

## Dean, School of Engineering

In February, Ian A. Waitz, department head in Aeronautics and Astronautics was named the 16th dean of the [School of Engineering](#) following the appointment of dean Subra Suresh as director of the National Science Foundation by president Barack Obama in October 2010. Associate dean Cynthia Barnhart, who is continuing her leadership role in the School, served as acting dean in the interim.

The mission of MIT's School of Engineering is to educate the next generation of engineering and technical leaders, to create new engineering and scientific knowledge, and ultimately, to serve society by providing innovative ideas, practical technologies, and educating people who will help create solutions to the greatest technological and social problems of the 21st century.

To advance this mission, the School has begun to develop a new vision and integrated strategy. The elements of this strategy include continuing to attract and support the education and professional development of some of the very best students, faculty, and staff in the world; building collaborative intellectual communities—within MIT and with external partners—that enable us to best tackle complex technological and social problems; developing a new paradigm for university-led innovation; and reinventing the future of engineering education. We look forward to reporting on our progress in implementing this strategy in future reports.

In addition to the changes in the dean's office, there were a number of other leadership transitions within the School's departments, centers, and laboratories. Following Dean Waitz's appointment, professor David Darmofal, associate head of the Department of Aeronautics and Astronautics, served as interim department head. On July 1, 2011, professor Jaime Peraire and associate professor Karen Willcox will begin as the new department head and associate department head in Aeronautics and Astronautics, respectively. In February, Eric Grimson, department head in Electrical Engineering and Computer Science, was appointed chancellor of MIT by president Susan Hockfield. Also stepping down from leadership roles in that department were associate heads professors Duane Boning and Srini Devadas. Effective July 1, 2011, they will be succeeded by professors Anantha Chandrakasan as department head, and Munther Dahleh and William Freeman as associate department heads. Edwin Thomas, department head of Materials Science and Engineering, was appointed dean of engineering at Rice University; professor Carl Thompson is currently serving as interim department head. In addition, Victor Zue, professor of electrical engineering and computer science, stepped down as director of the Computer Science and Artificial Intelligence Laboratory. He was succeeded by professor Anant Agarwal. Jeffrey Shapiro, the J. A. Stratton professor of electrical engineering, stepped down as director of the Research Laboratory of Electronics (RLE), and Yoel Fink, professor of materials science and engineering and a MacVicar Faculty Fellow, will succeed him, effective September 1, 2011. (Though it is not officially part of the School of Engineering, our faculty members comprise 60% of RLE's researchers.)

The School of Engineering's eight academic departments and one division, its many research centers and laboratories, and its rich array of interdisciplinary graduate degree

programs encompass a community of some of the world's most inventive thinkers. Approximately 37% of the Institute's faculty, 44% of graduate students, and about 46% of undergraduate majors collaborate in the School's 17 undergraduate degree programs and 95 graduate programs. The School's faculty research expenditures were approximately \$339.1 million in FY2011, accounting for 51% of the on-campus total. The achievements of the School's departments, laboratories, centers, and programs are extensive. Separate reports that highlight the activities and the accomplishments of the students, faculty, and staff in each of these units over the past year follow this report.

As a result of this year's faculty searches, 12 candidates accepted faculty appointments in the School of Engineering, including one woman. Their appointments will add to the excellence, excitement, and energy critical to maintaining the School's high standards.

### **Awards and Honors**

Every year, members of the MIT engineering community, as well as the community itself, receive numerous honors in recognition of their research, scholarship, service, and overall excellence. This year was no exception. The reports of the School's departments, divisions, laboratories, centers, and programs make note of many of these awards. Here is a small sample of the honors and awards garnered by the School of Engineering in AY2011:

The National Academy of Engineering honored Edward F. Crawley '76, SM '78, ScD '80 with the nation's most prestigious engineering education award, the \$500,000 Bernard M. Gordon Prize for Innovation in Engineering and Technology Education.

The National Academy of Engineering elected MIT professors Michael Cima, Linda Griffith, and Amedeo Odoni to membership in the academy.

Professor Yossi Sheffi received the Salzberg Lifetime Award from the Whitman School of Management at Syracuse University.

The 2010 Bose Award for Excellence in Teaching was awarded to associate professor of mechanical engineering Anette "Peko" Hosoi. Hosoi teaches in the core mechanical engineering undergraduate curriculum, both 2.001 Mechanics and Materials I and 2.006 Thermal-Fluids Engineering II.

Department of Chemical Engineering assistant professor Kristala Jones Prather received the 2010 Junior Bose Teaching Award.

Christopher Schuh, of the Department of Materials Science and Engineering, and George Verghese and Patrick Winston, both of the Department of Electrical Engineering and Computer Science, were named MacVicar Faculty Fellows for their outstanding undergraduate teaching.

James Fujimoto, professor of electrical engineering, was named the recipient of the Carl Zeiss Research Award.

Of approximately 150 teams who competed in a national awards program for innovative energy technologies, three teams with MIT connections were among the five finalists, and two won the top two prizes.

Sanergy, a multidisciplinary team from across MIT that included students from the Schools of Architecture, Engineering, and Management, won this year's \$100K Business Plan Competition for their plan for an innovative form of low-cost, energy-converting sanitation.

The MIT School of Engineering was ranked first in the country, according to the annual *U.S. News and World Report*. The school has held the top spot since the rankings were first introduced in 1990. MIT's engineering programs were also ranked first by the QS World University Rankings.

## Education Innovation

The School of Engineering continues to make progress in the development of world-leading educational programs, and will likely make significant strides in this area in the coming year, as further innovations in education emerged as a clear priority from the School's strategic planning process.

In AY2011, the flexible engineering degree option was extended to students in the Department of Chemical Engineering. The option had already been adopted by the Departments of Mechanical Engineering (where it was initiated) and Aeronautics and Astronautics. Through this flexible degree program, students can pursue Institute-wide, theme-based concentrations within departmental programs in areas such as energy, environment, management, robotics, health, and transportation, to name a few.

## Communications and Development

The development and communications staff in the School worked in close collaboration on a range of projects throughout AY2011. Last June saw the launch of the first-ever Engineering Excellence Gala, a black-tie, invitation-only event for the School's highest-rated prospects and other friends. They also continued with the second installment of the School of Engineering Distinguished Lecture Series, inviting former Northrop Grumman Corporation chairman and CEO Kent Kresa to campus to give a public lecture (this year in collaboration with the Department of Aeronautics and Astronautics Lester Gardner Lecture).

The School's assistant dean for resource development, Dedric Carter, departed in January 2011. Ralph Scala will start as the new assistant dean in August 2011.

MIT's 150th anniversary was a focus of significant effort from offices and units throughout the Institute in AY2011, and the School of Engineering's participation in these activities was on a scale proportional to its role in the Institute. Engineering faculty members were centrally involved, at every level, in nearly all of the anniversary's main events and activities. In addition, the School was closely involved in planning for and participating in the MIT Open House in April, and its Office of Engineering Outreach Programs coordinated the Institute's K-12 outreach activities related to the Open House. The School developed a timeline of MIT Engineering that is now a large-scale physical installation on the wall outside the dean's office. This timeline traces the last 150 years of research and educational accomplishments of the School's academic departments and division. Upon completion of the installation (which relied heavily on President's

Reports of the past), the content of the engineering timeline was added to MIT Archive's [online timeline](#) for the Institute.

The primary communications vehicle for the School of Engineering remains its website, which attracts approximately 500,000 visitors per year. The site sees traffic from every country in the world, and 97% of the visitors are from outside the MIT network—indicating that the site truly is operating as a gateway to MIT Engineering for audiences beyond the Institute. This year, the communications staff expanded their use of social networking tools. More developments in this area are expected in the coming year.

## **Statistics for 2010–2011**

### **Undergraduate Enrollment**

- 1,977 students
- 834 women
- 453 underrepresented minority members
- 173 international students

### **Graduate Enrollment**

- 2,785 students
- 673 women
- 145 underrepresented minority members
- 1,161 international students

### **Degrees Awarded, 2010**

- 666 bachelor's degrees
- 738 master's degrees
- 304 doctoral and professional degrees

### **Faculty**

- 246 professors
- 76 associate professors
- 48 assistant professors

**Ian Waitz**

**Dean**

**Jerome C. Hunsaker Professor of Aeronautics and Astronautics**