigation training, and cadets negotiated the obstacle course, confidence course, and the leadership reaction course. Cadets were able to conduct static-load training and had the opportunity to fly in Blackhawk helicopters. Two weekends later, an elite team of 12 cadets participated in the Ranger Challenge Competition and competed against 21 other Army ROTC units in events such as such as a physical fitness test, rifle marksmanship, basic military skills, obstacle courses, and a six-mile timed foot march. In November, we hosted a dining-in event. The cadets were able to participate in formal Army traditions and camaraderie in full dress uniform.

Our first major event of the spring term was the Combat Water Survival Test, held in the Zesiger Center swimming pool in January. The test involved a blindfolded 5-meter jump, a 15-meter swim in combat gear, and other confidence-building activities. After the test, cadets also learned drown-proofing and rescue techniques. In March, we participated in the Air Force ROTC hosted Tri-service Military Ball. In April, we conducted a joint Spring Field Training Exercise with Boston University AROTC at Fort Devens. Cadets conducted exercises in small-unit tactics and leadership in a simulated battlefield environment in order to prepare for a nationally attended leadership camp during the summer at Fort Lewis, Washington. The culminating events of the academic year were the Tri-service Sports Competition, awards ceremony, and pass-in review. These events enabled the three service ROTC detachments to showcase the high caliber of cadets and midshipmen.

In extracurricular activities, we had a very successful showing at the Ranger Challenge Competition, placing ninth out of 21 schools. The National Society of Pershing Rifles—a military honor society training in small-unit tactics—was also successful, inducting four new members in the academic year. This year has also seen increased participation in our sports physical training, where we play dodgeball and ultimate football on Tuesday mornings. It continues to be a fun and exciting event; any member of the MIT community is welcome to join us.

Staffing Changes

The Army assigned three new instructors during the past year: Lieutenant Colonel Timothy Hall (professor of military science) replacing Lieutenant Colonel Leo McGonagle; Major Deidre Perrin (assistant professor); and Captain Nicholas Griffiths (assistant professor) replacing Captain David Gowel. This year also saw the departure of our MIT administrative assistant, Marcia Cohen, and the arrival of Lisa Morin. For the first time in many years the Army ROTC is at its full personnel authorization. Although at full strength, we continue to augment our cadre part-time reserve officers to enhance the leadership experience and training for our cadets. Based on our improved staffing, we are better postured for success to meet our Army commission mission for next year and years into the future.

Challenges and Plans for the Future

MIT Army ROTC's continued challenge is to remain viable by increasing the number of cadets in the program, especially from the host school, MIT. As it did last year, MIT places among the lowest host Army ROTC institutions of the 272 in the nation in terms of number of cadets enrolled. Although we increased the number of MIT students enrolled in ROTC, low host program and overall enrollment is a significant issue that has been noted and is being reviewed by US Army Cadet Command. The problem is exacerbated by the fact that other local ROTC host schools (Boston University, Northeastern University) and similar schools (Princeton University) are thriving in terms of numbers of cadets. While the enrollment trend at MIT and our other partnership schools increased over the last year, growth to ensure future viability is critical to maintaining a vibrant program. It would help us to receive support from MIT in terms of increased awareness of Army ROTC as a department, and as an option to prospective and current students. Several other Army ROTC schools assist ROTC scholarship students with room and board payments in acknowledgment of their commitment to service to the nation, and that would be very helpful to us here at MIT. Admission to MIT among AROTC scholarship applicants also continues to be an issue. While some applicants clearly lack the qualifications to gain admittance to MIT, others appear to be very highly competitive for admission. These highly talented scholar-athlete applicants often do not gain admission to MIT, however, and instead accept ROTC scholarships to other schools, contributing to the viability issue of Army ROTC at MIT.

Lieutenant Colonel Timothy Hall
United States Army

More information about the Army Reserve Officer Training Corps can be found at http://web.mit.edu/armyrotc/.

Naval Reserve Officers Training Corps

The mission of the Naval Reserve Officers Training Corps (NROTC) program at MIT is to develop midshipmen mentally, morally, and physically. We imbue them with the highest ideals of duty and loyalty, and with the core values of honor, courage, and commitment, to commission college graduates as naval officers. Our program desires officers who possess a basic professional background, are motivated toward careers in the naval service, and have the potential for future development in mind and character so as to assume the highest responsibilities of command, citizenship, and government.

At MIT, the officers and staff assigned to the Naval Science Department are committed to ensuring that every midshipman balances his or her time and energy to realize the tremendous benefits of an MIT, Harvard, or Tufts education, along with the professional development opportunities afforded by the NROTC Program.

During the 2007–2008 academic year, five midshipmen from MIT and Harvard were commissioned as ensigns. Program enrollment prior to Commencement in June is reflected in the table below.

Year-end Enrollment in Naval ROTC as of June 2008

	Freshmen	Sophomores	Juniors	Seniors	Total
MIT	5	4	5	4	18
Harvard	2	4	4	1	11
Tufts	1	0	5	0	6
Total	**8**	**8**	**14**	**5**	**35**

Accomplishments

The 2007–2008 academic year was successful in many regards.

During the summer, all scholarship midshipmen participate in active duty training with deployed naval units. Last summer, midshipmen served aboard submarines, maritime patrol aircraft, aircraft carriers, and amphibious assault ships, and they exercised with Marines. This training provided invaluable experience for future naval officers.

MIT NROTC completed instruction in nine naval science courses. These classes convened at 7:30 am so as not to interfere with the academic schedules of the host and affiliate universities. These classes were monitored by the visiting professor of naval science to ensure a high quality of instruction.

The MIT NROTC unit hosted various Navy and non-Navy guests, including:

- Rear Admiral Mark W. Balmert, commander, Expeditionary Strike Group 3
- Rear Admiral Thomas J. Eccles, deputy director for Undersea Warfare, Naval Sea Systems Command
- Rear Admiral (ret.) John M. Kelly, former commander of the Navy Warfare Development Command
- Captain Randall Snyder, commander, Destroyer Squadron 40

- Captain Patrick J. Keenan, Department of Mechanical Engineering, MIT

- Commander Sunita L. Williams, NASA astronaut

- Thomas G. Kelly, secretary of Veterans Services, recipient of the Medal of Honor and the Purple Heart

MIT midshipmen were involved in numerous activities throughout the year. During the last two weeks of the summer, the midshipmen prepared for the incoming class arrival. A 10-day training event was held in Newport, Rhode Island, where the high school graduates were oriented to life as student-military members. This program was designed, coordinated, and implemented fully by the midshipmen. In the fall, the midshipmen coordinated an annual formal ball to celebrate the birthdays of both the Navy and the Marine Corps. Midshipmen participated in the Veterans Day parade and POW/MIA day in Boston, as well as the 24-hour POW/MIA vigil held each year at MIT. The midshipmen battalion was also active in community service, including a Halloween visit to a local youth organization. Midshipmen participated in military excellence competitions at Villanova, Cornell, and Boston University, and at the George Washington Sailing Regatta. The annual regatta was held at the MIT sailing pavilion in April, and NROTC units from the East Coast competed. For two years in a row, schools from as far away as Purdue and Ohio State University sent teams to the event. The Marine Option midshipmen completed four field training exercises in preparation for future service in the Marine Corps. An annual Tri-service Ball was held in the spring, in coordination with Air Force and Army ROTC. The midshipmen battalion ended the year by hosting the tri-service ROTC pass-in-review ceremony on Berry Field, where the guest speaker was Captain Randall Snyder, Commander, Destroyer Squadron 40.

We completed another year of leadership experience gained from participating in a largely self-run organization. MIT NROTC midshipmen are responsible for handling all the operational, financial, and other core responsibilities that any large organization requires. This provides valuable leadership lessons and tools, which midshipmen also must learn how to pass on as they are rotated through the organization.

Midshipmen use their leadership and management skills in ways that benefited their respective school communities. Midshipmen were teaching assistants for classes, held executive board positions on their schools' chapters of national organizations, served in leadership positions within their dormitories and fraternities to build community within their living groups, led Bible study and church groups, and played key roles in their school athletic teams such as soccer, crew, lacrosse, the ballroom dance team, squash, swimming, basketball, and football.

The culmination of four years of training was reached on June 6, 2008, as four MIT naval ROTC students joined MIT Army and Air Force ROTC cadets to be commissioned as ensigns and second lieutenants alongside the USS Constitution at Charlestown Navy Yard. The guest of honor, Captain Derrick Boone, gave an inspiring speech to the new officers at the ceremony, which was especially meaningful as he was able to commission his son, Ensign Derrick Boone Jr, one of our MIT students.

All four MIT graduates will enter the Naval Nuclear Propulsion Program with two entering the submarine force, one becoming a surface warfare officer (nuclear) and

another a staff engineer at Naval Reactors Headquarters. The Navy greatly values the outstanding MIT graduates that enter the Nuclear Propulsion Program.

Staffing Changes

Hails

Captain Curtis Sevens, a submarine officer (nuclear), arrived in May 2008 to assume the position of visiting professor of naval science. Commander Thomas Fohr, a naval aviator, arrived in May of 2008, and is the new executive officer. Also, the unit welcomed three new instructors, Lieutenant Timothy Battles (surface warfare), Lieutenant Charles Frantz (submarines), and Lieutenant Charles Shehadi (naval aviation) in March 2008.

Farewells

Captain Howard Trost executed a permanent change of station where he will serve as the chief of staff for Commander Submarine Group 9. Commander Daniel Marshall retired to his home in Massachusetts. Lieutenant Yuelee Newsome left the service and is currently pursuing a master's in business administration at Yale University. Lieutenant Vanessa Melofchik left the service and is currently working for Google. Lieutenant Scott Escher departed the service and is currently working for a business firm in Seattle, WA.

Captain Curtis R. Stevens
United States Navy

More information about the Navy ROTC can be found on the web at http://web.mit.edu/navyrotc/.

Student Financial Services

Student Financial Services ensures the access and affordability of MIT. We enable students to finance their MIT education by providing financial information, products, and services. We are a focal point for student contact and we work collaboratively across MIT to make all administrative tasks, not just those associated with financing an MIT education, less time-consuming for students.

Our core responsibilities operate around two major functional areas: billing and collecting tuition, fees, and other Institute charges; and administering student financial aid, including student and parent loans and student employment.

Operating Activities

Tuition, Fees, and Other Major Institute Charges

Tuition, fees and other major Institute charges assessed through Student Financial Services totaled $436.9 million in 2008, a 2.5 percent increase over the previous year; tuition assessed totaled $384.6 million, a 3.9 percent increase. Graduate tuition comprised $241.6 million, accounting for 63 percent of total tuition assessed, and undergraduate tuition was $143 million, or 37 percent. These are the same percentages as last year. The following table provides more detail for the 2007–2008 Institute charges.

Tuition, Fees and Other Major Institute Charges, 2007–2008

Charge	Amount ($)
Tuition	384,654,976
Student activity fee	2,284,570
Housing	39,933,967
Dining	3,866,671
Health insurance (students who have MIT Health Plan Insurance)	4,988,382
Medical/dental (copays or expenses not covered by health insurance plans)	496,459
MIT Monthly Payment Plan finance charges	51,991
Late payment fees	292,175
Total	**436,569,191**

Student Refunds

Students are eligible for refunds when the credits on their student account exceed their charges. In 2008, approximately 5,500 refund checks totaling $20.6 million were issued to students. This represents approximately an 11 percent decrease in the number of refunds issued and an 8 percent increase in the total dollars refunded.

Student Account Receivables

Overdue student account receivables decreased 52 percent in the past year. The student account receivables balance as of June 30, 2008 was $3.1 million, of which $2.4 million is advance billing for the FY2009 terms, leaving overdue student account receivables of $700,000. During 2008 approximately $154,000 in uncollectible student account receivables was written off against the student account reserve.

Education Loan Note Receivables

Student Financial Services administers MIT's Educational Loan Plan. Under this program, loans are made to eligible employees to help finance the undergraduate or graduate education of their eligible dependent children. In 2008, $1.4 million was loaned to faculty and staff and $1.1 million collected. The year-end receivables balance for this program continued to climb, rising 5.8 percent to $5 million. There was sufficient loan capital in the Student Financial Services education loan portfolio to meet the credit needs for the Educational Loan Plan.

The overall education loan notes receivables for Student Financial Services education loan programs, including the faculty and staff loan program as well as Federal Perkins Loans, MIT Technology Loans, and the MIT Parent Loan Plan, continued its downward trend, declining 4.3 percent to $50.3 million. During 2008 approximately $448,000 in uncollectible MIT loan receivables was written off against the individual loan note receivables and $92,500 in uncollectible Federal Perkins Loans was assigned to the US Department of Education.

Undergraduate Student Financial Aid

Principles of MIT Undergraduate Financial Aid

MIT recruits and enrolls the most talented and promising students without regard to their financial circumstances. MIT awards aid only for financial need. It does not

Undergraduate Financial Aid 2007–2008

Source	Scholarships/Grants Amount ($)	Students	Loans Amount ($)	Students	Employment Amount ($)	Students	Total* Amount ($)	Students
Institutional	65,159,067	2,432	875,134	239	5,408,665	2,070	71,442,866	3,364
Federal	6,407,302	997	5,715,339	1,316	1,602,688	562	13,725,329	2,169
State	288,880	143	0	0	0	0	288,880	143
Private	6,090,592	1,270	1,902,773	110	0	0	7,993,365	1,347
Subtotal*	77,945,841	2,912	8,493,246	1,530	7,011,353	2,550	93,450,440	3,719

*The student subtotal and totals are unduplicated numbers of students.

award undergraduate scholarships for academic or athletic achievements or any other nonfinancial criteria. MIT guarantees that each student's demonstrated financial need is fully met.

Who Pays For An MIT Undergraduate Education

MIT believes that parents and students have primary responsibility, to the extent that they are able, for paying the costs of an undergraduate education. In 2007–2008, the annual price of an MIT education totaled $48,600 per student—$34,986 for tuition and fees, $10,400 for room and board, an estimated $2,814 for books, supplies, and personal expenses, and a per-student average of $400 for travel.

With 4,163 undergraduates enrolled, the collective price for undergraduates was $200.7 million. Of this amount, families paid $107.2 million, or 53 percent, and financial aid covered the remaining 47 percent. Over the past seven years there has been a gradual shift of slightly more than one percentage point a year in the family/financial aid proportion as families pay less of the price to attend MIT and financial aid covers more. Since MIT subsidizes the cost of educating undergraduates through its tuition pricing and continues to be the largest source of financial aid to its undergraduates, the Institute is the primary source for paying for an MIT undergraduate education, and families the secondary source.

Of undergraduates, 89 percent, or 3,719 of the 4,163 registered, received $93.4 million in need- and merit-based financial aid. This includes scholarships, grants, student loans, and employment from institutional, federal, state, and private sources. Need-based aid recipients make up 62 percent of MIT undergraduates. The table above details the forms and sources of financial aid MIT undergraduates received in 2007–2008 and the number of student recipients for each category.

Sources of Undergraduate Student Financial Aid

MIT provided 76 percent of all aid to its undergraduates in 2007–2008, or 1 percentage point higher than the prior year. Of this MIT financial aid, 90 percent took the form of scholarships, 1 percent was loans, and 9 percent employment.

Other sources of financial aid include the federal government, private sources, and state governments. The US Department of Education is the second-largest source of financial

aid to MIT undergraduates, providing 15 percent of all aid from grant, scholarship, student loan, and student employment programs, including Federal Pell Grants, Federal Supplemental Educational Opportunity Grants, Academic Competitiveness Grants, National SMART Grants, Robert C. Byrd Scholarships, ROTC Scholarships, Federal Direct Stafford Loans, Federal Perkins Loans, and Federal Work-Study, including Federal Work-Study Community Service.

Private sources of financial aid—including charitable and civic organizations, corporations, foundations, banks, and other financial institutions—were the third-largest source of financial aid to MIT undergraduates, providing 9 percent of all aid. This aid includes private scholarship and alternative student loans (so called to distinguish them from federal loans). State aid is not a significant factor in financing an MIT education, even though several states including Massachusetts allow their residents to receive a state scholarship while attending MIT.

Undergraduate Scholarships and Grants

Scholarships and grants from all sources totaled $77.9 million with 70 percent of undergraduates (2,912 students) receiving scholarships.

MIT awarded $65.1 million in need-based scholarships to 2,432 undergraduates, or 58 percent. The average MIT scholarship continued its upward trend, rising to $26,800. Approximately 80 percent of MIT scholarships were funded from restricted sources and 20 percent came from the general Institute budget or unrestricted sources.

Undergraduate Student Loans

During the 2007–2008 academic year, 37 percent of undergraduates (1,530 students) borrowed $8.4 million. The average loan was $5,550.

From 1998 to 2008, undergraduate borrowing decreased significantly as result of enhancements to MIT's financial aid program specifically designed to reduce student debt. Median debt at graduation decreased 55 percent from $23,650 in 1998 to $10,750 in 2008. Approximately 49 percent of the undergraduates in the graduating class of 2008 (511 students) borrowed at some point during their education. For those borrowing, the range of total debt was $500 to $140,250 with the 90th percentile at $29,300. The average total debt was $14,150.

Undergraduate Student Employment

Sixty-one percent of undergraduates (2,550 students) earned wages from on-campus employment and employment under the Federal Work-Study Program, including both on- and off-campus programs. Their wages totaled $7 million, or an average of $2,750 per student.

Undergraduate Parent Loans

Approximately 8 percent of undergraduate families, or parents of 323 students, borrowed through a parent loan program administered by MIT. Total parent loans were $6.8 million and Federal Direct PLUS loans accounted for 57 percent of the dollars borrowed. For those parents borrowing, the average loan was $21,300.

Graduate and Professional Student Financial Aid

Overview

Graduate and professional students are provided with tuition support in connection with research assistantship, teaching assistantship, and fellowship appointments. These awards are supported by either MIT funds (general Institute budget or nonsponsored funds) or a sponsored program (research projects or sponsored funds). Tuition revenue support from MIT funds is considered financial aid, but is not included in this report since SFS does not administer these sources of support.

Graduate and professional students are eligible for need-based financial aid, including student loans as well as student employment under the Federal Work-Study Program, both of which are administered and reported by SFS. The following table provides the detail for graduate and professional student need-based financial aid as well as information on institutional employment, which is primarily stipend payments.

Graduate Need-Based Financial Aid 2007–2008

Source	Loans		Employment		Total*	
	Amount ($)	Students	Amount ($)	Students	Amount ($)	Students
Institutional	0	0	64,527,176	3,815	64,527,176	3,815
Federal	16,214,694	727	1,371,512	175	17,586,206	818
State	4,964,488	151	0	0	4,964,488	151
Private	13,496,264	487	0	0	13,496,264	487
Subtotal*	34,675,446	887	65,898,688	3,852	100,574,134	4,407

*The student subtotal and totals are unduplicated numbers of students.

In 2008, 17 percent of graduate and professional students, or 1,025 of the 5,909 registered, received need-based financial aid totaling $36 million. Loans totaled $34.6 million, an increase of 4.4 percent from the prior year, with 887 graduate students, or 15 percent, borrowing an average of $39,100, which is equivalent to 112 percent of the 2007–2008 tuition and fees. The percent of graduate and professional students borrowing was down 2.2 percent, but the average amount borrowed rose by 6.7 percent.

Graduate student employment earnings under the Federal Work-Study Program, including on- and off-campus programs, totaled $1.4 million with 175 graduate students, or approximately 2.6 percent, earning $7,850 on average. This is a 14.4 percent increase in the number of graduate students working under FWS and a 2 percent decrease in the amount they earned.

Other Accomplishments

Undergraduate Student Financial Aid Enhancements

SFS collaborated with key Institute committees and leaders to develop proposals for enhancing undergraduate student financial aid. The new plan was approved by the Corporation and takes effect in the 2008–2009 academic year. Families earning less than $75,000 a year will have all tuition covered with an MIT scholarship, federal and state grants, and/or outside scholarship funds. For these same families, MIT will no longer

expect the student to take out loans to cover expenses beyond tuition. For families earning less than $100,000 MIT eliminated home equity in determining their need. On average, this reduces parental contributions by $1,600. MIT reduced student work-study requirements for all financial aid recipients by 10 percent.

Collaboration with the Public Service Center

Under a new agreement SFS and the Public Service Center (PSC) entered into a collaboration to establish a Job Location and Development Program as authorized under the Federal Work-Study (FWS) program. A position of Job Location Development Coordinator was created in the PSC and funded through FWS and PSC funds. The purpose of the Job Location Development Program is to develop off-campus job opportunities for all students enrolled at MIT regardless of financial need. The program also develops community service activities and encourages student participation in paid community service activities.

Decline in Outstanding Student Receivables

All metrics on the Student Financial Services' financial dashboard indicate significant progress in reducing outstanding student receivables for both student accounts and student and parent loans. Students and their families are making student account payments on time as more of them take advantage of the electronic payment option. Last year more than 80 percent of all student account payment transactions—accounting for 63 percent of all dollars paid—were processed electronically through MITPAY, a secure web-based presentation of the student bill and electronic payment system. There were no financial degree holds for the June 2008 Commencement. Outstanding student account receivables fell 52 percent in the past year and default rates for student loan programs—which are already low compared to national default rates—are declining. Contributing factors to this success were a restructuring of the internal collection activities, including roles and responsibilities of staff members, and better integration of the internal and external collection efforts through minor system enhancements.

Information Technology Initiatives

In partnership with Student Systems Information Technology and Edgewater Technology Inc., Student Financial Services enhanced its student account functionality in the SISTIM program to accommodate processing of outside scholarships as payments by term to a student's account. We are now able to place funds for future terms in a suspense account and reverse all outside scholarship and alternative loan transactions as necessary.

Staffing

As FY2008 draws to a close, SFS has three vacant positions: two assistant directors of financial aid and a student services representative. During the past year, six staff members left and three were hired. There was one internal promotion. Minorities currently constitute 39.5 percent of the staff, with underrepresented minorities at 29 percent.

Staff who left were Nicholas Dillman, student services representative; Lakitha Garrett, student services representative; Susan Kenney, student services representative; Jackie Robinson, assistant director of student financial aid; Jason Shumaker, assistant director

of student financial aid; and Maria Zervos, assistant director of student financial aid. Staff who arrived were Linda Abel, student services representative; Nicole Tingle, student financial aid and employment representative; and Diana Ubaldo, student services representative. Maxence Metayer was promoted from student financial aid and employment representative to assistant director of student financial aid.

Betsy Hicks
Executive Director, Student Financial Services

More information about Student Financial Services can be found at http://web.mit.edu/sfs/.

Teaching and Learning Laboratory

The Teaching and Learning Laboratory (TLL) was founded in 1997 as a resource for faculty, administrators, and students who share a desire to improve teaching and learning at MIT. Its mission is to collaborate with members of the MIT community to promote excellence and innovation in teaching and learning throughout the Institute, and to contribute to MIT's standing as a leader in science and engineering education.

Beginning in the fall semester 2007, TLL became fully staffed for the first time since its inception. Staff members include the director, two associate directors for teaching initiatives, two associate directors for assessment and evaluation, an assistant director, and a full-time administrative assistant. This full complement of staff has allowed the office to undertake a larger number and wider variety of projects than any time in the past. It has also permitted greater synergy between the educational development and educational research functions of the office, as well as enabling staff members to become more involved in national and international initiatives in science, technology, engineering, and math (STEM) higher education.

This report details achievements in each of four areas: contributions to DUE-wide initiatives; support for teaching and learning, including collaborations to develop educational innovations; the assessment and evaluation of initiatives in undergraduate education; and involvement in national and international activities. Of particular achievement this year has been:

- In the first full year of the new TA policy, eight one-day TA workshops (either school- or department-based) were held throughout the Institute

- The Communication Requirement assessment study was successfully completed

- The 18-month collaboration with Cambridge University, the Teaching for Learning Network (TfLN), was concluded. TfLN yielded both classroom improvements and rich insights into the process of educational change

- TLL staff members engaged in fruitful collaborations with the Departments of Mechanical Engineering and Electrical Engineering and Computer Science, and,

to a greater extent than previously, the School of Humanities, Arts, and Social Sciences

TLL staff has accomplished this work while maintaining the programs and services (for example, faculty and TA orientations, teaching and learning workshops, individual instructor consultations) that the Institute has come to expect from the office.

Contributions to DUE-Wide Initiatives

TLL staff members played a role in a number of initiatives that spanned DUE and collaborated closely with staff from other DUE offices. For example, associate director Janet Rankin organized and led three UAAP-sponsored Facilitating Effective Research workshops for graduate students who are mentoring UROPs. She worked, as well, with Dean Diana Henderson (OFS) to develop two dinners for faculty that focused on the interdisciplinary issues of ethics and diversity. She is also a member of the Diversity Theme Team Committee. Associate director Lisa O'Leary developed a comprehensive survey on UROP for UAAP; she is now analyzing the results. In addition, assistant director Leann Dobranski has assumed the role of project manager for the DUE Curriculum Innovation Project, and Daniel Nocivelli, TLL's administrative assistant, served on the selection committee for the 2008 Infinite Mile Awards.

Teaching and Learning Activities

TLL staff members are involved in teaching and learning initiatives that fall into three broad categories: participating in faculty-led collaborations, mostly involving innovations in curriculum or pedagogy; improving the teaching of teaching assistants (and, to a lesser extent, young faculty); and consulting with faculty and graduate students individually on teaching and learning issues of particular interest to them.

This year has seen an increase in the number of faculty collaborations TLL staff members have engaged in; in all, TLL staff have partnered with faculty from 12 departments on substantial teaching and learning projects. These collaborations have included:

- Providing a range of educational expertise to faculty who were members of the TfLN, a collaboration with the University of Cambridge

- Substantially revising the organization and assessment practices in EECS's 6.003 Signals and Systems, an effort that is influencing other subjects in the department

- Advising Concourse faculty and instructors in developing an interdisciplinary approach to this year-long freshman program

- Providing expertise to faculty in MechE on a multiyear initiative to improve the organization of and pedagogy used in the department's foundational courses

- Working with EECS on the department's new introductory subjects, 6.01 Introduction to EECS I and 6.02 Introduction to EECS II

A related activity has been the effort to leverage the MacVicar Faculty Fellows program. Two new activities were begun: the MacVicar Education Series, which brings nationally recognized experts in STEM higher education to campus, and a poster series that highlights the educational innovations of MacVicar Faculty Fellows.

We are pleased with the progress that was made on TA training in AY2007–2008, although we are not satisfied that training is as widespread or as comprehensive as it could be. The SoE and the Sloan School each held school-wide workshops, five (of six) departments in the SoS organized workshops, and two workshops were held by departments and/or programs in SHASS. This is a start, but clearly more work needs to be done. Additional steps in the effort to improve TA training include the establishment of a TA Enhancement Committee (TAEC), staffed by TLL Assistant Director Leann Dobranski, and the creation of a brochure on TA rights, responsibilities, and rewards. TAEC has also approved a TA certificate program that will recognize graduate students who have gone beyond the training mandated by the Institute to develop themselves as teachers. TLL staff member are currently working on the implementation of that program.

TLL associate directors for teaching initiatives Sanjoy Mahajan and Janet Rankin consulted individually with 12 faculty and 10 graduate students, as well as one postdoc, three staff members, and one undergraduate.

For the second year, TLL offered a one-day teaching workshop to new and junior faculty. Just below 50 percent of faculty hired in 2007 attended. We are working to increase that number in 2008.

Finally, approximately 100 faculty, students, and staff attended the five workshops TLL offered as part of the "Better Teaching @ MIT" IAP series.

Assessment and Evaluation Studies

The chart on the next page details the research projects undertaken by TLL this year.

Involvement in National and International Initiatives

During the past year, TLL staff members have increased their involvement in national and international consortia, programs, conferences, and meetings. Dr. Breslow has been invited to participate in the NSF-funded ASEE project "Engineering Education for the Global Economy," she attended NSF's "Evaluation of Engineering Education Research Programs: Thought Leaders' Workshop," and she was one of six international experts invited by the Swedish government to consult on the topic of educational change. Dr. Rankin has organized a series of workshops for the Masdar Institute, which she, Dr. Mahajan, and Dr. Breslow, among others, have taught. She has also been invited to give workshops at Reykjavik University after meeting with faculty from that institution here at MIT. And she gave a workshop at North Carolina-Fayetteville State University, a historically black college/university, this year.

We continue our participation in the Network for Enhancing Teaching and Learning in Research Intensive Environments, the Forum on Excellence in Higher Education, and the Center for the Advancement of the Scholarship of Engineering Education (CASEE)/NAE. In addition, Dr. Breslow is a member of the Editorial Advisory Board for the *Journal of Engineering Education*.

Finally, we met with visitors from a dozen countries who wish to learn more about MIT's efforts in teaching and learning.

Subject/Study	Scope of Investigation	Faculty Collaborators	Status	Researcher
Communication Requirement	Comprehensive review of implementation of CR	SOCR, OFS	Complete	L. Breslow, et al.
5.111 (HHMI funded)	Two studies implemented: (1) impact of interdisciplinary redesign of 5.111; (2) impact of improved TA training for 5.111	Prof. C. Drennan	TA study complete; curriculum re-design to be completed summer '08	R. Mitchell
6.01/6.02	Formative assessments of EECS's two new introductory subjects	Profs. H. Abelson, D. Freeman, C. Teller, G. Verghese	F '07 study complete; S '08 study to be completed summer '08	L. O'Leary, consultants
3.091 Students as Scholarly Researchers	Study of impact of integrating modules on online research; longitudinal study will explore how students function as scholars	Prof. D. Sadoway	Initial study complete; longitudinal study continues	R. Mitchell
Learning Fundamental Concepts in MechE Core (TfLN)	Use of "Roadmap" and oral reviews in 2.001/2.002	Profs. W. Seering, M. Boyce, A. Hosoi, S. Socrate	Complete	L. O'Leary, consultant
Concourse (TfLN)	Effect on learning of introducing common theme of study of brain	Prof. R. Rose, Dr. J. Wolfe	Data being analyzed	L. O'Leary, consultant
HASS "Big Ideas" Subjects (TfLN & d'Arbeloff)	Five experimental subjects assessed: "Revolution," "Supernatural," "Art of the Probable," "Learning from the Past," "Controversies" [names of subjects have been shortened]	Profs. D. Henderson, E. Harris, M. Jacobs, V.-A. Lepinay, S. Raman	All F' 07 subjects complete; comprehensive report on S '08 subjectst to be completed summer '08	L. O'Leary
Marine Hydro-dynamics (TfLN)	Study explored impact of new active learning pedagogies	Prof. A. Techet	Complete	L. O'Leary
Educational Change in TfLN	TfLN faculty were interviewed to assess their experience with educational change	Six TfLN faculty	Preliminary report complete	L. Breslow, consultant
Graduate Education in Medical Science (HHMI funded)	Assessment of training program in translational medicine	Prof. M. Gray	Report to be completed F '08	R. Mitchell
Curriculum Integration Project (Spencer Foundation)	Project to link math-physics GIRS more closely w/downstream engineering subjects	Prof. H. Miller, K. Willcox, J. Deyst	Project will continue in F '08	R. Mitchell
Synthetic Biology	Assessing design of a new subject in Course 20	Prof. D. Endy	Report to be completed summer '08	R. Mitchell
iGEM	Profile of iGEM experience and impact of experience on participants	Prof. D. Endy	First report complete; project will continue in F' 08	R. Mitchell

Papers and Presentations

Articles and Conference Papers

Breslow, L. and Schuster, M. J. (2007). "Problems, Pitfalls, and Surprises in Teaching," in *Strategies for Teaching Assistant and International Teaching Assistant Development*, C. Ross and J. Dunphy, eds. San Francisco: Jossey-Bass.

Breslow, L., Bergren, M. and Snover, L. (2007). "UROP at MIT," *Illuminatio,* newsletter of the Oxford Institute for Learning.

Breslow, L., Lienhard, J., Masi, M., Seering, W. and Ulm, F. (2008). "How Do We Know if Students Are Learning?" *MIT Faculty Newsletter*, 20(3): January–February.

Mitchell, R., Regan-Smith, M. (2008). "Development of Cognitive Behavior Survey (Residency Level) to Measure Learning and Related Cognitive Behaviors. *Annual Meeting of the Educational Research Association*, New York, New York, March 2008.

White Papers

"Assessing Learning and Value Added"—paper authored for the Deans Group to make recommendations for strengthening evaluation of learning in individual courses, and aggregating data to demonstrate value added of an MIT education

"S.B. in Engineering and Science Leadership"—outlined a proposal for a new undergraduate major

Presentations

Breslow, L. "Curriculum Integration at MIT: Utilizing Contextual Examples to Promote Enduring Understanding," Forum on Excellence and Innovation in Higher Education annual meeting, Cambridge, MA, November 2007.

Breslow, L. "Assessment of Educational Innovation," Learning Assessment Forum, Washington University in St. Louis, St. Louis, MO, June 2007.

Breslow, L. "International Education: The Undergraduate Experience," the Network for Enhancing Teaching and Learning in Research-Intensive Environments annual meeting, Oxford, UK, June 2007.

Mahajan, S. "An Input-Output Model of Teaching and Learning," Department of Mechanical Engineering Teaching and Learning Retreat, September 2007.

Workshops

Besides the orientations for new faculty and new teaching assistants cited above, TLL staff developed and facilitated workshops for the CDIO annual conference, d'Arbeloff award semi-finalists, Environmental Health and Safety Division, the Masdar Institute, North Carolina-Fayetteville State University, Reykjavik University, MIT Summer Professional Program, New England International TA Network, Path of the Professorship Program sponsored by DGE, MIT's Splash Program, SPUR/Humphrey Fellows Program, and the Thai Graduate Students Association.

Staff Changes

TLL welcomed Ms. Lisa O'Leary as associate director for assessment and evaluation in September 2007. Dr. Rankin served as acting director during Dr. Breslow's leave of absence from February 1, 2008 to July 31, 2008.

Lori Breslow
Director

More information about the Teaching and Learning Laboratory can be found at http://web.mit.edu/tll/.

Office of Undergraduate Advising and Academic Programming

The Office of Undergraduate Advising and Academic Programming (UAAP) sets a standard of excellence in providing quality student-centered services to all undergraduates, and specifically to freshmen, to enhance their academic success, social adjustment, and assimilation to the Institute. To achieve that vision, UAAP provides programming, access to Institute resources, and services that recognize the many needs, diversity, and uniqueness of students at MIT. This office is responsible for all freshman programming, including advanced placement and transfer credit processing, orientation, academic advising (including residence-based advising), major exploration programming, sophomore transition initiatives, learning strategies, and other academic support. Additionally, UROP management, operation, and oversight are UAAP responsibilities, as are the coordination of IAP and staff support to the Committee on Academic Performance.

UAAP leads development of a holistic student experience initiative, a priority identified in DUE's strategic plan. This theme is intended to articulate a holistic approach to education of our students, setting the standard for undergraduate academic advising and mentorship, defining collaborative initiatives and programs for student leadership development, facilitating reflective practice, and developing global opportunity specifically through the International Research Opportunities Program (IROP).

New Initiatives

With OME, UUAP initiated a pre-UROP mentor program that matched Interphasers with an experienced UROPer; the incoming freshman spent approximately 20 hours in the laboratory. In addition to encouraging future participation in UROP, a secondary goal was to increase URM and first generation participation in UROP. Fifty Interphase students were matched with upperclass researchers.

UUAP successfully completed year one of the MIT Amgen UROP Scholars Program, a four-year $1 million grant award, and supported 28 undergraduate researchers from MIT and other universities. All Amgen UROP scholars were placed in MIT biology, chemistry, bioengineering, brain and cognitive science, and related interdisciplinary laboratories.

The office implemented the Financial Aid Initiative ($400K), which financially guarantees one paid UROP for all MIT scholarship recipients sometime during the undergraduate education.

With TLL, UUAP designed and completed a comprehensive UROP survey; 60 percent of the undergraduates participated in the survey. The results are being evaluated and summarized by TLL. An interim summary is expected July 2008 and the final report August 2008.

Along with IIT Kanpur, UUAP developed the first IROP summer research exchange. The exchange is intended to not only engage students in research with faculty of the host university, but to immerse MIT students in an international cultural experience. In summer 2008 two MIT students are researching with IITK faculty.

In support of the global initiative, UUAP executed an ambitious marketing plan and program development, and approved 39 IROP experiences during the past year. This represents over a 300 percent increase over the previous year.

In follow-up to the lessons learned in the review of undergraduate advising, UUAP:

- Coordinated the development of additional on-line resources for undergraduate advisors and students

- Opened advisor professional development sessions to undergraduate advisors. We continue to work with department heads, undergraduate officers, and undergraduate administrators to identify specific training needs/desired resources and encourage faculty participation in offerings

- Offered support and resources to advisors of at-risk students (identified through CAP end of term meetings) through a strategic initiative focused on major advisors

- Established the Earll M. Murman Award for Excellence in Undergraduate Advising, a new Institute-level recognition of a faculty member who has served as an excellent advisor and mentor to undergraduates and who has had significant impact on their personal lives and academic success; the first recipient was recognized at the Institute's Awards Convocation, spring 2008

- Introduced a new initiative to provide support and resources for undergraduate advisors of at-risk students; advisors are identified through the CAP end of term process

- Opened appropriate freshman advisor professional development programs to undergraduate advisors, including Research Findings on Young Adult Development; Implications for Advising our Students; and International Students Academic, Advising, and Research Issues; UUAP is working with the undergraduate administrators/officers not only to facilitate faculty participation, but also to identify customized training needs of major advisors

- Invited all UROP supervisors to a training program, International Student Academic, Advising, and Research Issues

- With respect to the first-year orientation program, the following new efforts were implemented: the swim test was specifically offered on the check-in date for the 17 FPOPs; this effort and that on Reg Day increased compliance of the class—over 700 passed the swim test prior to classes beginning

- The Learning Community DVD was converted to streamlined video

- The Admissions blog was seamlessly transferred to UAAP; once the class is transferred from Admissions to UAAP around May 1, orientation coordinators and staff take over responding to all questions and keeping the blog fresh

Functional Enhancements

In keeping with the holistic theme, all potential opportunities for adding value to existing programs were assessed and new opportunities evaluated. Consequently, the following programs or programmatic enhancements were developed.

- Foster leadership development not only within existing UAAP programs (orientation coordinators, orientation leaders, associate advisers, resident associate advisers, UAAP advisory board, Baker Foundation, preorientation program coordinators, etc.), but also through our networks of student activities—house governments; supporting BWA, Chocolate City, Caribbean Students and African Students' leadership retreats; send women to local leadership conferences; sending four students to the Air Force Academy Leadership Center, and so on.

- Develop and facilitate reflective practice through Stop, Contemplate, Act programming. Example groups that have participated in focused events include those who have participated in a global research experience, other global experiences, peer mentoring and advising, community service, and athletic leadership.

- Develop mentorship programming and resources to support student organizations' peer mentorship activities.

- Facilitate the development of the TEAMS program with UAAP staff and DAPER. This is intended to not only be a leadership development initiative, but also a programming effort to support the academic success of athletes by developing individual team mentors and providing access to and knowledge of Institute resources.

- Collaborate with SLP on redefining the housefellow program and developing processes to ensure not only faculty participation, but also wide distribution of housefellows throughout the housing system.

- Added reflective practice as the final component for IROP participants, associate advisers, and UAAP Student Advisory Board.

- Implemented the UROP online proposal/approval system and database across all departments, laboratories, and centers.

- Continued to lead the joint DUE/DSL committee defining our collective values and generating several short-time projects and long-term strategies to cooperate, collaborate on, and execute programming effectively and transparently integrating student life and learning—two priority programs were executed, including a new faculty dinner (second annual) and joint professional development of almost 75 DUE and DSL staff.

- Continued to participate in fund development efforts and stewardship with respect to preorientation programs, UROP gifts and endowment, and funds from the Amgen Foundation, the COOP Foundation, the Baker Foundation, and the

Class of 1959. Committed to not only identify, but also to pursue new resources to support UAAP initiatives; strengthened relationships with key development staff. Key presentations were also prepared to support the Campaign for Students.

- With TLL, biannually sponsored a workshop series, Facilitating Effective Research, for graduate students and postdocs who supervise the day-to-day work of UROP participants. The workshop has been so well received that it will continue to be offered at least twice per year.

- In a continued effort to support the academic success of first-year students, study sessions are offered two evenings before all math or science quizzes and learning strategy programming is provided within the residential system. Almost forty study sessions and fifteen learning strategy programs were offered. Online learning strategy modules were also expanded.

- We continued to offer a comprehensive professional development program for freshman advisers, including special workshops for new advisers; seven professional development programs available to all advisors. Two of these were held jointly with the associate advisers. There were an additional specific training program opportunities for associate advisers. Freshmen were advised by 89 faculty plus 112 lecturers, instructors, and administrators; this number includes those who led the 59 freshman advising seminars offered to the Class of 2011. Above advisers were matched with 195 associate advisers and functioned as peer mentors to the first-year students.

- Sponsored the India-China Entrepreneurial freshman advising seminar and provided $5K support to help send 11 students and a faculty member to China during IAP. This is an investment not only in the global initiative, but also in the potential development of future IROPs.

- Sponsored a pilot project to enhance the Freshman Advising Seminars employing two individuals from ESG to develop and coordinate the pilot. Eleven seminar instructors voluntarily participated in training, collaboratively developing and using two seminar activities, and participating in a prequestionnaire, weekly student evaluations, and an end-of-term assessment. Lessons learned will be offered to other FAS instructors to enhance their advisees' experience and engagement.

- Sustained participation of URM students as first-year advisors (15%), associate advisors (9%), orientation leaders (28%), and as members of the UAAP Student Advisory Board (34%).

- Completed the eighth year of the residence-based advising program for all freshmen living in McCormick and Next House, plus Spanish House and Chocolate City. Overall participation included 234 first-year students, 29 advisers, and 27 resident associate advisers. These advisers also committed to functioning as housefellows within these respective communities.

- During IAP 2008, 626 noncredit activities and 105 for-credit subjects were reviewed by the UAAP for listing in the online IAP guide and calendar. Activities or subjects were sponsored by 37 academic departments, 155 groups recognized by the Association of Student Activities, and 10 nonstudent groups.

- SUAAP provided content for the Associate Link newsletter, organized four key freshman programs, participated in peer advice walk-in sessions in the UAAP, served on UROP panels, and assisted with the Exploration of Majors Fair. Student members of both the Baker Foundation and the Student Committee on Educational Policy joined the SUAAP. In addition, two freshmen were recruited from Interphase to serve on the board.

- Seventeen FPOPs were offered in 2007; almost 500 students received placements. Ten academic programs were offered; the academic programs remain substantially oversubscribed.

- Training and ongoing development of associate advisors was an articulated priority. Six different programs were strategically offered to almost 200 associate advisors throughout the academic year; three each term. This training included two joint professional development programs with freshman advisors.

- Facilitating an effective, smooth transition to the sophomore year remains a priority. Working closely with the departments and offering appropriate programming has enhanced this effort. Five strategic programs, including three during IAP, addressed specific aspects of self-exploration and assessment, academic and research opportunities, development of relationships with faculty, and global opportunities.

UROP Activities

Within the two academic terms of 2007–2008 and summer 2008, 48 percent of UROP students were female and 52 percent were male. Of undergraduates graduating with their first degree in 2008, 85 percent participated in UROP at least once during their time at MIT. Of this number, 82 percent of graduating URM students participated sometime during their undergraduate program; this was an increase of 10% participation over the previous class. Moreover, the gap between URM and non-URM graduate participation has decreased from 17 percent five years ago to 4 percent for the class of 2008. During this academic year and summer, 2,343 UROP projects were completed. Unfortunately, only 53 percent of the academic year projects were paid experiences; this is a decrease from the high of 73 percent during the 2001–2002 academic year.

Faculty funding continues to slightly slip each year. For the corresponding period last year, faculty allocated $3,696,370 in support of UROP, a decrease by 4.6 percent.

UROP Funding Allocations

	Summer 2007 and AY2007–2008
Faculty allocations	$3,526,519
UROP office allocation	$2,150,580
Total	**$5,677,099**

For the 2007–2008 academic year, the Institute provided $400K in additional funding with the intention of financially guaranteeing one term of UROP support for scholarship recipients during their undergraduate career. Particular programming

effort was dedicated to cultivating interest and participation of underrepresented and first-generation students. Ongoing tracking, data collection, and analysis has been undertaken to assess the efficacy of this program.

UAAP's annual UROP direct funding budget is comprised of endowment income (43 percent), expendable gifts (24 percent), and General Institute Funds (33 percent). The UROP book-value endowment is $12.2M, represented by 38 named endowed funds.

UROP's IAP 2008 Research Mentor Program continues to be a highly effective means of preparing freshmen for UROPs. Twenty upperclass students experienced in research mentored 22 freshmen over the IAP period.

In alignment with the values of MIT's global effort, IROP has resulted in strategic marketing with faculty and students, definition of potential opportunities, efforts to develop potential exchanges, and fund development. For this reporting period, 39 MIT students engaged in an IROP.

Future Plans and Initiatives

As UAAP, with both programmatic responsibility and charge of the holistic theme, sets its goals and objectives for AY2007–2008, the following are currently defined initiatives:

- Further expand adviser training and professional development to include not only freshman advisers, but also undergraduate advisers; key departments have been identified to participate in a pilot of specific workshops designed to support major advisors

- Continue the freshman advising pilot, adding an additional 10 volunteer seminar leaders to the initiative, to add two interactive modules with the goal of enhancing self-discovery and communication

- Upon receipt of the final report from TLL on the comprehensive survey of MIT undergraduates and their UROP participation, develop programming in response to the finding and identified deficiencies

- Continue implementation of the financial aid initiative that guarantees financial support for one UROP position to scholarship recipients during their MIT careers; based on lessons learned from tracking, data collection, and analysis, respond to ensure efficacy of this program and participation of strategic populations

- Undertake a comprehensive assessment of residence-based advising and review the viability and contributions of the program in the current culture

- Continue to define and implement programs under the holistic theme umbrella that augment the student experience and produce the leaders of the future; almost 50 programs or projects have been proposed that encompass advising, mentorship, leadership development, reflection, and self-awareness; proposals must be developed and prioritized for implementation; numerous creative and significant collaborations are expected to result from these efforts

- Develop and market IROP, with intent to expand participation in this global opportunity to 40 students in AY2008–2009; work to increase the summer research exchanges with international universities modeling the IITK agreement

- Pilot at least one initiative with International House and review the prospect of including this community in the Residence-based Advising Program

- Engage with DSL/RLP and the New House Housemasters to develop and offer a preorientation and academic term program, First-Year Academic and Multicultural Enrichment program, a four-day program during orientation and a curriculum that continues with monthly programs throughout the first year

- Assume responsibility for the Sophomore Exploratory option, including education of faculty advisors and eligible students and tracking participation

- Cosponsor the Boston Undergraduate Research Symposium, which will include students and faculty from 10 area universities participating in a symposium and postsession April 2009

- Collaborate with colleagues from MIT and Simmons University to develop leadership development opportunities for women

- Working with OME developing strategic programming for URM student engagement, including expansion of Interphase and the pre-UROP mentor program piloted in summer 2007, and a thorough analysis of the UROP survey data pertaining to the URM population, their UROP experience, and their participation

- Define future initiatives sponsored by the joint DUE/DSL committee to facilitate cooperation and collaboration on projects integrating student life and learning

- Begin planning UROP's 40th anniversary celebration in 2009

- Extending the associate adviser model to engage and support transfer students; two former transfer students have committed to mentor the fall 2008 transfers; one staff member will advise these associates and facilitate programming for the new MIT students

Staffing Changes

Two new hires were made in 2007–2008. Shelly Isaac was hired as an administrative assistant and supports the freshman advising and academic support functions. Sara Nelson was also hired as an administrative assistant; she provides support for UROP and oversees the Eloranta and Wei Research Fellowships. Also, Stephen Pepper was promoted from an administrative assistant to a staff associate responsible for functioning as the staff to the faculty Committee on Academic Performance and working to development opportunities to engage and support undergraduate advisors.

Julie B. Norman
Senior Associate Dean for Undergraduate Education
Director, Office of Undergraduate Advising and Academic Programming

More information about the Office of Undergraduate Advising and Academic Programming can be found at http://web.mit.edu/uaap/.