THE KATHARINE DEXTER
McPormick SOCIETY

News for Fall 2012
Features of the Electronic Edition include:

✓ Foremost access to McCormick Society news
✓ Embedded links to related content online
✓ Table of contents navigation (click to go)
✓ High-resolution color images

In This Issue

A Personal Message 2
Bonny Kellermann ’72

Under the Dome 5
Inauguration of President L. Rafael Reif, New Provost Chris A. Kaiser PhD ’87
David Woodruff ’78 Returns to MIT
edX/MITx, Faculty Presentations, MIT Museum
Institute For Medical Engineering and Science (IMES) Launched

Campus Annual Event 11

Letter from President L. Rafael Reif 18

Receiving Electronic Newsletters 19

Upcoming Events 20

Remarks 21
Sherwin Greenblatt ’62
The Katharine Dexter McCormick (1904) Society (KDMS) was founded in 1994 to recognize those donors who provided for MIT’s future through legacy gifts—gifts through estates or life income funds, to be utilized after the donor’s lifetime. MIT is extraordinarily grateful to members of the McCormick Society for providing for MIT’s future excellence.

A Personal Message
From Bonny Kellermann ’72

Director
MIT Katharine Dexter McCormick Society (KDMS)

This is a very exciting time to be at MIT. L. Rafael Reif’s inauguration as MIT’s 17th president held center stage at MIT in September. Inaugural events are described more fully on page 5. MITx has partnered with other universities to create edX (page 6). And I am very proud to share the news that MIT was ranked #1 in the world by Quacquarelli Symonds (QS) World University Rankings, generally regarded as one of the three most influential and widely observed international university rankings. The rankings are based upon academic peer review (40%), faculty-student ratio (20%), citations per faculty (20%), recruiter review (10%), and international education (10%). Of course, we all knew that MIT was the best university in the world, but it is nice to see public recognition of this fact!

To follow up with questions or requests for additional information, contact: Bonny Kellermann
p: 617-253-9722 | e-mail: bonnyk@mit.edu
Thanks to those who have gone before

We continue to be grateful to those who came before you who have provided so generously for MIT’s future excellence. You may find it interesting to learn how much of an impact planned gifts have had on MIT (see chart below). More than one-fifth of the funds in MIT’s endowment were received as planned gifts. Clearly these gifts are a significant factor in helping MIT to be the best university in the world.

Distributions to MIT from Charitable Trusts and Other Life Income Funds

<table>
<thead>
<tr>
<th>Fiscal Year (June 30)</th>
<th>No. of Distributions</th>
<th>Original Gift Value</th>
<th>Amount Distributed</th>
<th>Largest Distribution</th>
<th>Average Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 2008</td>
<td>37</td>
<td>$5,459,009</td>
<td>$6,174,229</td>
<td>$1,898,966</td>
<td>$166,871</td>
</tr>
<tr>
<td>FY 2009</td>
<td>38</td>
<td>$3,042,242</td>
<td>$3,694,237</td>
<td>$1,213,091</td>
<td>$97,217</td>
</tr>
<tr>
<td>FY 2010</td>
<td>50</td>
<td>$4,436,437</td>
<td>$6,351,762</td>
<td>$1,290,048</td>
<td>$127,035</td>
</tr>
<tr>
<td>FY 2011</td>
<td>42</td>
<td>$7,232,916</td>
<td>$9,122,955</td>
<td>$4,411,198</td>
<td>$217,213</td>
</tr>
<tr>
<td>FY 2012</td>
<td>25</td>
<td>$3,447,689</td>
<td>$3,672,400</td>
<td>$1,039,067</td>
<td>$146,896</td>
</tr>
<tr>
<td>5-Year Total</td>
<td>192</td>
<td>$23,618,293</td>
<td>$29,015,583</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Distributions to MIT from Estates and Outside Trusts

<table>
<thead>
<tr>
<th>Fiscal Year (June 30)</th>
<th>Estate Distributions</th>
<th>Trust Distributions</th>
<th>Perpetual Trust Distributions</th>
<th>Total Distributions</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 2008</td>
<td>$5,557,659</td>
<td>$19,321,632</td>
<td>$1,449,049</td>
<td>$26,328,340</td>
</tr>
<tr>
<td>FY 2009</td>
<td>$11,726,510</td>
<td>$8,669,593</td>
<td>$1,197,076</td>
<td>$21,593,179</td>
</tr>
<tr>
<td>FY 2010</td>
<td>$16,239,645</td>
<td>$8,103,531</td>
<td>$1,211,326</td>
<td>$25,554,502</td>
</tr>
<tr>
<td>FY 2011</td>
<td>$1,871,466</td>
<td>$8,267,878</td>
<td>$1,202,107</td>
<td>$11,341,451</td>
</tr>
<tr>
<td>FY 2012</td>
<td>$10,168,913</td>
<td>$14,527,301</td>
<td>$1,954,696</td>
<td>$26,650,911</td>
</tr>
<tr>
<td>5-Year Total</td>
<td>$45,564,193</td>
<td>$58,889,935</td>
<td>$7,014,254</td>
<td>$111,468,383</td>
</tr>
</tbody>
</table>
Thanks to those who give in so many ways

The Katharine Dexter McCormick Society is one of several donor recognition societies at MIT. The William Barton Rogers Society recognizes those who make gifts of $1,000 or more a year, and the 1861 Circle recognizes donors who have made gifts for 5 consecutive years. I would like to recognize the KDMS “triple crown winners”—the 318 who are members of all 3 of these giving societies, with special appreciation to members of the Class of 1968, with 18 classmates who are members of all 3 societies. These folks have not only made provisions for future gifts to MIT, but also give generously in their lifetimes, and give regularly. They have the benefit of seeing the impact of their gifts. As the end of the calendar year approaches, I hope that you will consider including MIT in your annual philanthropic priorities, this and every year. And to those who are already doing this, I offer a hearty thank you.

Do you have a personal story you would like to share with others in the KDMS Newsletter? If so, please contact Bonny Kellermann.
Under the Dome:
MIT News

Inauguration of President L. Rafael Reif

L. Rafael Reif was inaugurated as the 17th president of MIT on September 21. The inaugural celebration theme was One Community: Together in Service. Among inaugural events were symposia on Infinite Innovation, A Globally Engaged MIT, and The Future of Education; a concert by the Venezuelan Brass Ensemble of the Simón Bolívar Music Foundation; the Beaver Dash (a 5K plus a few smoots to benefit Habitat for Humanity); a campus quest competition; and a global barbeque.

More at:
web.mit.edu/inauguration/inauguration.html
web.mit.edu/inauguration/news.html
web.mit.edu/inauguration/symposia.html

New Provost Chris A. Kaiser PhD ’87

One of President Reif’s first orders of business was to name a new provost. He appointed Professor Chris A. Kaiser, longtime member of the MIT biology faculty. Kaiser led the Department of Biology through a period of innovation and renewal in his eight years as department head.

More at:
web.mit.edu/newsoffice/2012/kaiser-named-provost-0627.html
David Woodruff Returns to MIT Resource Development

David Woodruff ’78 is MIT’s new Associate Vice President and COO for Resource Development. He is second-in-command to Jeffrey Newton, Vice President of Resource Development, and is responsible for strategic thinking, campaign planning, team leadership, and fiscal management. Most recently, Woodruff served as Dean of Resource Development at the Harvard School of Public Health, and as Executive Director and COO for Development at the Massachusetts General Hospital. Says Woodruff, who had worked at MIT from 1984 to 2002 in the Offices of Campaign Giving and Corporate Relations, “I have seen the light and have returned home.”

edX/MITx

edX is the collaborative endeavor of MIT and Harvard, with participating universities as members. Led by its president, MIT Professor Anant Agarwal and a governing board, edX is also the platform—a combination of technologies and services along with innovative virtual laboratories and research on educational innovation—that hosts courses posted online by MIT, Harvard, and other “X universities.” In addition, edX refers to the website where online learners access courses.

MITx refers to the MIT courses on edX. MITx is led by Chancellor Eric Grimson, PhD ’80, who is assisted by a working group of MIT faculty from all five schools and current MIT students. MITx is also an umbrella term referring to a variety of MIT faculty-led activities to create online educational content, experiment with new formats and deliveries, and conduct research into online learning.

As of early November, new partners to edX are the University of California at Berkeley, and the University of Texas System, which includes the University of Texas at Austin, the UT Southwestern Medical Center, and the UT MD Anderson Cancer Center.
edX has enrolled more than one-half million learners as of Fall 2012.

Watch at:
www.edx.org

MIT Faculty Presentations
Faculty presentations are available online at video.mit.edu. Here is a recent sampling:

The World’s Chemistry in Our Hands: Global Environmental Challenges Past and Future
Professor Susan Solomon, Ellen Swallow Richards Professor of Atmospheric Chemistry & Climate Science
September 13, 2012
Watch at:

The Changing Brain: Learning, Memory, and Wisdom
Professor John Gabrieli, McGovern Institute Investigator and Grover Hermann Professor in the Harvard-MIT Division of Health Sciences and Technology
October 5, 2012
Watch at:
techtv.mit.edu/videos/21207-the-aging-brain-learning-memory-and-wisdom
Faculty Forum Online
Faculty Forum Online at the Infinite Connection offers video archives of compelling interviews with MIT faculty. Recent additions include:

Impact of the Presidential Election on Tax and Health Policy
Andrea Louise Campbell, Professor of Political Science
October 3, 2012
Watch at:
alum.mit.edu/learn/facultyforum/online/election-impact

My Five Dinners with Ahmadinejad
James Walsh, PhD ‘00, Research Associate, MIT Security Studies Program
June 4, 2012
Watch at:
alum.mit.edu/learn/facultyforum/online/nuclear-weapons

Alone Together: Why We Expect More from Technology and Less from Each Other
Sherry Turkle, Abby Rockefeller Mauzé Professor of the Social Studies of Science and Technology, Program in Science, Technology, and Society
May 2, 2012
Watch at:
alum.mit.edu/learn/facultyforum/online/alonegether
MIT Museum
You’re invited to visit the MIT Museum for Second Fridays every month, when the museum is open late and admission is free between 5-8 pm. These evenings feature performances, demonstrations, and lectures throughout our galleries, and curator-led tours of new exhibits.

Keep an eye out for events during National Engineers Week (February 18-23, 2013) when the Museum offers hands-on activities, workshops, and demonstrations, usually with MIT students leading the way. Marvin C. ’51 and Joanne Grossman support National Engineers Week programs at the MIT Museum.

As a founder of the Cambridge Science Festival, the museum will be hosting a range of performances, classes, receptions, workshops, and activities during next year’s festival, to be held April 12-21.

In the spring, the new Hidden Heroes exhibit will feature everyday items that usually aren’t worth a second thought, but which have immense utility and sustainability. It opens on April 13, 2013, and runs through August.

The MIT Museum also has many wonderful permanent exhibits to enjoy, including holograms, kinetic art sculptures, and historic robots. Did you know that it is always free to those with an MIT ID, including alumni? If you don’t have an MIT ID but would like information about museum admission, contact Bonny Kellermann.

More at: mit.edu/museum
Institute For Medical Engineering And Science (IMES) Launched

MIT established IMES in July 2012 to both increase the visibility and effectiveness of research and education at the crossroads of medicine, engineering, and science, and to serve as a robust home for the Harvard-MIT Health Science and Technology (HST) program. A key Institute objective is to merge its strengths in engineering, basic science, innovation, and entrepreneurship with clinical practice and research by developing strategic partnerships with Boston-area hospitals and biotech and medical device companies. The convergence of multidisciplinary approaches, from discovery to deployment of therapies and diagnostics, accelerates innovation in health care and creates a unique educational environment. IMES will be administratively based in the School of Engineering, and will include participation from across MIT.

More at:
imes.mit.edu
Campus Annual Event

KDMS Appreciation Day 2012

With almost 100 alumni and friends in attendance, the fifth annual Katherine Dexter McCormick Society Appreciation Event was held on Sunday, September 23.

Chancellor Eric Grimson, PhD ’80, hosted the event, and discussed MIT’s strategic international partnerships: the Masdar Institute in Abu Dhabi, the Singapore-MIT Alliance for Research and Technology (SMART), Singapore University of Technology and Design (SUTD), and Skolkovo Institute of Science and Technology (SkTech) in the Russian Federation. These partnerships offer research collaborations and give the Institute an opportunity to help build new technological institutions around the world by sharing some of MIT’s “secret sauce.”

Grimson also updated the audience about MITx and edX, MIT’s newest online learning initiatives. MIT pioneered online learning with
OpenCourseWare (OCW) some 10 years ago as a way to share its teaching resources around the world. 125 million unique users from 196 countries have visited OCW, with 1.5 million people (including a number of current MIT students) using it every month.

As provost, President L. Rafael Reif realized that online tools could change the educational experience for MIT students. With Reif’s encouragement, MIT undertook a series of experiments with the premise that online lectures, labs, and problem sets would enable students to engage with the course materials in ways that were best for their learning style. Faculty can review student progress on interactive online dashboards to see where students are stymied. This allows classroom time with faculty to be spent on more meaningful interactions. What time of day was most popular for students to listen to lectures? The answer surprised many: 2 a.m.

MITx was launched to provide a nonprofit opportunity for online education. MIT then partnered with Harvard to create edX (UC Berkeley and the University of Texas System are now edX members). What is the relationship? MITx provides MIT course content, and edX is an open source technology platform that offers access to learners around the world, analogous to how the printing press disseminated learning through the written word. The MITx experience is by no means a substitute for the campus residential experience, but rather is about finding ways to help and enhance how students learn. The fact that the whole world benefits is a plus.
6.002x was the first MIT course offered by MITx. More than 154,000 people registered for the course, and more than 7,000 completed it. 3.091x and 6.00x began this fall. To stay abreast of MITx and edX as more courses and partner institutions are added, please visit www.edx.org.

Attendees also heard welcoming remarks from Bonny Kellerman ’72, Director of the McCormick Society; Judy Sager, Director of Gift Planning, MIT Resource Development; and Sherwin Greenblatt ’62, Chair of the McCormick Society, who shared a message from President Reif (see page 18).

**Keynote Speaker Ian Waitz**

“I may not know the future, but I can tell you in which directions the MIT School of Engineering is helping to push it,” remarked keynote speaker Ian Waitz, Dean of the School of Engineering, and Jerome C. Hunsaker Professor of Aeronautics and Astronautics. Waitz paid tribute to the many contributions—both intellectual and financial—made by generations of faculty, students, alumni, and friends over the past 150 years, and offered a compelling glimpse into the future.
Dean Waitz described the School of Engineering’s first 75 years as “building infrastructure,” the second 75 as “building industries,” and the 75 ahead as “building a better planet,” stressing the need to address complex multidisciplinary challenges, for example, in energy, health care, information, national security, and the environment. From there, Waitz presented a strong case for MIT’s engineers and engineering education to meet the challenge.

The School of Engineering’s position within the Institute is impressive. It represents 37% of all MIT faculty, 46% of undergraduates, 45% of graduate students, and 54% of on-campus research volume. “What unifies the School,” says Dean Waitz, “is that we are change agents. We create new ways to solve problems to change the world for the better.” An intensely collaborative and multidisciplinary approach is essential to finding novel solutions for complex and difficult problems.

As an example of innovative, collaborative thinking in energy research, Dean Waitz described the work of Angela M. Belcher, W. M. Keck Professor of Energy, Department of Materials Science &
Engineering and Biological Engineering, and Paula T. Hammond ’84, PhD ’93, David H. Koch Professor in Engineering, Department of Chemical Engineering, who genetically engineer viruses in order to build batteries, drawing on many disciplines, including biology, materials science and engineering, biological engineering, chemical engineering, and electrical engineering. He also described the work of Vladimir Bulović, Director, Microsystems Technology Laboratories, Professor and MacVicar Fellow, Electrical Engineering and Computer Science, and Moungi G. Bawendi, Lester Wolfe Professor of Chemistry, who are using quantum dot optoelectronics to design more efficient light bulbs that more closely resemble traditional incandescent lighting. These projects may “sound like science fiction,” but they are typical of ongoing research in labs across the School and the Institute.

Looking toward the next decade, the School of Engineering is focusing on four strategic thrusts:

- **Excellence of People**: attracting and providing resources to promote the success of outstanding students and faculty—MIT’s most important assets.

- **Building Intellectual Communities to Build a Better Planet**: creating and enhancing organizations and environments to enable MIT’s various constituencies to work collaboratively on the grand challenges of today and tomorrow.

- **The Future of Innovation**: providing world-class facilities and educational programs for research, and for innovation and entrepreneurship.

- **The Next Revolution in Engineering Education**: advancing residence-based education through the use of new technology and “educating the world” through new forms of online learning, such as MITx and edX.

Waitz concluded with his personal vision for MIT and the School of Engineering in 2020: MIT will continue to be known as the world’s innovation hub, and the place where the future of engineering education
was—and continues to be—invented. He sees MIT Engineering as a change agent that will help solve the world’s most complex challenges, and a place that wholeheartedly supports its greatest asset, MIT students and faculty.

**Let’s Hear From the Students!**

Following his presentation, Waitz moderated a panel discussion with three remarkable engineering students. Gwendolyn Gettliffe, a third-year graduate student in Aero/Astro and winner of the MIT $100K Elevator Pitch contest, described her research on large space structures as well as her ascent to president of the MIT Figure Skating Club even though she did not know how to figure skate when she arrived at MIT. Roberto Meléndez ’12, who grew up in El Salvador and is now a first-year graduate student in Mechanical Engineering, told the group about his field experience in D-Lab, where the goal is to solve problems for the third world by using limited resources, as well as his high-tech
graduate lab research. Roberto came to MIT with no prior sailing experience, but fell in love with the sport after taking a PE class and went on to become a member of the Varsity Sailing Team. Ekaterina (Katia) Paramonova ’13, in Nuclear Science and Engineering and a participant in the Gordon Engineering Leadership (GEL) program, shared the international experiences she gained through MISTI-Russia; what she learned about leadership through the Leadershape Program and GEL; and how she has applied this knowledge to organize communications and conferences between US and Russian students. Our future is certainly in good hands with students like these being educated in MIT’s School of Engineering.

Contact Bonny Kellermann for a copy of Dean Waitz’s PowerPoint presentation or an audio recording of the presentation.
September 23, 2012

To the Members of the Katharine Dexter McCormick Society:

When I arrived on campus 32 years ago, I fell in love with MIT right away. I loved the people, I loved the values — the commitment to excellence and integrity and the instinct always to take the high road — and I loved how the MIT community is energized and elevated by its commitment to service.

As members of the Katharine Dexter McCormick Society, you represent the very best of MIT. I am deeply grateful that by providing us with the confidence of future support, you are helping give MIT the power to advance knowledge, educate students, and serve the nation and the world for generations to come.

In my inaugural address, I outlined some big dreams for MIT — from pioneering the future of online education, to inventing the residential research university of the future, to focusing MIT’s interdisciplinary strength on some of humanity’s great global challenges.

It is, certainly, a big agenda, but I believe it is just the right size for MIT. I know that this community can achieve all this and more. Yet, I know that, more than ever, our success will depend on the dedication, support, and enthusiasm of our alumni and friends.

Thank you again for all that you and the Katharine Dexter McCormick Society have done and will do to advance MIT’s vital mission.

Sincerely,

L. Rafael Reif
Would You Like to Receive Future Newsletters Electronically?

This has the following advantages:

- You will receive the Newsletter sooner.
- You can easily find more information through electronic hyperlinks.
- You can see pictures in full color.
- You will save trees and save MIT money on printing and mailing costs. This money can be used to further MIT’s educational mission.

Let us know if you would like to stop receiving printed copies of the Newsletter and be added to the electronic notification list by contacting kdms@mit.edu. You can always view an electronic copy of the Newsletter from the following website: giving.mit.edu/ways/planning/kdms.
**Upcoming Events**

**Koch Institute with/in/sight SOLUTIONS Lecture Series**

Explores the intersections where science meets engineering, clinical practice meets urgent patient need, entrepreneurial drive meets venture capital, and imaging technology meets artistic vision.

---

**January 23, 2013, San Francisco area**

“Novel Devices and Tools for the Management of Cancer”

**Speaker:**

Professor Michael J. Cima, David H. Koch Professor of Engineering and Sumitomo Electric Industries Professor of Engineering

Presented in collaboration with the MIT Club of Northern California.

For details, visit [northerncalifornia.alumclub.mit.edu](http://northerncalifornia.alumclub.mit.edu)

---

**March 21, 2013 6:00-8:30 pm at MIT**

**with/in/sight SCIENCE Image Awards**

New images selected for the Koch Institute Public Galleries will be unveiled. Image creators will give brief presentations on the science behind the works.

For details, visit [ki.mit.edu/news/events/withinsight](http://ki.mit.edu/news/events/withinsight)

---

Contact [Bonny Kellermann](mailto:bonny.kellermann@mit.edu) for more information about these events.
Remarks
From Sherwin Greenblatt ’62
KDMS Chair

On September 21, I had the privilege of attending the inauguration of L. Rafael Reif as MIT’s 17th president. I was so proud to see a long-time faculty member, an accomplished and respected provost, and a really nice guy receive this great honor. But he inherits a great challenge. As the 21st century unfolds, the technology wave that has swept through all of our lives and our professions has now landed upon the field of higher education and promises to create a revolution in college life as we knew it. Learning at MIT in 10 years will be nothing like the MIT that we experienced. None of us knows how that revolution will unfold, but I am sure it will be exciting to ride along and watch what happens.

I have a special interest in this challenge because my life has taken me from the business world to the academic world, and connecting the two is particularly exciting.

I started my professional career as an engineer but became a businessman early on. When I retired 10 years ago, I wanted to use the skills that I had acquired to pursue those aspects of my career that I particularly enjoyed—but as a retiree—not a worker. I was particularly excited about taking an idea—sometimes one that seemed totally crazy—and developing the technology, the product, the marketing and sales plans, and then executing these ideas in a way that somehow changes the world. That’s a tall order, but the Boston/Cambridge area is teeming with people doing just that.
A good colleague of mine and an MIT Sloan School graduate, Alec Dingee ’52, recruited me into the Venture Mentoring Service (VMS), a program that he and Professor David H. Staelin ’60, SM ’61, ScD ’65 started at MIT in 2000. It addressed just those issues through the use of volunteer mentors who coach and support ventures started by members of the MIT community in the New England area. I found the activity so satisfying that I soon became the volunteer director of the program.

Part of my duty was to promote VMS to key individuals within MIT. Department heads were a good source of referrals to our program, so in the summer of 2005, I made a presentation to the department head of Electrical Engineering and Computer Science (Course VI). That was Rafael Reif. He seemed interested, even enthused about our program and promised to promote it to faculty and students interested in entrepreneurship. I thought, “Another good contact—job well done.”

Two weeks later, our then new president, Susan Hockfield, announced the selection of her new provost—Rafael Reif! I was happy for Rafael but in truth I thought, “I’ve wasted my time, now I’ll have to make the same presentation to Rafael’s successor.”

A few weeks after that I received a call from the president’s office—she wanted to see me the next day. I thought I was in big trouble—but couldn’t figure out what I had done. It turns out that MIT’s executive vice president had resigned and Rafael, having remembered our meeting, suggested that I might fill in as an interim EVP. So in August of 2005 I began working for MIT. What an incredible experience that was.

Rafael and I were both new to our jobs and worked together to learn how best to serve the Institute. Rafael proved to be a quick learner and incredibly skilled at working with sometimes very difficult individuals. I marveled at how he could take what looked to me like intractable differences and meld agreement and make progress on tough issues. He was and is a master! I wholeheartedly support his selection as MIT’s president and I know that he will rise to this new challenge and do an outstanding job.
Today our new president faces those 21st century challenges shared by all American research universities. In his inaugural address, Rafael highlighted those challenges and vowed to tackle them head on. He specifically addressed the educational opportunities offered through online technologies. But Rafael proposed going beyond the current rage among universities to make their courses available online to everyone, everywhere. He specifically proposed that MIT tackle the more significant problems that the universities themselves face and posed four fundamental questions:

1. *How can we blend new educational delivery methods with MIT’s traditional, hands-on, apprenticeship model to make residential education even more effective?*

2. *Can we employ new educational technologies to offer our undergraduates an even more holistic educational experience—a deeper grounding in human society that will make all of us—students and educators—even more effective at practicing our disciplinary expertise?*

3. *Can we learn enough about learning itself to actually lower the cost of residential education, while improving its quality? In other words, can these new technologies help us do what we do well, and do it even better?*

4. *Can they help us do things we can only dream of doing today?*

I was struck by how simple and direct these questions are, and yet they encompass the totality of the problem. It ushers in an exciting new field of scientific research and engineering development. If MIT finds the answers to these, we will have made a fundamental advance to the entire field of education, and a breakthrough in the paradigm of higher education today. I certainly hope to see that happen.