In Special Recognition

The awards received by MIT faculty, students, and staff testify to the distinction of the Institute's programs and its people. Here we note only some of the honors and recognitions earned by members of the Institute community during 2010–2011.

Faculty and Staff

Election to a national academy is one of the highest honors that can be achieved in the fields of engineering, science, and medicine. Three MIT faculty members were elected to the National Academy of Engineering this year: Michael J. Cima, Sumitomo Electric Industries professor of engineering in the Department of Materials Science and Engineering; Linda G. Griffith, School of Engineering professor of teaching innovation with dual appointments in Biological Engineering and Mechanical Engineering; and Amedeo R. Odoni '65, SM '67, PhD '69, T. Wilson professor of aeronautics and astronautics and professor of civil and environmental engineering.

Five MIT faculty members were elected to the American Physical Society: Triantaphyllos Akylas, professor of mechanical engineering; Isaac Chuang, professor of electrical engineering and computer science; Jan Egedal-Pedersen, associate professor of physics; David Kaiser, associate professor in the Program in Science, Technology, and Society and lecturer in the Department of Physics; Nergis Mavalvala, professor of physics.

David Bartel, professor of biology, was elected to the National Academy of Sciences.

Roger Kamm, Singapore research professor of biological and mechanical engineering, was elected to the Institute of Medicine.

Four members of the MIT community were elected fellows of the American Academy of Arts and Sciences: Sylvester James Gates Jr., MLK visiting professor in the Department of Physics; David C. Page, director of the Whitehead Institute for Biomedical Research and professor of biology; Peter W. Shor, the Morss professor of applied mathematics; and Charles H. Stewart III, the Kenan Sahin distinguished professor of political science.

Six Institute researchers were named fellows of the American Association for the Advancement of Science: William Boone Bonvillian, director of the MIT Washington Office; Edward F. DeLong, Morton and Claire Goulder professor of civil and environmental engineering; Chris A. Kaiser, MacVicar professor of biology; Terry L. Orr-Weaver, professor of biology; David Pesetsky, Ferrari P. Ward professor of modern languages and linguistics; Li-Huei Tsai, Picower, professor of neuroscience.

Peter A. Diamond, PhD '63, Institute Professor and professor of economics, was named a winner of the Nobel Prize in economic sciences for 2010. Diamond received the award along with two co-winners, Dale T. Mortensen of Northwestern University and Christopher A. Pissarides of the London School of Economics. The Nobel Foundation cited the three scholars in part "for their analysis of markets with search frictions."

Edward F. Crawley, professor of engineering, was awarded the Bernard M. Gordon Prize for Innovation in Engineering and Technology Education by the National Academy of Engineering (NAE). The prize is the nation's most prestigious engineering education award, and NAE cited Crawley for his creation of the Conceive, Design, Implement, Operate (CDIO) educational initiative at MIT in 2000.

Institute Professor Robert Langer received the Founders Award from the National Academy of Engineering.

Professor Susan Lindquist was awarded the National Medal of Science "for her studies of protein folding, demonstrating that alternative protein conformations and aggregations can have profound and unexpected biological influences, facilitating insights in fields as wide-ranging as human disease, evolution, and biomaterials."

Charles Vest, MIT president emeritus and professor of mechanical engineering, has been named the recipient of the National Science Board's 2011 Vannevar Bush Award for his distinguished public service leadership in science and technology. The Vannevar Bush Award is presented annually to an individual who, through public service activities in science and technology, has made an outstanding "contribution toward the welfare of mankind and the nation."

Professor John Waugh won the Welch Award for revolutionizing NMR spectroscopy.

Nergis Mavalvala, professor of physics, was awarded a 2010 MacArthur Fellowship, also known as a "genius" grant, along with MIT alumni Jessie Little Doe Baird SM '00 and Emmanuel Saez PhD '99.

Seven faculty members were honored at the White House as recipients of the Presidential Early Career Award for Scientists and Engineers: Scott J. Aaronson, TIBCO career development assistant professor in the Department of Electrical Engineering and Computer Science (EECS); Amy N. Finkelstein, professor of economics; Manolis Kellis, associate professor of EECS; Michael T. Laub, assistant professor in the Department of Biology; Laura E. Schulz, Class of 1943 career development assistant professor in the Department of Brain and Cognitive Sciences; Katrin Wehrheim, associate professor in the Department of Mathematics; and Martin W. Zwierlein, assistant professor of physics. This year, 85 individuals nationwide were honored by the White House. MIT received the greatest number of awards from a single institution.

Evelyn Wang, the Esther and Harold E. Edgerton career development assistant professor in Mechanical Engineering, received an Air Force Office of Scientific Research Young Investigator Award for her work on advanced nanostructures for two-phase fluid and thermal transport.

Three faculty members were awarded Sloan Foundation research fellowships: Jeff Gore and Markus Klute, assistant professors of physics, and Laurent Demanet, assistant professor of mathematics.

Jay Scheib, associate professor of theater arts in the School of Humanities, Arts, and Social Sciences, was awarded a 2011 fellowship by the John Simon Guggenheim Foundation.

Matthew G. Vander Heiden, assistant professor of biology and member of the David H. Koch Institute for Integrative Cancer Research at MIT, was awarded the 2011 Damon Runyon-Rachleff Innovation Award. The $450,000, three-year grant is awarded to early-career scientists whose projects have the potential to significantly impact the prevention, diagnosis, and treatment of cancer.

Five faculty members were among the 69 recipients of research grants from the Department of Energy's Early Career Research Program: Nuh Gedik, assistant professor of chemistry; Pablo Jarillo-Herrero, assistant professor of physics; Jesse Thaler, assistant professor of physics; Anne White, assistant professor of nuclear science and engineering; and Mircea Dinca, assistant professor of chemistry. Under the program, the researchers will receive at least $150,000 a year for five years.

Rudolf Jaenisch, a Whitehead Institute Founding Member and professor of biology, was named a recipient of the 2011 Warren Triennial Prize of Massachusetts General Hospital. The Warren Prize, which includes a $50,000 award, honors scientists who have made outstanding contributions in fields related to medicine.

Joshua Tenenbaum, associate professor of computational cognitive science in the Department of Brain and Cognitive Sciences, is a recipient of the National Academy of Science's Troland Award for 2011.

Bishwapriya Sanyal, Ford International professor of urban development and planning; Christopher Schuh, Danae and Vasilios Salapatas associate professor of metallurgy; George Verghese, professor of electrical engineering; and Patrick Winston, Ford professor of artificial intelligence and computer science were named MacVicar Faculty Fellows.

Joanne Stubbe, Novartis professor of chemistry and biology, was named to receive the James R. Killian, Jr., Faculty Achievement Award for 2011–2012.

The Gordon Y Billard Award, recognizing special services of outstanding merit to the Institute, was given to Phillip Clay, chancellor and professor of urban studies and planning.

Subra Suresh, former dean of the School of Engineering, was sworn in as director of the National Science Foundation (NSF). As NSF director, Suresh will lead a $7.4B independent federal agency that supports all fields of science and engineering research, as well as a wide span of educational programs that reach more than 2,000 institutions across the U.S. and involve approximately 200,000 educators, researchers, and students.

Students

Senior Nathaniel Thomas won a Marshall Scholarship, and Jennifer I. Lai won a Rhodes Scholarship.

Senior Robin Deits, incoming graduate students Katie Maas and Max Kleiman-Weiner, and postdoc Thomas Segall-Shapiro, were among the 15 Hertz Fellows named by the Fannie and John Hertz Foundation. The no-strings-attached fellowships—worth $250,000 each and lasting up to five years—give exceptional scientists and engineers the freedom to innovate while pursuing graduate studies in the applied sciences.

Senior Raghu Mahajan was named a Gates Cambridge Scholar and will begin his studies at the University of Cambridge in 2011. MIT students have won 20 of the prestigious Gates scholarships since the program was established in 2000 by the Bill & Melinda Gates Foundation.

Junior Joshua Cohen and senior Shaunak Kishore were among the 275 students recently named Barry M. Goldwater Scholars, the premier distinction given to mathematics, science, and engineering students.

One current student and two recent graduates were awarded Fulbright Scholarships to study abroad during the 2011–2012 academic year. Tobias Harris, a Chicago native and PhD candidate in political science, will travel to Japan to conduct interviews and archival research for his project titled, "The Politics of Reform in Japan, 1955–2009." Anna Waldman-Brown '11, a native of San Francisco who graduated recently with an SB in physics and writing and humanistic studies, will travel to Ghana to research sustainable energy solutions. Candace Wilson '05, MEng '06, an Alabama native who studied electrical engineering at MIT, will spend the year in the Dominican Republic studying electrical use and energy standards.

Anjali Thakkar, a junior who plans to pursue a career in global health, advocating for low-income populations, has been awarded a 2011 Harry S. Truman Scholarship. Thakkar, a biology and materials science and engineering major from California, was one of 60 students nationwide selected as winners of the prestigious $30,000 graduate scholarship. Awarded each year, the scholarships aim to find and recognize college juniors with exceptional leadership potential who are committed to careers in public service.

Alice A. Chen, a biomedical engineer and graduate student in the Harvard-MIT Division of Health Sciences and Technology, won the $30,000 Lemelson-MIT Student Prize for innovations in molecular biology, engineering, mathematics, and linguistics.

Two current and three former MIT students received Paul & Daisy Soros Fellowships for New Americans, supporting the graduate education of immigrants and children of immigrants. Senior Hattie Chung '11, graduate student Juan Jofre '13, Melis Anahtar '08; Aadel Chaudhuri '04; and David Reshef '08, MEng '09, were among the 30 young scholars granted the fellowships.

Two MIT students won inaugural Isabelle de Courtivron Prizes: Senior Mureal L. Rambeloarison and junior Xinzhu Wang. Named to honor French Studies professor emerita Isabelle de Courtivron, the prize is given by the Center for Bicultural/Bilingual Studies to recognize "student writing on topics related to immigrant, diaspora, bicultural, bilingual, and/or multi-racial experiences."

In Memoriam

Each year death takes from us exceptional men and women who have contributed to academic excellence and service to the wider world that distinguish the MIT community. The memories of their achievements urge us to our own best efforts.

James Ludlow Elliot, a professor of planetary astronomy and physics at MIT, died March 3, 2011, from cancer-related complications at age 67. Elliot was known as one of the great observational planetary astronomers of the modern era. Among his accomplishments were leading the team that discovered the ring system of Uranus, and discovery of the atmosphere of Pluto. He was committed to excellence in teaching and mentoring, and was a staunch advocate for women in science.

Elliot was especially supportive of women in astronomy. At a science celebration at MIT held in his honor in June 2010 (called the "Jimboree"), nearly two dozen of his former and current students — more than half of them women — spoke about their research, as well as life lessons learned from Elliot. One common theme was his gift for engaging his students deeply in his research, and then sending them off on their own with his utter trust that they could do the research themselves. He also conveyed to all his students a strong work ethic, admonitions to always be prepared and reminders to always trust the data. At the Jimboree, notes of remembrance were captured on white index cards, because Elliot was never caught without one in his pocket.

Elliot was born on June 17, 1943, in Columbus, Ohio. He received an undergraduate degree in physics from MIT in 1965 and a PhD in astronomy from Harvard University in 1972. While a graduate student at Harvard, Elliot was an avid observer on the 60-inch telescope at the Agassiz Station in Harvard, Massachusetts. He held a postdoctoral position at Cornell University, and joined the faculty of Cornell's Astronomy Department in 1977. He returned to MIT in 1978, after he discovered Uranus's rings alongside Edward Dunham and Douglas Mink. He was also the director of MIT's Wallace Astrophysical Observatory.

John Haas SM '42, was an active member of the MIT Corporation for 24 years and a life member emeritus until his death on April 2, 2011. He died at his home in Villanova, Pennsylvania, at 92 years of age. After graduating from Amherst College, Haas earned a master's degree in chemical engineering at MIT. Having enlisted in the Naval Reserves, he worked briefly for the chemical company his father had co-founded, Rohm and Haas, before being called to active duty in 1942. Discharged from the Navy in 1946, he returned to Rohm and Haas as a process engineer and later as an assistant plant manager in Knoxville, Tennessee, and Houston, Texas. Haas joined the MIT Corporation as a term member in 1965, and during two five-year terms, he chaired both the Chemistry and the Chemical Engineering Committees. He became a life member in 1975,

and in 1987, one of his family trusts endowed the Haas Family Fellowship in the David H. Koch School of Chemical Engineering Practice. Two years later, he stepped down from active service to the Corporation, becoming life member emeritus.

James Keck, professor emeritus of mechanical engineering, died on August 9, 2010, at age 86. Keck joined MIT in 1965 as the Ford professor of engineering and developed teaching and research programs in thermodynamics, kinetics, and mechanics related to energy generation and air pollution. Keck was the author of dozens of papers, and his research at MIT focused on atomic and molecular kinetics, thermodynamics, and high-temperature gas dynamics. He was recognized by the National Academy of Engineering for "developing innovative, widely used concepts for modeling coupled chemical and physical phenomena in engine combustion and high-temperature flow." After joining the MIT faculty in 1965, he began researching the problem of burning rates and pollutant formation in internal combustion engines. His experiments and theoretical studies showed many things about such engines: how nitric oxide is formed in them, the nature of turbulent flame propagation, and the nature of "knock." His work is widely used in the automotive industry in the design of efficient and clean engines. Keck was a member of the National Academy of Engineering, the American Academy of Arts and Sciences, and the American Physical Society.

Omar Khalidi, longtime MIT research librarian, died on December 6, 2010, at age 57. Born in Hyderabad, India, and educated in India, Britain, and the United States, Khalidi was a scholar of Islamic architecture, history, and culture, and worked as librarian in support of the Aga Khan Program for Islamic Architecture for more than 20 years. Known for his kindness and patience as well as his passion for travel, politics, religion, and culture, Khalidi was well respected by those in the MIT community.

Richard Leacock, innovative documentary filmmaker and former MIT professor, died on March 23, 2011, at age 89. In 1968, Leacock joined MIT, at the invitation of then-provost Jerome Wiesner, in the Documentary Film Section, a part of the School of Architecture and Planning, and later housed within the Media Lab. Leacock stayed until 1989, when he retired and moved to Paris. Leacock was best known for expanding the possibilities of documentary film through the use of small, mobile, hand-held cameras, which provided documentaries with greater immediacy and opened up the range of subjects and scenes that could be filmed. He also helped devise some of the technical innovations necessary to provide high-quality sound for hand-held cameras.

Robert Rathbone, professor emeritus in the Program in Writing and Humanistic Studies, died February 23, 2011, at age 95. Rathbone was a prolific author of communications textbooks and articles, and he helped develop the field of professional communications studies in the 1950s. He was one of the founders and the first director of MIT's writing program in 1976, and he worked extensively with faculty throughout the Institute to integrate communications instruction into the undergraduate science and engineering curriculum. Rathbone retired in 1979 and lived for many years in New Hampshire and then Maine, where he devoted himself to his pastimes of working with local historical societies, bird watching, and painting.

On June 11, 2010, William J. Mitchell, the former dean of the School of Architecture and Planning, lost his long battle with cancer. He was sixty-five. Considered one of the world's leading urban theorists and a pioneer in urban planning, Dean Mitchell infused new energy and visibility into the School by recruiting a number of young, innovative faculty members. As a professor in the MIT Media Lab, he explored new forms and functions of cities in the digital era and led Smart Cities, a research group that pioneered new approaches to integrating design and "green" technology.

However, Mr. Mitchell's greatest and most enduring legacy is the physical transformation of the MIT campus, which came about as a result of his role as architectural advisor to former MIT president Chuck Vest. Mr. Mitchell guided one of the most ambitious higher education building programs in the country, adding nearly a million square feet to MIT's campus. Central to this program were five innovative architectural projects by world-renowned designers: Frank Gehry's Stata Center, Kevin Roche's Zesiger Sports and Fitness Center, Steven Holl's Simmons Hall, Charles Correa's Brain and Cognitive Sciences Complex, and Fumihiko Maki's Media Lab Complex.