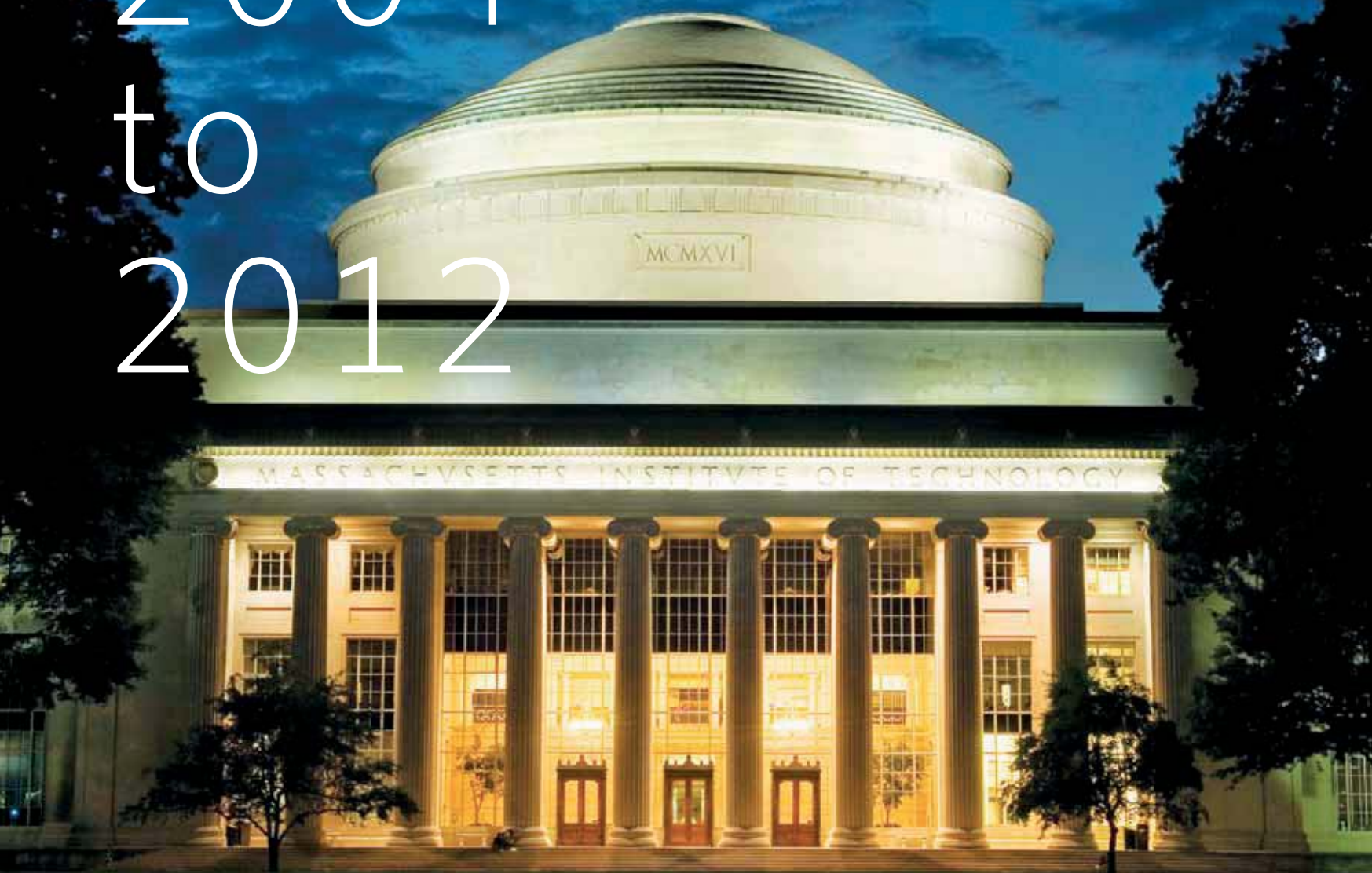


MIT  
2004  
to  
2012





*Alia initia et fine* –  
A fresh start from every finish.



## Friends and fellow members of the MIT family

If you know one Latin phrase—*Mens et Manus*, or Mind and Hand—you know a great deal about MIT. But there's another I have come to appreciate, carved above the fireplace here in the president's office: *Alia initia et fine*, which translates roughly as "A fresh start from every finish." Chiseled in a century ago, these words expressed the surge of new momentum as MIT left its old quarters in Boston for its expansive new home by the Charles. Yet today, they speak just as clearly to MIT's insatiable appetite for the next big challenge.

That joyful intensity and velocity drew me here from the start, and so, as I come to the end of my time as president, I want to express my admiration and gratitude to all of you—faculty, students, staff, alumni and friends of the Institute—who embody MIT's remarkable mission in motion.

As you will see in these pages, thanks to your creative collaborations, over the last seven years this community has produced more progress on more fronts than any of us could reasonably have hoped for, strengthening MIT's foundations and raising our sights for the future.

I cannot begin to say how proud I am of this community—a community of incomparable strengths, incomparably dedicated in service to the nation and the world. Thank you for your guidance, for your inspiration, for your friendship and for allowing me to join you in striving to advance the mission of MIT.

Most sincerely,

Susan Hockfield

# THE INSTITUTE OF ACCELERATION

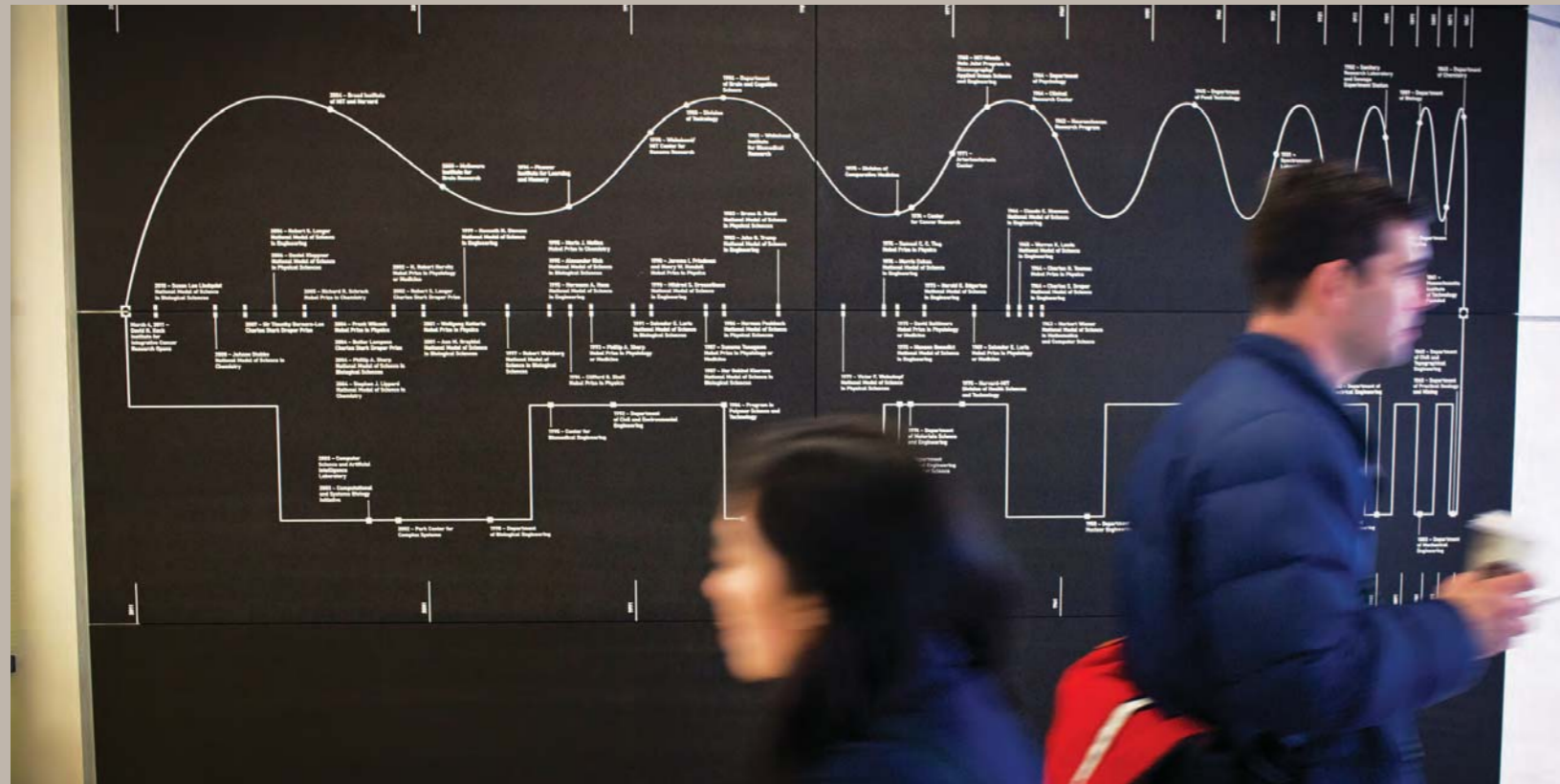


In the last seven years, the MIT community has responded energetically to two demanding imperatives: sustaining the Institute's pioneering excellence, in service to the nation and the world, and preserving MIT's financial strength and flexibility despite the most dramatic economic downturn since the Great Depression. The path was not always obvious, but the journey has led to some exhilarating destinations that further whet our appetite for the road ahead.

# RESEARCH

## Joining forces for discovery and innovation

MIT unleashes the creative brilliance of its 1,000 faculty members with a culture that likes to say yes, and we concentrate their power to solve very large, complex problems through an unusually rich matrix of interdisciplinary labs, centers and initiatives. Over the last several years, MIT has said an enthusiastic yes as our faculty and students have launched or accelerated significant cross-disciplinary efforts—from cancer to energy to manufacturing—that will make a lasting difference in our research landscape and in the life of MIT.



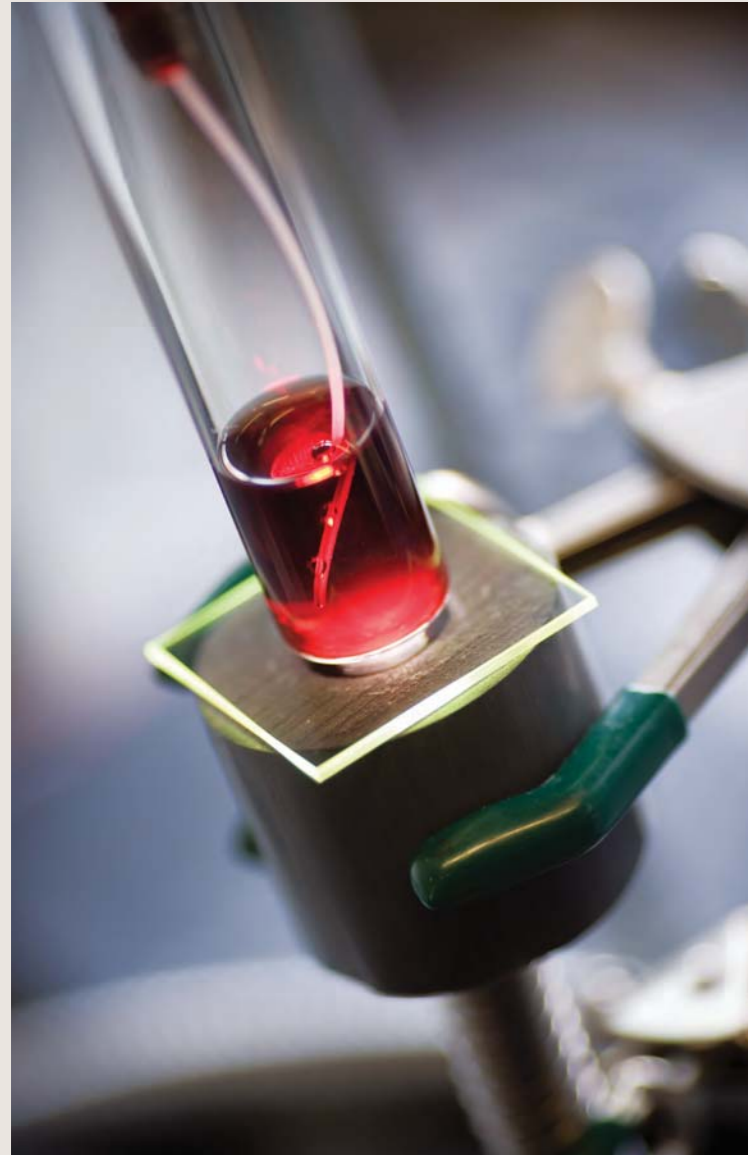
## Seizing the opportunities of convergence

As a neuroscientist, I came to this campus with an awareness that the life sciences and the engineering and physical sciences had been moving towards each other for decades. However, here at MIT, I discovered that the pace and passion of that convergence had produced a moment of intense creative possibility. It inspired and animates one of the Institute's newest research laboratories: the David H. Koch Institute for Integrative Cancer Research (2011), where biologists, engineers and clinicians work side by side to discover breakthroughs for the diagnosis, treatment and prevention of cancer. This historic convergence is a driving force behind the work of the Ragon Institute (2009), a collaboration that unites MIT, Massachusetts General Hospital and Harvard in the pursuit of a vaccine against AIDS. The convergence also serves as a critical foundation of MIT's recently established Institute for Medical Engineering and Science (2012). Beyond biomedicine, MIT researchers are forging, out of this convergence, ideas as transformative as batteries assembled by viruses and bio-inspired robots.



Biologists, engineers and clinicians work side by side to find breakthroughs in the diagnosis, treatment and prevention of cancer.





President Hockfield with Professors Ernest J. Moniz and Robert C. Armstrong, during her announcement of the creation of the MIT Energy Initiative in 2006.

## Inventing a sustainable energy future

In my first months at MIT, faculty and students from across the Institute spoke urgently about the problem of sustainable energy, and about MIT's distinctive ability and responsibility to contribute to finding solutions. From these conversations sprang the seeds of the MIT Energy Initiative, or MITEI (2006), an interdisciplinary, Institute-wide effort that is advancing the frontier in energy policy, education and research, with significant emphasis on solar power and energy storage. To date, more than 25 percent of MIT faculty members, from all five MIT Schools, have participated in energy research, and MITEI has raised more than \$360 million to support their work. In 2009, when US President Barack Obama chose MIT as the forum for a major address on clean energy innovation, he became the first US President to tour an MIT lab. Calling today's young Americans "heirs to a legacy of innovation," he challenged them to help invent a sustainable energy future—a global problem set already well under way at MIT.

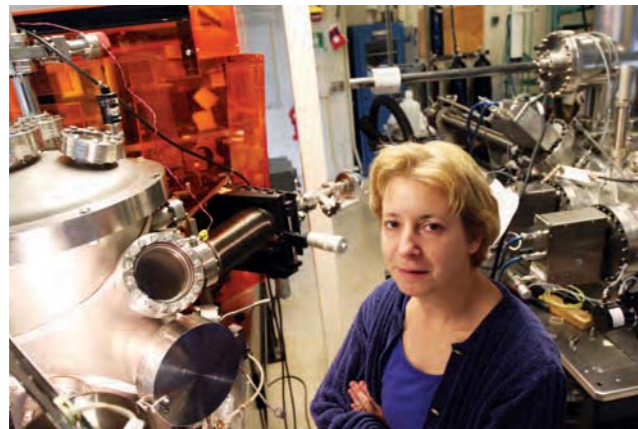


President Obama visits a lab with MIT President Susan Hockfield and Professor Vladimir Bulović.



## Manufacturing the future

Given MIT's hands-on enthusiasm for tackling the problems of industry, it's no surprise to find the Institute helping to chart a new course for American manufacturing. An important new faculty study, Production in the Innovation Economy, or PIE (2011), aims to provide pioneering, research-based strategies for transforming America's production and innovation capacity, especially in the realm of advanced manufacturing. MIT faculty are also playing key roles in shaping the Advanced Manufacturing Partnership, or AMP (2011), a national task force of universities, businesses and government agencies charged by the White House with defining new infrastructure, policy and education strategies to help drive a manufacturing renaissance.



Caroline Ross, the Toyota Professor of Materials Science and Engineering at MIT.



The regional meeting of the Advanced Manufacturing Partnership at MIT in November 2011.



A researcher at the Novartis-MIT Center for Continuous Manufacturing demonstrates a drug-manufacturing prototype.

# AMPLIFYING OUR LEARNING COMMUNITY

## Expanding the MIT family

In a global society beset by problems of vast technical complexity and scope, one wishes that the world could draw on more people with the analytical skill and can-do attitude we specialize in at MIT. This wish inspired the transformation of a former graduate residence, known as Graduate House and then Ashdown House, into Fariborz Maseeh Hall (2011), now freshly reimagined as a dormitory for more than 460 undergraduates. In its new incarnation—and with The Howard Dining Hall as its magnetic centerpiece—Maseeh Hall will enable us to increase by almost 10 percent the number of brilliant young people we can educate here on campus. It also served as the capstone of The Campaign for Students (2006-2011), a magnificent expression of the generosity of MIT's alumni and friends, which attracted more than \$575 million to increase funding for scholarships, fellowships, educational innovation and student life. Putting equal focus on building community and easing housing pressures for our graduate students, MIT added New Ashdown House (2008), another step in creating a welcoming hub of graduate student life in the northwest section of campus.





## Fostering a culture of inclusion

The MIT family is growing not only in size but also diversity; for instance, nearly 24 percent of current undergraduates come from underrepresented minority groups, up from 19 percent in 2004, and according to the *Report on the Status of Women Faculty in the Schools of Science and Engineering at MIT* (2011), women now make up 19 percent of faculty in the School of Science and 16 percent in the School of Engineering, up from 13 percent in both Schools seven years ago. In this diverse, mission-driven community, fostering an atmosphere where everyone can do their best work is not an optional exercise, and individuals and groups across the Institute have made concerted efforts to strengthen MIT's culture of inclusion, ranging from cross-community events like the Diversity Leadership Congress (2008) and the Institute Diversity Summit (2011, 2012) to the illuminating *Report on the Initiative for Faculty Race and Diversity* (2010).



Increasingly, young people from around the world view MIT as the place they want to join. Applications for undergraduate admissions have increased almost 75% since 2004, and this year nearly 70% of students offered admission to MIT decided to join us, a record high.





*Alchemist*, by Jaume Plensa, commissioned by an anonymous alumnus and presented during the MIT150 celebrations “in honor of all the alumni who have helped support MIT over the years.”

## Leaping into the digital future

Since 2001, with the launch of MIT OpenCourseWare, the Institute has engaged in a provocative, intriguing conversation, with itself and the world, about the potential of online education. After a decade of experimentation, the Institute announced MITx (2011), an innovative online learning platform designed to offer MIT courses, free, to anyone with an internet connection, while allowing learners capable of mastering MIT content to earn MITx credentials for a modest fee. A few months later, building on the same educational philosophy and open-source technology platform, the Institute joined with Harvard University to announce an unprecedented nonprofit partnership, edX (2012), a platform that will make courses from both institutions freely available from a single website, and that is also designed to host other educational institutions. Although still in its infancy, edX aspires to enhance student learning on both campuses, to extend learning to millions of students around the world, and to provide a powerful new research incubator for learning about learning itself.



MIT Provost Rafael Reif, President Hockfield, Harvard President Drew Faust, edX President Anant Agarwal and Harvard Provost Alan Garber at the launch of edX, May 2, 2012.





## Imagining tomorrow's MIT

### Framing the future of the campus

The flowering of two longstanding projects transformed the east side of campus: the elegant extension to the Media Lab complex (2010), a font of new ideas at the intersection of the arts and technology; and the new home for MIT's Sloan School of Management (2011), a state-of-the-art facility that also serves as a vital bridge to the growing vitality of Kendall Square. The future of MIT's campus will unfold through an evolving framework known as MIT 2030, an ongoing project that draws on the expertise and ambition of both academic and facilities leadership to support MIT's intellectual priorities and physical resources.



MIT Media Lab

## Sparkling innovation close to home

Those who remember Kendall Square as a semi-industrial ugly duckling have a hard time recognizing the swan it has become. This bustling hub of innovation and entrepreneurship now boasts more IT and biotech firms per square mile than anywhere on the planet, from MIT-related startups to global giants like Google, Novartis and Microsoft. The innovations flowing out of MIT and its Kendall Square neighborhood spurred Pfizer (2011) to establish a major research center here and Novartis (2012) to expand its already significant research operation. By helping Kendall Square become an even more appealing place to work and live, we feed the “innovation ecosystem” that helps MIT faculty, students and alumni deliver their ideas to the market and the world. MIT has also helped strengthen the innovation infrastructure of the region; the Massachusetts Green High Performance Computing Center (2009) came to life through an unprecedented collaboration among industry, universities, and state and local governments. Its goal is to foster economic growth and jobs in Western Massachusetts while providing researchers at MIT and other universities with powerful computing resources.



Kendall Square now boasts more IT and biotech firms per square mile than anywhere on the planet.



President Hockfield with Governor Deval Patrick (far right), Pfizer Senior Vice President Rod MacKenzie (far left), and Pfizer President of Worldwide Research & Development Mikael Dolsten at the Pfizer groundbreaking in Kendall Square.



Lisa Tacoronte '10 and residents of Ventanilla, Peru, try out the bicilavadora, a pedal-powered washing machine that MIT students built from bicycle parts and empty barrels.

## Shrinking the planet

For decades, MIT has welcomed the world, and MIT faculty and students have traveled the world. But in recent years, through a range of new alliances, the Institute has become a creative force in the world of global education and research. MIT's signature study-abroad program, MISTI, has nearly doubled its global reach, with programs in 13 nations providing culturally embedded internships to roughly 500 MIT students a year. In collaboration with the leadership of Abu Dhabi, MIT faculty helped launch the Masdar Institute of Science and Technology (2007), a graduate educational and research institute at the heart of a regional program to promote sustainable energy technologies. Hand in hand with the government of Singapore, MIT faculty created the Singapore-MIT Alliance for Research and Technology Centre (2008) and helped launch the new Singapore University of Technology and Design (2010). MIT faculty are also assisting the Russian Federation in developing the Skolkovo Institute of Technology (2011), or SkTech, a postgraduate research university to be located in the suburbs of Moscow. These relationships give MIT access to important centers of talent and opportunities for research in communities intensely focused on innovation. Beyond these major engagements, MIT is actively building relationships with governments and universities from China and India to Chile and Brazil.



President Hockfield welcomes Brazilian President Dilma Rousseff to MIT.

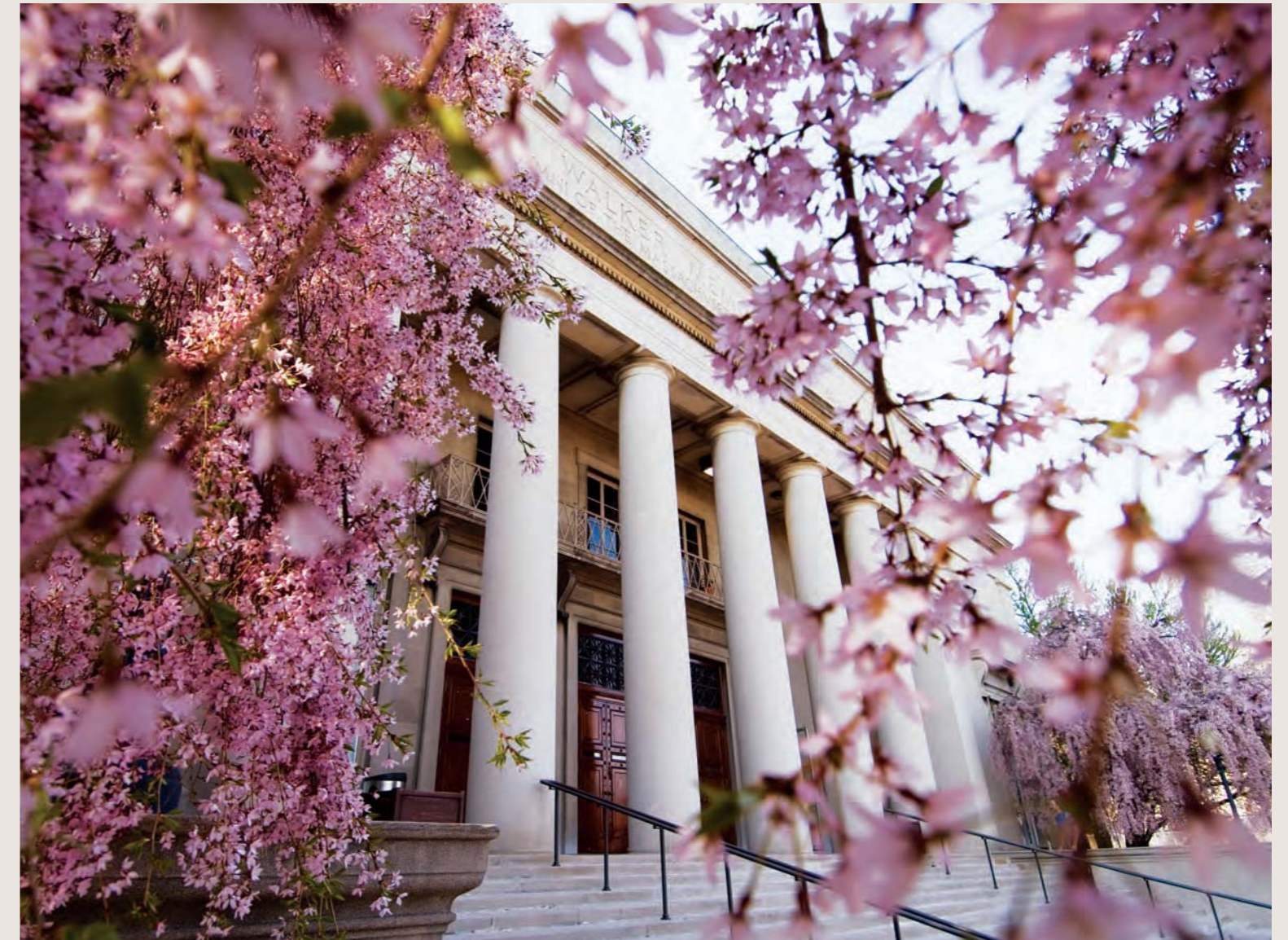
# WEATHERING THE GLOBAL FINANCIAL CRISIS

Along with colleges, universities and households across the country, in the fall of 2008 MIT suffered the bleak uncertainty of the global financial crisis. Our endowment, which supplies more than 20 percent of the Institute's operating budget, had peaked in June 2008 at \$9.9 billion; along with the stock market, it would slide about 20 percent over the next year. Fortunately, MIT could grapple with this crisis with its feet on solid ground: In Fiscal Year 2009, MIT's General Institute Budget (GIB) was balanced for the first time in more than 10 years.

It was in late fall 2008 that the financial situation clearly required serious, decisive action; the Institute needed to cut GIB expenses by between \$100 million and \$150 million over two to three years. Ultimately, MIT was able to reduce its costs by \$130 million, thoughtfully, humanely and over just two years, while creating lasting efficiencies and innovations in the way we do business. Credit for that remarkable achievement belongs in large part to the almost 200 faculty, students and staff who served on the Institute-wide Planning Task Force. The Task Force process showcased the problem-solving prowess of the MIT community. Its recommendations led directly to major cost reductions, but also to improvements in campus energy efficiency; the digitization of many administrative processes; better use of summer housing stock; and explorations into digital learning that would evolve into the creation of MITx.

Despite the long shadow of the global economic crisis, the last seven years overall constitute the brightest stretch of fundraising in Institute history, during which MIT raised nearly \$3 billion. By June 2011, our endowment was valued at \$9.7 billion—a 65 percent increase from seven years before. Annual research revenues for MIT and Lincoln Laboratory also rose, from \$1 billion as of June 2004 to \$1.4 billion as of June 2011. Through all the turbulent financial currents, MIT retained its important commitment to need-blind admissions and need-based aid for undergraduates. Annual undergraduate financial aid increased from \$52 million as of June 2004 to \$92 million as of June 2011, a rise of 77 percent.

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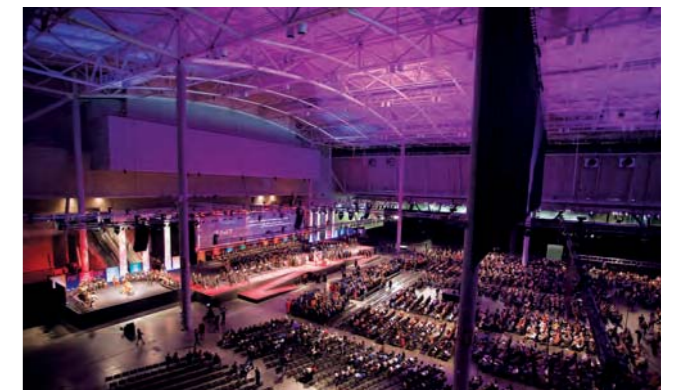
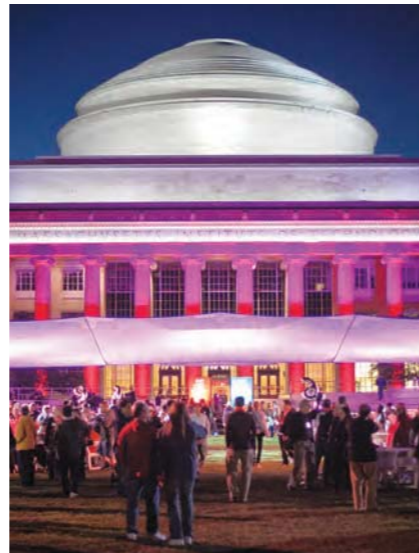
## A fresh start from every finish

### Celebrating MIT150

The Sesquicentennial (2011) of MIT's 1861 founding connected the Institute to the broader community in unforgettable ways. Our alumni expressed their enthusiasm for the Institute by hosting 164 events on five continents. With its MIT150 Exhibition, the MIT Museum captured the Institute's irrepressible spirit of invention, highlighting faculty and graduates whose history-bending ideas accelerated the epic technological progress of the 20th century. For the first time in decades, MIT opened its doors to the public, welcoming tens of thousands to campus for an open house called "Under the Dome." At the Festival of Art, Science and Technology, thousands more marveled at sculptures and installations across campus. Luminous and monumental, they transfigured Killian Court and the Charles itself—and changed the way many people feel about MIT.



President Hockfield and her husband Thomas Byrne (far left) at the MIT150 Open House reviewing the original MIT Charter.





As we learned from MIT's history, the Institute's founder and first president, William Barton Rogers, launched MIT with a set of values that have stood the test of time: the spirit of *Mens et Manus*, mind and hand—of useful work founded on the finest science and focused on real-world problems; a belief in the power of hands-on learning; and a commitment to meritocracy, rigor and service. From those principles, in 1861 Rogers forged a new kind of institution, and his new Institute would shape and inspire a new breed of thinkers, makers, doers, inventors and entrepreneurs such as the world had never seen before. To our great good fortune, their kindred spirits fill our campus anew every year.



But above all, the 150 days of symposia, performances and events, capped by the MIT150 Convocation, united the MIT community with a fresh sense of its distinctive mission and values.



*Mens et Manus* –  
Mind and Hand.



As I come to the end of my time as president, I know that, thanks to the daring ideas, collaborative spirit and distributed leadership of this community, MIT has profound opportunities before it.

I cannot wait to see how you seize the possibilities of MIT's next chapter.

*Alia initia et fine –*

*A fresh start from every finish.*



Massachusetts Institute of Technology

On June 9, 2007, President Hockfield presided over the ceremonial re-lighting of the Great Dome, its solar-powered glow made possible by an anonymous donor.