Researchers at MIT have demonstrated wireless power transmission, which could free cell phones and portable electronics from wired recharging.

Scientists create embryonic stem cells without destroying embryos

Scientists have created embryonic stem cells in mice without destroying embryos in the process, potentially removing the major controversy over work in this field. Embryonic stem cells are special because they are pluripotent, meaning they can develop into virtually any kind of tissue type. They therefore offer the promise of customized cells for therapy.

The work, which appears in the June 6 online issue of Nature, was led by Rudolf Jaenisch, a member of the Whitehead Institute and a professor of biology at MIT.

"Therapeutic cloning" offers the hope of one day being able to create customized embryonic stem cells with a patient’s own DNA. Here, an individual’s DNA would be placed into an egg, resulting in a blastocyst that houses a supply of stem cells. But to access these cells, researchers must destroy a viable embryo.

Now, Jaenisch and colleagues have demonstrated that embryonic stem cells can be created without eggs. By

Eppinger is MIT Sloan interim dean; deputys appointed

In a pair of announcements Tuesday, June 12, Steven D. Eppinger was named the interim dean of the MIT Sloan School of Management and Professors JoAnne Yates and S.P. Kothari were named as the school’s interim deputy deans. Additionally, Professors Roberto Fernandez and Robert S. Findyck will serve as the heads of the school’s behavior and policy sciences and economics, finance and accounting areas, respectively, for the coming academic year. All five appointments are effective July 1.

In an announcement to MIT faculty and staff, Provost L. Rafael Reif noted that as interim dean, Eppinger, currently one of the school’s two deputy deans, would “ensue continued strong leadership during this exciting period in the School’s development.” Eppinger, whom Reif called “respected for both intellectual and administrative leadership,” is the General Motors Leaders for Manufacturing Professor of Management and served as faculty co-director of the Leaders for Manufacturing and System Design and Management Programs from 2001 to 2003 and as codirector of the MIT Institute for Nanotechnology.

Lerman is new dean for graduate students

Chancellor Phillip L. Clay announced the appointment of Steven R. Lerman, the Class of 1992 Distinguished Professor of Civil and Environmental Engineering and current chair of the MIT Faculty, as the Institute’s next dean for graduate students, effective July 1.

Writing to graduate students, faculty and staff on Monday, June 11, Clay noted that Lerman would bring to his new role “both exceptional knowledge of MIT and deep understanding of the full range of issues in graduate education. His experience and passion will be critical as we develop new ways to provide a richer and more supportive environment for our graduate student community.”

Lerman himself said, “I am truly excited about the prospect of working within the MIT administration on issues of graduate education and research. The work that Ike Colbert has done in creating a strong sense of graduate community has been truly extraordinary, and I hope to build on his great accomplishments.” He and his wife, Lori Lerman, have served as house-
Reunion classes increase giving by $7M

Nancy DuVergne Smith
MIT Alumni Association

From Tech Night at the Pops to families merely competing during Tech Challenge games, more than 3,200 alumni and guests gathered last weekend to renew their MIT connections. They also honored this lifelong tie to the Institute as they announced class giving results at the annual Tech Day luncheon at the Johnson Athletic Center June 9. In all, the classes from 1922 through 2007 donated a collective $53,869,125—more than $7 million above last year’s June 9. In all, the classes from 1922 through 2007 donated $53,869,125—more than $7 million above last year’s giving rate. Their donation totaled $8,848,145, and the 35th reunion Class of ’72 with $8,902,542; the 45th reunion Class of ’62 with $3,774,133. The 60th reunion Class of ’47 reached a notable participation level at 81.6 percent.

President Susan Hockfield thanked senior class president Susan Shin ’07 during Commencement for the gift and the 10-month fundraising effort. “Thank you very much for the enthusiasm that 52 percent represents,” she said.

Three classes set new giving records: the 80th reunion Class of ’27 with $8,902,542, the 45th reunion Class of ’62 with $8,848,145, and the 35th reunion Class of ’72 with $3,774,133. The 90th reunion Class of ’47 reached a notable participation level at 81.6 percent.

Tang also applauded the strong results of the MIT10 Power of Participation challenge. Tang had pledged to contribute $500,000 to support students at MIT if undergraduates who earned their degrees in the past 10 years increased their collective participation by 50 percent to 3,000 donors. Although the challenge extends until June 30, Tang released $500,000 to acknowledge the 2,500 donors who have given $384,033 as of June 11. “Some said that achieving an increase to 3,000 donors would be impossible,” Tang noted. “My checkbook indicates the naysayers were wrong!”

Corporate announces faculty promotions

The MIT Corporation’s Executive Committee has approved the following faculty members for promotion. All promotions are effective July 1.

Promotions to tenure

Unless otherwise noted, all promotions are from associate professor without tenure to associate professor with tenure.

Architecture and Planning: John Emanuel Fernan dez, Joseph A. Paradiso, Deb Kumar Roy.

Engineering: Moe Z. Win, Vladimir Bulovic, Erik D. Demaine, Michael D. Ernst, Piotr Indyk, David J. Per rault, Nicola Marzari, Christopher A. Schuh.

Humanities, Arts, and Social Sciences: George-Marinos Angelopoulos, Amy Finstein (from assistant professor), Joan Werning (from assistant professor), Mahomet Yildiz, Adam J. Berinsky, David I. Kaiser, Thomas Leven son (as full professor).

Management (Sloan): Joseph Weber

Science: J. Troy Littleton, Joshua B. Tenenbaum (from assistant professor), Martin Z. Bazant, Alexander Post nikov, Gunther Roland, Senthil Todadri (from assistant professor), Vadim Valerie.

Tenured appointments

Architecture and Planning: Rahul Mehrotra, associate professor; Nader Tehrani, associate professor; Dennis M. Frenchman, full professor.

Humanities, Arts, and Social Sciences: Roger White, associate professor.

Science: Dianne K. Newman, full professor; Jonas C. Peters, full professor; Sara Seager, associate professor; Ju Lee Kim, associate professor; Paul A. Seidel, full professor.

Promotions to associate professor without tenure (from assistant professor)


Humanities, Arts, and Social Sciences: Jay Scheib, Sarah Song, David S. Jones.

Management (Sloan): Jared R. Curban, Shane Frederick, David Garmauskas, Dink Jenter, David Mcdonald.


Promotions to full professor (from associate professor with tenure)


Humanities, Arts, and Social Sciences: Daniel Fox, Kai von Fintel, Thomas DeFranzo.

Science: Angelika Amon, Andrei Tokmakoff.
Ceremony ‘hoods’ Ph.D.s, lauds families

Anne Trafton
News Office

MIT President Susan Hockfield welcomed more than 500 new doctorate recipients into “a community of scholars” during a joyful hooding ceremony on Thursday, June 7, in Johnson Athletic Center.

The newly minted Ph.D. and Sc.D. graduates represent “not just the future of knowledge, but also the future of the academy,” Hockfield said. “These people will be leaders of the academy in years to come.”

Hockfield applauded the degree recipients for following the example of poet Robert Frost in choosing the road “less traveled by.”

“The paths you have chosen are paths that have wanted wear—things that wanted to be discovered and needed to be discovered,” she said. “Thank you for choosing the less worn path, and congratulations for successfully navigating it.”

Recognizing the sacrifices made by families of the new doctorates, Hockfield asked the degree recipients to stand and acknowledge all the support their families have given them.

Those families, in turn, acknowledged the years of hard work that their loved ones devoted to their graduate study. It was an especially proud moment for the Nolte family of St. Louis, who came out to see Adam Nolte receive his Ph.D. in materials science and engineering. Last weekend, Nolte’s sister earned her dental degree from Southern Illinois University at Edwardsville.

“We’re really fortunate because we’ve had two doctors in one week,” said Nolte’s mother, Denise Nolte. After watching her daughter receive her degree on Saturday, “we got on a plane and came out here.”

For a while, the family feared that the two doctoral degrees would be awarded on the same day. “What are the odds of something like that happening?” Nolte laughed, “we got on a plane and came out here.”

“We don’t get to see them very often, so this is precious,” Nolte said.

One-year-old Hudson waves his father’s mortarboard in celebration of Jason Bartolomei’s new Ph.D. for his work in the Engineering Systems Division. With Bartolomei, from left, are sons Isaac, 9, and Graham, 7, three-year-old daughter Gigi and wife Tracey.

Grad student revives Rivera’s 1935 mural

Stephanie Schorow
News Office Correspondent

It was perhaps the most famous act of artistic destruction in modern history. After renowned Mexican artist Diego Rivera refused to alter a mural commissioned for the Rockefeller Center in New York City, the painter was sent packing and the 1935 mural demolished.

Ben Wood, a second-year graduate student in visual arts in the Department of Architecture, has long been fascinated by murals. He became intrigued with the controversy over Rivera’s original commission and the copy the artist later painted in the Palacio De Bellas Artes Museum in Mexico City.

The controversy of Rivera’s mural has been depicted in two recent films, “Frida” and “The Cradle Will Rock.” It is well known that the Rockefeller Center never accepted the Rivera copy. In fact, Wood discovered that the mural’s current location is less well known. It is hidden for more than 200 years behind an altar in San Francisco’s Mission Dolores.

Wood started working on the Rivera project in 2006; he conceived of it as a proposal to the Rockefeller Center to re-create the mural there. It didn’t get accepted by the center, but “they didn’t shut me down completely,” he said. “I’m going to propose it again next year.”

In his research in the Rockefeller Center archives, Wood obtained Rivera’s original proposal for the mural, in which the artist described how man, represented as a skilled worker in the center of the mural, “looks with uncertainty but hope toward the future.” He did numerous interviews here and in Mexico. He went to California to interview one of Diego’s assistants and he traveled to Mexico to interview two of Diego’s grandchildren and his daughter. He talked to MIT’s Noam Chomsky and to his own advisor, Krzysztof Wodiczko, MIT professor of visual arts. Wood’s aim was to understand why the mural was hidden.

Graduate student Ben Wood shows his drawings for the Diego Rivera mural, ‘Man at the Crossroads’ (1933).
The bell tolled for one academic latecomer, whose ‘hack’ unfurled as Commencement began: six banners reading, left to right, ‘Will have thesis finished pronto—IHTFP.’

**Vest guides grad to optimism, service**

President Emeritus Charles M. Vest delivered the commencement address on June 8. Below is an excerpt:

**Before I begin, I must tell all of you that I have listened to more Commencement speeches that you can imagine. I have also invited more Commencement speakers to campuses than you can imagine. From this I learned that students usually feel that they were shortchanged. Hypothetically, just hypothetically, they might say things like “Jeez, Harvard got two fillies and all we got was one Chuck.”**

But it’s OK, because I want to speak to you, not to the world. And, because this is MIT, I am going to talk to you about big things—namely opportunity and service.

Here are two things I know about opportunity:

- First, MIT is the greatest place on the planet when it comes to radiating education, opportunity and service.
- Second, you never know when or how opportunity will materialize. Don’t try to plan it or predict it because you’ll undoubtedly be wrong.

How do I know these two things about opportunity? I know them because of the two letters I received from MIT during one 23-year period. I received the first letter from MIT in 1988. It informed me that the Institute was not interested in my application to become an assistant professor.

But 22 years later, in 1990, a second letter from MIT…this one asked me to serve as MIT’s president. Not in my wildest dreams as a young faculty member could I have imagined that one day I would be called to serve as president of this remarkable institution.

So always read your mail from MIT. There is an outside chance that instead of asking for an alumni donation, it may ask you to be president…or perhaps commencement speaker.

But my real point here is that education—and MIT—opened amazing doors of opportunities to me—opportunity to learn, opportunity to teach and opportunity to serve a greater good.

And I want you to know that the people I have most valued working and with are my faculty colleagues: the intellectual leaders, the teachers and scholars who are the essence of MIT, and who give you and gave me the opportunity to literally change the world.

The opportunities for which they have prepared you will be as astonishingly and as many of them are beyond today’s imagination. One reason is that they are mostly global in scale and very complex. Another reason is the continuous acceleration of technological progress. The future is rushing at us more quickly every year.

But along with all this acceleration and exploding information, you have entirely new tools. Many of these new tools come from information technology or from 21st-century life science.

Your generation is already leading us into a new domain of global interaction. I am convinced that your way of communicating and working: Second Life, Wikipe...you Tube, social networking, social computing, open innovation…these things reflect a fundamental transformation.

But it is also the case that the information you are given today is a guide to trans... information. You can use it to make money. You can use it to reveal in catching politicians and movie stars making stupid mistakes. Or you can use it to bring what James Su... and tell the world what you want to do in order to build a more inclusive, engaged and more egalitarian world. It’s your choice.

MIT President Susan Hockfield greeted new graduates. She presented S.B., S.M. and advanced degrees in science and engineering and also presented advanced degrees from the School of Science, Woods Hole Oceanographic Institution and the Whittaker College of Health Sciences and Technology.

**Continued from Page 1**

**Charles M. Vest**

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**Pomp and other circumstances**

Just at the moment that Chair of the MIT Corporation Dana G. Mead took the podium, six vertical white cloth panels unfurled from the portico of Killian Hall. The mini-hack read, with one word per panel: “Will have thesis finished pronto—IHTFP.”

Following Vest’s address, Eric Weese, president of the Graduate Student Council, spoke to the assembled graduates, friends and relatives. He said while he was surf... the Web, he came across a quote from someone earning $120,000 a year who said that he didn’t seem to be earning enough to have any fun. “It’s likely that some of us will not have all that we want.” Weese said, “but it’s also likely most of us will have what we need. We should keep in mind that we are among the most fortunate people ever.”

Susan J. Shin, president of the Class of 2007, presented MIT President Susan Hockfield with a check for $20,861, the senior class gift. More than half of the graduating class contributed, up from around 30 percent in recent years.

Among the graduating students, Shin said, were individuals who published research, won patents and battled life-threatening illnesses, but as a whole, “When it came to choosing between giving up and hoping, we made the right choice…We conquered our fears and doubts. We have survived the Institute.”

Hockfield delivered the traditional charge to the graduates of MIT: “It is my fervent hope that, as you join new communities, you will transmit to them the values of the MIT community,” she said. “That you will make the touchstone of your judgments. That you will exemplify the pursuit of truth and an unwavering drive for excellence. And that you will continue to demonstrate the value of good, old-fashioned hard work.

The Rev. Johanna Kiefner, MIT Lutheran chaplain, delivered the Invocation, and the a cappella group the Standing Voices sang the national anthem. The MIT Brass Ensemble, led by affiliated artist, Lucy Isaacs, provided accompaniment for the processional and the rest of the ceremonies.

Hockfield presented the following degrees: bachelor of science, bachelor of science/master of science, bachelor of science/master of engineering, and advanced degrees in the School of Science, the Woods Hole Oceanographic Institution and the Whitaker College of Health Sciences and Technology.

Provost L. Rafael Reif awarded advanced degrees in the Schools of Architecture and Planning; Engineering, Humanities, Arts, and Social Sciences; and the MIT Sloan School of Management.

Grace Kenney, S.B. in chemistry, applied science to hair art. She planned to use serious product to get her hair to spike up through the frame of her cap.
Hockfield's charge to the graduates

Below is the text of MIT President Susan Hockfield's charge to the graduates, delivered at MIT's 141st Commencement held June 8.

I want to speak to those of you graduating today about your path here at MIT and the path that leads from MIT into the world. Of course, before you arrived at MIT, each of you had already demonstrated significant talents—that is why we invited you to join our community. Once you arrived here you took up MIT's challenges, and—working, I am certain, harder than you ever have before—you have taken your academic accomplishments to new levels. Today's ceremony is our community's expression of our pride in what you have achieved.

Our appreciation of your accomplishments would be far too narrow if it included only your academic successes. Beyond the classroom and the laboratory, you have also excelled on the stage and on the playing field, in service projects and in entrepreneurship. And, what is perhaps most important, you have also begun to distinguish yourselves as leaders.

MIT itself has a deep commitment to leadership, demonstrated time and again, in many ways:

• In the foundational science that led to new targeted cancer therapies, Gleevec for leukemia and Herceptin for breast cancer;
• In innovative plans to rebuild devastated New Orleans neighborhoods;
• In countless businesses, from start-ups in Kendall Square to industry giants across the technology landscape;
• In fresh approaches to meeting the world's needs, including new technologies for energy storage and for solar energy conversion;
• And in novel uses of technology to convey the immortal truths of the humanities.

And in many different ways—from the UBOP program to the S100K competition, from 2007 to the Public Service Center—our goal has been to teach you how to become leaders yourselves.

We have done this, graduates of MIT, because the world today needs your leadership. We need your leadership as we face the challenges of an increasingly complex and interdependent world. And we need your leadership to develop new ways to bridge old divides—not only between peoples and nations, but also between technology and policy. MIT's enduring motto, "mens et manus"—"Mind and Hand"—is a reminder that leadership in the modern world depends critically on integrating across different perspectives for the common good.

From one point of view, the leadership we call you to assume today might appear to be an obligation, perhaps a burden. But that would be a grave mistake. Leadership is a privilege and it is a joy. And I can assure you that in using your talents to serve others, you will find the most enduring of personal satisfactions.

Even as you leave this place to become your generation's leaders, you will remain members of this community. At the close of this morning's ceremony, Martin Tang, the President of the Alumni Association, will formally welcome you into the Association's membership. And we hope that your lives will be enriched by an ongoing connection to the Institute.

And it is my fervent hope that as you join new communities, you will transmit to them the values that define the MIT community. That you will make integrity the touchstone of your judgments. That you will exemplify the pursuit of truth and the unwavering drive for excellence. And that you will continue to demonstrate the value of good, old-fashioned hard work.

Beyond these great aspirations for you, MIT's founding vision was both practical and idealistic in its insistence that we work must, as engraved across the frieze of Lobby 7, advance “industry, the arts, agriculture, and commerce.” That optimism for a better future has made MIT a beacon visible the world over. This week, we will celebrate MIT's optimism for the future by re-lighting the great dome.

The lighting of the dome signals the importance of what we do. Here at MIT, we see up close, every day, the countless ways that science and technology benefit humankind. But if we are to realize our optimism, we need to kindle in others the same love and passion for truth and discovery, for creativity and problem-solving, that brought us all here. I hope that each of you will embrace this challenge as your own—that you will let your light shine out to illuminate the paths for others.

I would not set you this challenge if I did not think, and truly believe, that you could meet it. I have tremendous faith in you. Your intelligence, your dedication and your creativity have inspired us during your time here. And I know that in the years to come you will do even more—and surprise and delight us with your further accomplishments here at MIT.

In your own ways, you will continue to demonstrate the value of good, old-fashioned hard work. Beyond these great aspirations for you, MIT's founding vision was both practical and idealistic in its insistence that we work must, as engraved across the frieze of Lobby 7, advance “industry, the arts, agriculture, and commerce.” That optimism for a better future has made MIT a beacon visible the world over. This week, we will celebrate MIT's optimism for the future by re-lighting the great dome.

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For your accomplishments here at MIT, I offer you my heartfelt congratulations, graduates of MIT!
Kabencel Foundation awards MITE $1 million for new curricula
Deborah Halber

When Paul L. Joskow, the Elizabeth and William L. Proctor Professor of Economics, offered a new class on the economics of energy markets, he intended to limit the class to 30 students.

One hundred students showed up on the first day: "I took 30. That's all the seats there are," Joskow said.

The economics class was one of five new energy-related courses offered for the first time this spring, joining approximately 75 others offered across the Institute. There's no doubt that the growth in the amount of energy in demand at MIT. Student enrollment in energy-related classes has tripled since 2002, according to the registrar. But faculty from separate departments and across schools are working to develop interdisciplinary subjects.

"We've been influenced by the Dirk and Charlene Kabencel Foundation, the MIT Energy Initiative (MITE's) Energy Policy Fellows program, and we've got a big boost in its ability to develop new curricula and to bring energy research and policy to the talk force co-chair Jefferson W. Tester, the H.F. Meesheimer Professor of Chemical Engineering.

"Education of a next generation of energy technology innovators, entrepreneurs, policymakers—with a passion for environmental stewardship—and a scientifically literate citizenry will be crucial to our public discourse on energy and environment. It is in this regard that our MITE commitment," said Ernest J. Moniz, the Cecil and Ida Green Professor of Physics and Engineering.

"We're not doing this to satisfy a need in the MIT Sloan faculty in 1988. His educational initiatives have included the creation of resources that are invaluable to the Institute faculty in 1975. His departure from the MIT Sloan faculty was 'a fitting capstone' to nine years of service to the school. The Institute faculty in 1975. His department has honored him for excellence in service housemaster has made him aware of the電腦 capability to represent the themes of the work.

"But, he cautions, "these results are preliminary, and we need to refine the precise method for picking out those rare embryonic stem cells."

"These reprogrammed cells, by all criteria, can be considered embryonic stem cells. For example, the technique used to reprogram cells. For every kind of tissue type, and can produce a large number of cells.

"We were working with tens of thousands of cells," said Jaenisch. "That means we can do this very quickly.

"In all tests...there were no molecular markers distinguishing these two groups," said Meisner.

"Definitive proof came when the team demonstrated that these cells could indeed develop into any kind of tissue cell type.

"Still, many technical hurdles remain for possibly transplanting this whole human body. For example, the technique used to isolate these cells requires a lot of work in human embryonic stem cells.

"This research is supported by the National Institutes of Health, the National Science Foundation, the National Institutes of General Medical Sciences, and the National Institute of Mental Health.

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MURAL

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decorated, that the mural "speak"; the painted figures of men and women, the faces of people interviewed by Wood. On May 18, Wood presented his thesis as a 17-minute video projected on a wall at MIT.

Now Wood has a chance to take his ideas "out West." He is working with the National Museum of Art in Mexico City to create a project on Rivera's mural at the museum to mark the 50th anniversary of Rivera's death in November. He will exhibit his own version of his thesis project, one with the interviewees speaking in Spanish—or will he recreate the mural in an entirely new way, seeking to get the public to view his work. It's his own political, his historical, the intersection of the Rockefeller family, their business interests and the political winds that blew through America during the Depression, Wood acknowledged, adding that they were also "We've seen this Before.

"But Wood seeks to probe more deeply the context of why the mural was created, and who was the head of Lenin that was the reason for it."

Woody also examines Rivera's utopian vision: how, for example, he depicted the man at the crossroads as a white Anglo-Saxon. Woody is keenly interested in what Woody him and his wife were "364,500. For more info, please call John Foley of the Kabcencel Foundation awards MITE $1 million for new curricula...One hundred students showed up on the first day: "I took 30. That's all the seats there are," Joskow said.

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MIT Corporation names new members at meeting

The MIT Corporation, the Institute’s board of trustees, elected eight term members and two life members at its quarterly meeting on Friday morning, June 8, before the Commencement exercises. Dana G. Mead, chair of the Corporation, announced the election results. All memberships are effective July 1. Mead also announced that Abigail P. Johnson was elected earlier in the year to fill an unexpired term that began on January 1.

The new life members are L. Robert Johnson, Class of 1963, and Norman E. Gaut, Class of 1966. Johnson has been an Alumni Association nominee to the Corporation since 1989 and was president of the Alumni Association in 1998-1999. Mead announced that he will serve a five-year term on the Corporation from 2003. Gaut has served for three years on the Board of Trustees of MIT Corporation since 2002. Gaut received his M.S. in 1964 and Ph.D. in 1967, and has been a member of the Corporation since 1962.

It was also announced at the meeting that Harbo Peter Jensen, who has served the Association of Alumni and Alumni of MIT for the past five years, has named the 2007-2008 president of the Association of Alumni and Alumni of MIT. As such, he becomes an ex officio member of the Corporation. Jensen served a previous five-year term on the Corporation from 1999-2004 as an Alumni Association nominee. He succeeds Martin Y. Tang, who retired as the Corporation’s chair in 2004.

Abigail P. Johnson is the new president of the Corporation. Johnson has served for five years as chair of the Corporation, 1998-2004 as an Alumni Association nominee. She and her husband, David Johnson, have been supporters of MIT for many years.

Norman E. Gaut has been an MIT Corporation member since 2004. He is the co-founder of Xenon International, a venture capital firm, and the co-founder and CEO of Kurzweil Technologies, a computer company. He is also a member of the Board of Directors of the MIT Corporation.

L. Robert Johnson is a businessman and investor, and a member of the Board of Directors of the MIT Corporation. He has served on the Board of Directors of the MIT Corporation since 2002.

John W. Jarve is the new president of the Corporation. Jarve has served on the Board of Directors of the MIT Corporation since 2003.

Diana Chapman Walsh is the new president of the Corporation. Walsh has served on the Board of Directors of the MIT Corporation since 2004.

Harbo Peter Jensen is the new president of the Corporation. Jensen has served on the Board of Directors of the MIT Corporation since 2003.

Barun Singh is the new president of the Corporation. Singh has served on the Board of Directors of the MIT Corporation since 2004.

MIT Corporation Development Committee

The MIT Corporation Development Committee is responsible for raising funds for the University. The committee is composed of alumni and friends of the University who are committed to supporting the University’s mission.

The committee is led by the president of the Corporation, who is also the chair of the Committee. The Committee includes representatives from the various schools and departments of the University, as well as from the University’s administration.

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counter. "It was probably the sixth time that month that I was awakened by my cell phone beeping to let me know that I had forgotten to charge it. It occurred to me that it would be so great if the thing took care of its own charging," he said.

So Soljacic started thinking about which physical phenomena could make this a reality.

Various methods of transmitting power wirelessly have been known for centuries. Perhaps the best known example is electromagnetic radiation in the form of radio waves. But while such radiation is excellent for wireless transmission of information, it is very inefficient for power transmission. Since radio waves spread in all directions, a vast majority of the power from such a source would be lost to the environment.

Then Soljacic thought about the phenomenon behind electric motors and power transformers. These devices contain coils that transmit energy to each other by electromagnetic induction: a current running in an emitting coil induces another current in a receiving coil.

He realized that something similar could potentially transfer energy over longer distances. A power transmitter would fill the space around it with a "nonradiative" electromagnetic field. Energy would only be picked up by gadgets specially designed to "resonate" with the field. Most of the energy not picked up by a receiver would be reabsorbed by the emitter. WiTricity is based on that concept.

Two objects of the same resonant frequency tend to exchange energy efficiently. An example would be a child on a swing, which is particularly suitable for everyday applications because most common materials interact very weakly, if at all, with magnetic fields. As a result, interactions with objects other than the transmitter and receiver are suppressed even further, making the system that much more efficient. The fact that magnetic fields interact so weakly with biological organisms is also important for safety considerations," Kurs points out.

The MIT system uses two copper coils, each a self-resonant system. One of them, attached to the power source, is the sending unit. It fills the space around it with a nonradiative magnetic field. That nonradiative field mediates the power exchange with the other receiving coil, specifically designed to "resonate" with the field. With such a design, power transfer still has a limited range. But the researchers expect that power levels more than sufficient to run a laptop can be transferred over room-sized distances, even when environmental objects completely obstruct the line of sight between the two coils.

Said Fisher, "As long as the laptop is in a room equipped with a source of such wireless power, it would charge automatically, without having to be plugged in. In fact, it would not even need a battery to operate inside such a room."

WiTricity is rooted in well-known laws of physics. So why hadn’t anyone thought of the concept before now?

Joannopoulos said, "Portable electronic devices, such as laptops, cell phones, and iPods have become widespread, and they all require batteries that need to be recharged."

This work was funded by the Army Research Office (through the Institute for Soldier Nanotechnologies), the National Science Foundation and the Department of Energy.

Night light

MIT President Susan Hockfield led a ceremony June 9 to re-light Building 10’s iconic Great Dome. The 12 new energy-efficient fixtures use the same amount of electricity needed to run two hair dryers to illuminate the dome, the Roman numerals that spell out 1916 (the year the building opened) and the limestone façade. The new lighting system incorporates energy-saving light-emitting diode (LED) technology and is made available through the generosity of an anonymous donor. The donor also provided funds to help pay for a 40-kilowatt solar photovoltaic array to be connected to MIT’s electrical grid. This new solar power system will ultimately provide three to four times the electrical energy consumed by the dome lighting, according to the chief engineer on the project. The purchase of this solar array also is supported by a grant from the Massachusetts Technology Collaborative.

Biology professor Hazel Sive is named associate dean of the School of Science

Marc Kastner, Donner Professor of Science and head of the physics department, has announced the appointment of biology professor Hazel Sive to the position of associate dean for the School of Science, effective July 1. Sive will be the first associate dean in the school’s history. In her new role she will focus on educational issues and initiatives.

"I am delighted that Professor Sive has agreed to be the first associate dean of the School of Science," said Kastner, who will become the dean of the School of Science on July 1. "She brings a passionate commitment to undergraduate education and is especially dedicated to expanding international educational opportunities for our students. I think she and I will work well together in addressing many challenges facing the school."

Sive is currently chair of the undergraduate program in the department of biology. She has done an “outstanding job running the undergraduate program in biology—she has good ideas and is very effective in bringing them to fruition,” said Professor Chris Kaiser, head of the department of biology. "I look forward to working with her on educational initiatives in the School of Science in her new role as associate dean.”

Sive is a member of the Whitehead Institute for Biomedical Research. She will continue to run an active research program in the Whitehead that focuses on two major topics: development of the extreme anterior (front) of the embryo and development of the nervous system, including the genetic basis for formation of correct brain structure. She uses frogs and zebra-fish to probe these basic processes, which give insight into human birth defects and mental health disorders.

“I am very privileged to be a Member of the Whitehead Institute and a professor at MIT and to be able to perform research in an environment where everything seems possible. I feel privileged to teach and mentor our talented undergraduate, graduate students and postdocs. And I feel privileged to serve MIT further by helping to set directions for the School of Science,” Sive said.

In addition to her research and departmental activities, Sive is program director for a new MIT/South Africa Program. Previously, she served as the co-chair of the MIT Global Education and Opportunities Committee and chair of the Committee on Student Life at MIT. She serves on National Institutes of Health and National Science Foundation grant review panels, as a journal editor and on the Board of the American Association of Anatomists.

Sive earned her Ph.D. from Rockefeller University in 1991 and performed post-doctoral research at the Fred Hutchinson Cancer Center in Seattle. She was named a Searle Scholar and received a National Science Foundation Young Investigator Award. She arrived at MIT and Whitehead in 1991.