 Provost Brown named president of BU

Boston University's trustees named MIT Provost Robert A. Brown as that university's ninth president Saturday, June 4, following a long search. Brown will take the helm at BU on Sept. 1.

This excellent news is the culmination of an intensive, nearly yearlong national search that included direct input from hundreds of faculty members, staff, students, alumni and others within the BU community,” said Alan M. Leventhal, chairman of the BU Board of Trustees, in an e-mail sent to BU alumni June 4. “I am proud of the tireless devotion of the search committee... They have found a world-class scholar and innovative leader in Bob Brown.”

A professor of chemical engineering who was appointed MIT’s provost by former President Charles M. Vest in October 1998, Brown is widely respected, liked and admired by his colleagues at MIT.

“I will simply say that he is the best academic administrator I’ve ever worked with,” said Vest. “He played the key academic management role at MIT during a very complex and important time. His ability to keep budgetary and administrative work focused on the most important academic objectives has served MIT well. His open, personal approach to problem-solving and consensus-building is remarkably successful. He has been a great friend and colleague, and I know that he will flourish as BU’s new president and will move them to the next level. BU is fortunate indeed.”

Brown, who also holds the Warren K. Lewis Professorship in chemical engineering, has spent his career thus far at MIT, joining the faculty in 1979 as an assistant professor and rising through the ranks to department head, dean of engineering and provost. Although his move will take him just across the Charles River, he said it won’t be easy to leave the Institute.

“I am incredibly excited about the wonderful opportunity to lead Boston University, but this excitement is not without some sadness brought on by the terribly difficult act of actually leaving MIT,” said Brown. “MIT is a special place because of the quality of its faculty, students and staff, who are all dedicated to a common mission of excellence in everything they do. It has been an indescribable honor to serve this community as provost, dean and director of energy studies at the Laboratory for Energy and the Environment. Moniz was undersecretary for the U.S. Department of Energy from 1997 to 2001 during the Clinton administration.

“This is arguably the pre-eminent opportunity in the 21st century for bringing science and engineering to bear on human needs,” said Moniz. “Fossil fuels make up 85 percent of the world’s present energy use, and developing countries will greatly increase their use of fossil fuels to meet their economic and social goals. This need for more energy, coupled with the cumulative effects of carbon dioxide emissions from fossil fuel combustion, have the world running headlong toward climate change. By midcentury, we will have a very real problem and we cannot wait until then to find the technological answers.

Hockfield first announced a new energy initiative in her inaugural address May 6, saying that the Institute had a responsibility in her inaugural address May 6, saying that the Institute had a responsibility to address the world's energy problems. The council will develop an outline for an Institute-wide response to the global energy crisis by Feb. 1.

The council will be co-chaired by Chevron Professor Robert C. Armstrong, head of the Department of Chemical Engineering, and Professor Ernest J. Moniz of physics and engineering systems and director of energy studies at the Laboratory for Energy and the Environment. Moniz was undersecretary for the U.S. Department of Energy from 1997 to 2001 during the Clinton administration.

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Hockfield first announced a new energy initiative in her inaugural address May 6, saying that the Institute had a responsibility to address the world’s energy problems. “Over the last 30 years, the words ‘sustainable energy’ have gotten a little tired—not from overuse but from lack of progress. I believe that the country and the world

Thousands graduate in sun-soaked ceremony

Sunny skies and warm breezes welcomed 2,308 men and women receiving 1,107 undergraduate and 1,484 graduate degrees at the 139th MIT Commencement exercises, held Friday, June 3, in Killian Court.

MIT’s Hindu chaplain, Swami Tyagaraja, offered an invocation in Sanskrit and in English that reflected the large international crowd’s spirit of unity and goodwill.

“May we come together for a common purpose. Common he our prayer, common our goal.”

“May the one and the same Divine Reality lead us. May we be granted clear understanding and the courage to pursue the goals of social justice, nonviolence, harmony and peace,” he said.

It was “a great day to graduate,” said Commencement speaker Irwin Jacobs, the co-founder and CEO of Qualcomm, a leader in digital wireless technology. An MIT education is “about the best possible way to prepare yourselves for this very exciting future,” he said.

Offering examples from his own life, Jacobs (S.M. 1957, Sc.D. 1959) encouraged the Class of 2005 to prepare for
Liver cancer kills 500,000 people a year and is one of the five leading causes of cancer deaths worldwide. It is especially common in third-world countries, particularly in Asia and Africa, where aflatoxin contamination of food supplies, such as corn and peanuts, persists.

Wogan has had a distinguished career in the study of the toxicology and chemotherapy of aflatoxins. In 1968, his research group successfully purified aflatoxin B₁, identified its structure, and determined its structure-activity relationship and relevant toxicities. He hypothesized that the high incidence of liver cancer in the developing world could be the result of exposure to aflatoxin.

Wogan’s work on aflatoxin and liver cancer is widely cited as a paradigm for molecular toxicology and epidemiology. Collectively, his studies have had a direct impact worldwide. Food contamination in certain parts of Africa and Asia is especially difficult to control, and Wogan has been keenly interested in developing methods of risk identification and remediation.

Wogan received his bachelor of science degree in biology from Juniata College in Huntington, Pa., in 1951. He later earned his master of science and Ph.D. degree in physiology from the University of Illinois at Urbana-Champaign. In 1961 he accepted a position at the Massachusetts Institute of Technology, and he has been here ever since.

**High hopes**

An oak tree is lifted into a lofty position atop the Stata Center for spring planting on the sixth-floor terrace.

**MIT celebrates Cambridge First Day**

The Cambridge Food Pantry Network’s contributions to the health and dignity of the residents of the City of Cambridge were celebrated at the 11th Annual Cambridge First Day event yesterday in the Stratton Student Center.

The MIT Office of Government and Community Relations and the City of Cambridge Department of Human Service Programs jointly hosted the event.

Chairman of the MIT Corporation Dana G. Mead presented a check for $5,000 from MIT to the Cambridge Economic Opportunity Corps, which oversees the Cambridge Food Pantry Network, to further its mission.

**Construction update**

The summer brings with it a wave of campus construction projects, including the start of work for the Physics, Department of Materials Science and Engineering, Spectroscopy Lab Infrastructure (PDSI), and the addition of first floor men’s restrooms at the intersection of Buildings 6 and 8 will be renovated into a women’s restroom. For details on these and other projects, visit page six.

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**Dibner names fellows**

The Dibner Institute for the History of Science and Technology has announced the appointment of eight senior, six postdoctoral, one science writer and seven graduate student fellows for 2005-06.

Senior fellows and their research areas are:

- Bruno Belhoste, professor d’histoire contemporaine, University Paris X-Vincennes, will study the effects of labs, institutions, schools and major local scientific figures on the scientific activity in France at the end of the 19th and beginning of the 20th centuries.
- Karine Chemla, directrice de recherche at the French National Center for Scientific Research, will work on a book in English examining the history of X-ray crystallography over the past 2,000 years.
- David Friedman, professor in the history, theory and criticism section of MIT’s Department of Architecture, plans a book on the early methods of geometric survey, the development of maps of urban design, and the accuracy of the instruments used.
- Ben Marsden, lecturer in cultural history, University of Aberdeen, Scotland, will work on “W. J. Macquorn Rankine and the Making of Engineering Science.”
- Giovanni Poulton, professor of studies on culture at University La Tuscia in Viterbo, Italy, will work on “Vito Volterra and His Correspondents.”
- Carl Posy, a philosophy professor at Hebrew University, will work on “Kantian Mathematical Themes: A Fair of Chapters in 18th and 19th Century Mathematics.”
- Glen Van Brummelen, a mathematics professor at Bennington College, plans to write a scientific history of trigonometry from Hipparchus to Ptolemy.
- David Wilson, a history professor at Iowa State University, will conduct research for a biography of William Whewell.
- Postdoctoral fellows and their research topics are:
- Sandro Caparrini, mathematics professor at the University of Turin, will write about the direct influence of mechanics and geometrical development on vector calculus.
- Matthew Harper is finishing his dissertation at Texas A&M University; he plans to examine five ancient shipwrecks and trace the development of design methods as recorded in two 15th century Italian treatises.

**Erratum**

In a June 1 story on the State of the Institute Forum, the Administrative Advisory Council II was misidentified as the Administrative Advisory Committee. Tech Talk regrets the error.
Robert Redwine stepping down as dean

After five years as dean of undergraduate education, Professor Robert Redwine of physics has chosen to step down at the end of the fall term to devote himself to teaching and research.

For the last five years, Bob Redwine has brought to his work as dean for undergraduate education the same leadership and wisdom that characterized his earlier excellence that had previously marked his research and teaching in the Department of Physics. "President Susan Hockfield said, "He played a critical role, creating a new office and building it with care and tireless effort over this time have built a strong educational enterprise that benefits all MIT students."

As dean of undergraduate education, Redwine also led the management of the $2.1 billion endowment, the annual $500 million in donations and the annual $2 billion in research, as is evident from the annual reports to the Board of Trustees. "He has a profound impact on almost every faculty and staff member," Armstrong said Brown "has far more experience than any other faculty member in this university."

"In a letter to chemical engineering faculty members from 10 percent to 18 percent."

In May 1997, Institute Professor David Baltimore became president of Caltech. Onetime Provost Mark Wrighton became president of Washington University in St. Louis in April 1995. Alumni are also showing academic leadership. Among others, Lawrence Summers (S.B. ’73) is president of Harvard University, and Shirley Ann Jackson (S.B. ’88, Ph.D. ’73) is president of Rensselaer Polytechnic Institute.

"Bob is a gifted leader," said Alice Gast, provost of MIT. "His legacy includes great- 

Choosing the new provost is the responsibility of President Susan Hockfield, who has invited the MIT community to send her ideas regarding the provost position and possible candidates, as well as thoughts about the key issues that the next provost will need to address. Letters may be sent to her confidentially at the Office of the President, Room 3-208, or via e-mail to provostsearch@mit.edu.

Robert Redwine

Provost Robert A. Brown, left, enjoys a surprise party held Monday, June 6, to congratulate him on his appointment to the presidency of Tufts University. He is chatting with Lawrence S. Bacow, the former chancellor of MIT who now serves as president of Tufts University.

Provost Robert Brown is not the only person recently chosen from MIT's ranks to become president of another university. Robert Bigelow, who served as dean of science at MIT, became president of the University of California at Berkeley in July 2004.

Chancellor Phillip Clay said, "In addition to stewarding critical academic services, Bob has also played a leadership role managing initiatives to implement of the report of the Task Force on Undergraduate Education, the report of the Task Force on Student Life and Learning. Throughout his tenure, he has been a vigorous advocate for minority students and for advancing teaching as a part of professional development for junior faculty."

"In important ways, he laid the groundwork that has permitted our faculty to undertake a comprehensive review of the educational experience. I know he joins me in looking forward eagerly to the report of the Task Force on the Undergraduate Educational Commons, and to the educational initiatives it will spark."

Provost Robert Brown is stepping down as dean at the end of the fall term to devote himself to teaching and research.

Provost Brown joins presidential line

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"One of the most gratifying aspects of the last five years has been the chance to work with student leaders who are involved in MIT in such productive ways," Redwine said. "I also have had the chance to work closely with a number of administrative support staff members who are frankly the unsung heroes in making MIT the amazing place it is. Most faculty do not have the opportunity to appreciate the range of contributions our staff make to MIT, and I consider myself very lucky to have been able to work with so many staff members."

As he moves on within the Institute, Redwine said he is confident about the state of MIT. "We continue to attract the best students in the world with strong interests in science, engineering, and technology, and these students want to leave MIT with a superb technical education and be able to bring the knowledge and skills to change the world in important ways," he said.

"With the work of the Task Force on Undergraduate Educational Commons and related efforts in Schools and Department, we are well on our way to reinforcing an MIT education for the future," Redwine said. "This continues to be a truly exciting time for education at MIT."

Clay will appoint a committee soon to select a successor for Redwine.

BROWN

Continued from Page 1

Provost Robert A. Brown, left, enjoys a surprise party held Monday, June 6, to congratulate him on his appointment to the presidency of Tufts University. He is chatting with Lawrence S. Bacow, the former chancellor of MIT who now serves as president of Tufts University.

Provost R. Brown is stepping down as dean at the end of the fall term to devote himself to teaching and research.

"I was honored and delighted to have the opportunity to play an important role in supporting the education of our remarkable students as well as in shaping MIT's undergraduate education for years to come," said Redwine, who was appointed to the post in 2000. "It was clear to me that this was a critical transition period for MIT, with the increasing diversity of our students' backgrounds and interests."

Chancellor Phillips Clay said, "In addition to stewarding critical academic services, Bob has also played a leadership role managing initiatives to implement of the report of the Task Force on Student Life and Learning. Throughout his tenure, he has been a vigorous advocate for minority students and for advancing teaching as a part of professional development for junior faculty."

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Provost Robert Brown is stepping down as dean at the end of the fall term to devote himself to teaching and research.
Institute runs in families

Sasha Brown
News Office

Commencement 2005 was particularly poignant for 20-year MIT Professor John Guttag of electrical engineering and computer science: Guttag’s son David graduated with a degree in economics at the June 3 ceremony.

“This will be a special one,” Professor Guttag said before graduation. He added that watching his son’s four-year journey at MIT had opened his eyes to another side of the Institute. “It gave me extra insight into life as a student.”

The Guttag family was in good company. Many of the guests who attended the sun-soaked Commencement last week have deep roots at MIT.

Alvin Lin of Vienna, Va., a graduate in electrical engineering and computer science, became the third in his family to process through Killian Court. Older sisters Vicki (S.B. 2001) and Sandi (S.M. 2003) both attended MIT.

“We have always been interested in science and math,” said Alvin. “I guess I was drawn to MIT because even if you change your mind about what to study, you are still in the best place.”

When he entered MIT four years ago, he said he felt he had a head start thanks to his sisters. “I knew the area and some people,” he said.

Janet Lieberman of New Jersey, an MIT sophomore, said she decided to attend MIT based on her older sister Sarah’s experience. Sarah received her degree Friday in mathematics and computer science.

“I really liked the culture here,” said Janet, who was sitting with her aunt Keithleen Joint.

There is a lot of ceremony in the MIT graduation ritual, which went as expected and brother-in-law also graduated from MIT. “It is a very nice celebration.”

For others in the crowd, Friday’s Commencement was a first. Corinne Connally of Austin, Texas, came with her mother, mother-in-law and daughter to watch her husband earn a master’s in both management and mechanical engineering.

“It has been a nice day,” said Connally. The Connally family planned to return to Texas this week. “I have really enjoyed Boston,” she said.

After four years spent close to his family, David Guttag will move to Manhattan next month to start a job with Merrill Lynch. Though they were thrilled with his success, his family is sad to see him go.

“We saw more of David than he or we expected,” said his father. The proximity was especially nice for David’s two younger brothers who were able to spend time with their older siblings—“I was able to go to their baseball games,” said David. Last Friday, both of his younger brothers sat on Killian Court cheering for David.

David is the first brass rat in the family, but his father will hold on to the last. “Maybe one of my other children will go,” he said, smiling.

Tech reunion classes raise $138 Million

Nancy DuVergne Smith
MIT Alumni Association

Reunion classes from 1935 through 2000 and the graduating Class of 2005 reported the results of their fund-raising efforts at a topping Technology Day luncheon at the Johnson Athletic Center held Saturday, June 4. The results, announced by MIT Alumni Association President Linda Sharpe ’80, totaled $28,565,600.

“The financial support that alumni provide to the Institute assures MIT’s continued success,” Sharpe said. “Reunion class gifts are one of the most significant forms of this support.”

The largest contribution came from the Class of 1949, which contributed a 65th reunion total of $304.4 million over a five-year period, counting gifts and bequests from 69 percent of the class. The Class of 1955 presented a 50th reunion gift total of $7 million, representing contributions from 65 percent of the class. A 40th reunion gift total of $21.9 million came from 64 percent of the Class of 1963. And the Class of 1980, which set a 25th reunion gift participation record of 84 percent, gave $3 million.

“In suggesting to the new graduates that they need not be swayed by conventional wisdom, Jacobs lauded at the memory of how he simply “had not heard” of the hypothesis that a million cellphones would be in use by 2000. The real figure was 600 million, he declared with relish.

“If you go into your own business, the time will come when you have to make a decision,” he said, noting that Qualcomm later moved away from devices and into chips.

Jacobs urged the degree recipients to see themselves and their accomplishments in a global context. A well-known philanthropist in education and the arts, Jacobs reminded the graduates the “opportunities for philanthropy never goes away.”

Hockfield stresses values

President Susan Hockfield congratulated the Class of 2005 for the “successful completion of demanding courses of study” and challenged them to “put what you have learned here to work for the good of this nation and the world. We have never needed your talents and skills more.”

Hockfield characterized MIT graduates as “uniquely equipped” to address issues in energy, climate change and global poverty, among others, and she urged them to ask themselves, “Where can I do the most good? How can I make a difference in the world?”

Hockfield also urged graduates to “transmit the values that define this community to the wider communities that you will now join.” These include “leadership as an opportunity to serve,” integrity as the “touchstone of your judgments,” “curiosity as truth,” “a drive toward excellence” and “plain old-fashioned hard work.”

Hockfield asserted, “I have tremendous faith in you. I know that in the years to come you will … surprise us and delight us with achievements we could never have predicted.”

Salutes from students

Barun Singh, president of the Graduate Student Council, saluted the Class of 2005, echoing themes introduced by Hockfield as Jacobs.

“We celebrate the hope and potential that you represent for the future of human events and the world we all share,” Singh said. “You have demonstrated the ability to reason. Be open to unconventional solutions… Keep strong that passion and drive. The world needs it, and it waits for you.”

Rohit Gupta, president of the senior class, presented President Hockfield with the senior class gift, $31,000 for a new building and student lounge.

A site on the Infinite Corridor has been proposed for the lounge. It will be a “space for conversation, collaboration,” said Hockfield.

Dana Mead, chairman of the MIT Corporation, officially convened and concluded the exercises. The MIT Chorallaries led the crowd in Killian Court in one verse of the Star Spangled Banner, with the Class of 1955 providing a spontaneous and moving baritone section, stage left.
Grads share joy at hooding ceremony

Three dozen strollers were parked outside MIT's annual hooding ceremony, the family-friendly celebration of graduate students receiving Ph.D. or Sc.D. degrees that took place on Thursday, June 2, in Johnson Athletic Center—a standing-room-only event.

But many more adults cried than children: The sentimental overlap of past and future doesn't carry much weight with the sippy-cup set.

It was a day to ponder dreams, and Karen Eustice said she hopes her son, Noah, 9 months, will remember how exciting it was to see his father, Ryan Eustice, "walk in the procession in his cap and hood," celebrating his new Ph.D. from Wood's Hole Oceanographic Institution.

Inside the cavernous ice rink, Eustice's was one of 459 names read aloud. People of all ages—children who would be the recipients, their parents, and other family members—sat on the stage appreciated the work that went into these new Ph.D.s and Sc.D.s as few others do. "You have made sacrifices. Your families have made sacrifices," she said.

Chancellor Philip Clay remarked on the medieval roots of MIT's academic regalia. Individual faculty members modeled examples ranging from Carnegie-Mellon's bold plaid to the fluffy white bib of the University of Padua in Italy.

"This ceremony is informal, but it has a big and serious purpose: It witnesses your passage into the community of scholars that stretches around the world and back in time," as President Susan Hockfield remarked in her address.

Hockfield praised the degree recipients, emphasizing "newly created work, done on your own. In doing this, you've discovered something new about the world and something new about yourselves. You have reached the pinnacle of academic achievement."

Hockfield noted the faculty seated on the stage appreciated the work that went into these new Ph.D.s and Sc.D.s as few others do. "You have made sacrifices. Your families have made sacrifices," she said.

Chris Lee

Brother of Jennifer Lee, Ph.D. in biological engineering

"I hope [my daughter] remembers the pride we all feel, how hard Jenny worked, and the pageantry of the day," Lee said on her behalf.

Annette Frese looked to the future and into the past as she held grandson Sanjay Govindarajan, 6 months. Sanjay's mother, Annette Govindarajan, received the Ph.D. in neurobiology, and Chris Lee would "definitely like her to go to MIT. After hearing Susan Hockfield at the [Women's Leadership Conference held at MIT in April], I had a 'Wow!' experience. Then you start to think, carry on, and what can I do here?" Park said.

"I hope she remembers the pride we all feel, how hard Jenny worked, and the pageantry of the day," Lee said on her behalf.

Sanjay's mother, Annette Govindarajan, received the Ph.D. in neurobiology.

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As for Lauren's academic future, Park would "definitely like her to go to MIT. After hearing Susan Hockfield at the [Women's Leadership Conference held at MIT in April], I had a 'Wow!' experience. Then you start to think, carry on, and what can I do here?" Park said.

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"I hope she remembers the pride we all feel, how hard Jenny worked, and the pageantry of the day," Lee said on her behalf.
President Hockfield’s charge to the graduates

Graduates of MIT: This is your day. We have gathered here today in Killian Court to celebrate your accomplishments—the successful completion of demanding courses of study, often lasting several years. You have our deepest respect for all that you have accomplished. But today is not yours alone. None of you would be here this morning were it not for the families and friends who have nurtured and supported you since childhood—who have embraced your dreams and lighted your path. This is their day, too. Graduates, I ask you please to rise and thank those families and friends.

A month ago, I stood here in Killian Court and spoke about what defines MIT—and about my dreams and hopes for this great institution. Those inaugural remarks were addressed to the whole Institute community. This morning, I would like to speak to those of you who are graduating today—about my hopes and dreams for you.

You, our graduates, are exceptional individuals. You arrived at MIT with remarkable native talents, already honed by years of demanding study. Here, you have learned from a brilliant faculty, and—just as important—from each other. You have learned about complex subject matter and you have learned about yourselves. Now, as you leave MIT, I challenge you to put what you have learned here to work, for the good of this nation and the world. Because we have never needed your talents and skills more than we do now.

We live in an uncertain, unsettled age. And we face great challenges—to name only a few—in energy, in climate change, in contagious diseases, in the design of our urban communities and in global poverty.

You—the graduates of MIT—are uniquely equipped to address issues like these. You are ready to make the necessary advances in science and technology, to employ rigorous quantitative and qualitative analysis, and to develop new methods of interdisciplinary inquiry and problem-solving. So, at times in the years ahead when a choice of direction presents itself, I hope you will ask yourselves, “Where can I do the most good? How can I make a difference in the world?”

Now, you will not be able to do this work alone. Meeting the great challenges of our era will require teamwork and collaboration. You will need to draw not only on what you have learned in the classroom and lab, but also on what you have learned about the importance of community.

As the currents of your lives draw you away from MIT’s shores, you will in important and real ways remain part of this community. At the close of this morning’s ceremony, Linda Sharpe, the president of the Alumni Association, will formally welcome you into the association’s membership. We hope you will stay connected and engaged with the life of the Institute.

But beyond your own connection to MIT, I hope that you will also transmit the values that define this community to the other communities you will now join; that you will see leadership as an opportunity to serve the common good; that you will exemplify the pursuit of truth and an unwavering drive toward excellence; and that you will continue to demonstrate the value of plain old-fashioned hard work.

Finally, and perhaps most crucially: I ask you to inspire your own generation and those to come with a renewed sense of possibility and optimism for the future. Here at MIT, we see up close the myriad ways in which science and technology promise to benefit humankind. If we are to realize that promise, 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 would not set you this charge if I did not think you could meet it. I have tremendous faith in you. The intelligence, diligence and creativity you have demonstrated here at MIT have inspired us all. And I know that in the years to come you will do even more—and surprise and delight us with achievements we could never have predicted.

For now, in closing, let me say simply. “Congratulations, graduates of MIT!”
Vitaly Pereverzev celebrates receiving his bachelor's degree in electrical engineering and computer science on June 3.

Francisco Diarte's sunglasses reflect MIT's famed dome during Commencement. Diarte received his M.B.A. from MIT's Sloan School of Management.

Some students gave their caps a touch of individuality. At left is Jennifer Hu, who received the bachelor of science in mechanical engineering. Brian Loux, right, received the master's degree in civil and environmental engineering.
Corporation names new members

The MIT Corporation, the Institute’s board of trustees, elected one life member and nine term members at its quarterly meeting on June 3. Dana G. Mend, chair of that Corporation, announced the election results. All memberships are effective July 1. At that point, the Corporation will consist of 73 distinguished leaders in education, science, engineering, and industry; of those, 23 are life members and eight are ex officio. An additional 30 individuals are life members emeriti, participating in meetings but without a vote.

It was also announced at the meeting that Scott P. Marks Jr. has been named the 2005-06 president of the Association of Alumni and Alumnae of MIT. As such, he becomes an ex officio member of the Corporation. A Corporation member since 2001, he serves on the Corporation’s auditing committee and the visiting committees for chemical engineering and mechanical engineering.

For chemical engineering and mechanical engineering. He received the Henry B. Kane ’24 Award in 2003 and the Harold E. Lobdell ’17 Distinguished Service Award in 2000. Marks earned the S.B. and S.M. degrees in electrical engineering from MIT in 1969.

 Classified ADS

Members of the MIT community may submit one classified ad each issue. Ads can be read-ymade, but not to exceed two weeks in a row. Ads should be 30 words maximum; they will be edited. Submit by e-mail to friendshipmit.org or mail to Classifieds, Rm 1-1400. Deadline is noon Wednesday the week before publication.

HOUSING

W. Roxbury near Chestnut Hill: 2BR, 2nd fl apt. Mnr. 3br. in victorian house. Mnr. from common- ral: $1,300 plus 617-797-8819.


Martha’s Vineyard: 1 week in July, 2 weeks in August, 1 room September. 468. Family retreat. 1 mile to beach, 3 miles from Edgartown. 781- 681-5087 or 603-654-5513.


Vehicles

1977 Porsche 911 Carrera 3.0L. Euro specs, 5-speed transmission (recently rebuilt), 2008, white tuck, last service, new brakes, tx. cor, Torn, pampered, never raced. $12,000. 617-332- 5470 or hermalm@mit.edu.


2001 Ford Mustang, true blue, abs, v6, abs brakes, traction control, a/c, cd player. 43K. Well maintained (one owner). $3,500. 617-284- 6344.


2007 Ford Mustang, true blue, abs, v6, abs brakes, traction control, a/c, cd player. 43K. Well maintained (one owner). $1,500. 617-284- 6344.

2001 Jeep Wrangler, true blue, abs, v6, abs brakes, traction control, a/c, cd player. 43K. Well maintained (one owner). $1,500. 617-284- 6344.


2001 Ford Mustang, true blue, abs, v6, abs brakes, traction control, a/c, cd player. 43K. Well maintained (one owner). $1,500. 617-284- 6344.


2007 Ford Mustang, true blue, abs, v6, abs brakes, traction control, a/c, cd player. 43K. Well maintained (one owner). $1,500. 617-284- 6344.


Schnitzer Prize winners display their works

Lynne Heinemann
Office of the Arts

The winners of this year's Harold and Arlene Schnitzer Prize in the Visual Arts drew inspiration from trick-or-treating, cornfields, MIT courses and ketchup. About 20 artists competed for the prizes, which reward excellence in a body of work. First prize, $5,500, went to architecture graduate student Luis Berrios-Negron. Berrios-Negron will exhibit his video, installation and photography at the Wiener Student Art Gallery on the second floor of the Stratton Student Center in September. A sampling of the other winners' works is on view now through June 15. The gallery is open 24 hours a day.

Media arts and sciences graduate stu- dent Andrew "Zoo" Brooks won second prize, $3,000, for video, sculpture and cartoon. In his artist's statement, Brooks says he aims to "twist around things that interest me". Brooks wrote, "I hope to inspire [others] to think about their experiences with a distorted perspective."

In one work, "Protest Flags," Brooks dyed American flags and added provocative slogans to convey what he calls "a very different and unfamiliar visual impression of these well-known icons."

Brooks' "Steer Roast Shield" serves as a functional symbol for Senior Haus' annual Steer Roast. The stainless steel shield acts as a weight for the traditional ignition system of lighted toilet paper. Brooks says, descending down a wire from the roof to the steer roast pit in the dorm courtyard. Left to burn on its own, the shield rises phoenix-like from the ashes, essentially unharmed, Brooks says.

The third prize of $600 went to architecture senior Cecilia Ramos for her oil landscape series "Cornfields of the Midwest. Cecilia Ramos says she found her inspiration far off-campus, on a plane flying into St. Louis. "The vast expanse of America's Midwest landscape is tremendous, awe inspiring and sublime," she wrote in her statement, explaining how she spent June and July 2004 in the cornfields of southern Illi- nois, devoting herself to land and to my pr- prsions, striving to experience, understand, grasp and de- scribe the immensity as well as the subtleties of the landscape through intense explorations on canvas."

Ramos used what she calls intense lay- ering of colors, textures, brush strokes and forms to capture the power of the land. "I believe that immersion is the perfect tool to describe this painting series and the overall experience," she says about being alone in the cornfields with her easel, canvas and paints. With the wind often to- ping her easel and insects fre- quently landing on her canvas, "nature continued its everyday course, unaware of my presence and without regard for my art project," she wrote.

Mechanical engineering graduate stu- dent Barry Kudrowitz received an honor- able mention for illustration, sculpture and "unuseless invention."

The exhibition includes a collection of Kudrowitz's "CourseToons," lighthearted illustrations in acrylic on canvas of the courses available at MIT. "CourseToons," Kudrowitz says, "serve as a means to promote the fun side of MIT...through quirky representations of the majors."

Kudrowitz has also created small sculp- tures such as "Sleepy Girl" and "Arnold Soft, using Super Sculpy, a sculpting compound. "Arnold Soft" is a model creat- ed for an illustration for Kudrowitz's "The Enchanted Poetry of Arnold Soft," which tells the story of a boy who uses his ability to turn poetry into reality to save his kid- napped grandmother.

Also on view is the "Catsup Crapper," for which Kudrowitz won first place with fellow mechanical engineering graduate students Bill Fienup and Marc Graham in the MIT Unseeded Competition. Visitors to the Schnitzer exhibition can see what the artists call "the first ketchup bottle that rolls itself up onto your plate and ex- cretes a pleasant mound of condiment," even if they can't actually try it out in the adjacent Lodell Dining Hall. The Schnitzer Prize was established in 1996 by the Student Art Association through an endowment from Harold and Arlene Schnitzer of Portland, Ore. Schnitzer, a real estate investor, graduated from MIT in 1944 with a degree in metallurgy.

AWARDS AND HONORS

Associate Professor Thomas DeFranco's analysis of choreographer Alvin Alley's body of work, "Dancing Rev- elations: Alvin Alley's Embodiment of African American Culture," will be awarded the 2004 de la Torre Bueno Prize for the best English-language publication in dance on June 11 in Chicago. The de la Torre Bueno Prize, award- ed annually by the American Society for Dance Research, recognizes outstanding scholarship in the field of dance publications, the prize is awarded for depth of research and thought, qual- ity of writing, and significance to the field of dance.

Professor Neil E. Todres of the Department of Nuclear Science and Engineering has been awarded the Henry DeWolf Smyth Stateman Award in recognition of "standing out among the many aspects of nuclear energy activities." The award, established by the Ameri- can Nuclear Society (ANS) and the Nuclear Energy Insti- tute, 1972, was presented May 18 by James S. Tuleiko, ANS president.

Stephen Benton (1941-2003) was posthumously awarded the Edwin H. Land Medal in ceremonies held recently in Cambridge. D.C. Benton was director of the MIT Center for Advanced Visual Studies (CAVS) and of the Graduate Camera Lab with the late Nancy Allen Professor of Media Arts and Sciences at the Media Laboratory, was honored for his "seminal research and innovation in three-dimensional imaging, including the famed rainbow hologram." Originally endowed by Polaroid Corp. and awarded in 1993 to Brian Skyrme, the Optical Soci- ety of America, the Edwin H. Land Medal recognizes an individual who has demonstrated from a base of scientific knowledge, pioneering entrepreneurial creativity that has had major public impact.

Edward M. Greitzler, H. N. Slater Professor of Aero- nautics and Astronautics, has been selected to receive the R. Tom Sawyer Award from the ASME. He is being recognized for "the development of practical engineer- ing models that unify the understanding of compression system stability and end wall flows; for serving as a cata- lyst for collaborative research on a global scale; and for longstanding service to the ASME International Gas Tur- bine Institute." The award will be presented in Nevada in June.

David M. Konisky, a political science graduate stu- dent, has been named a 2005 U.S. Diplomacy Fellow. The U.S. Diplomacy Fellowship is awarded to two outstanding doctoral candidates nationwide who have achieved distinction in their scholarly research and who are entering the final year of writing the dissertation. The dissertation topic must be significant and relevant to national environmental public policy and/or environmen- tal conflict resolution. The award covers both academic and living expenses up to $24,000 for the year.

Iris Fanger, a music and theater arts lecturer, was honored as the 2005 Dance Champion by the Boston Dance Alliance at its annual benefit on May 12. Fanger has been a theater and dance journalist as well as an educator and historian for 40 years. The Boston Dance Alliance is comprised of members from the Greater Bos- ton dance community.

Stephen M. Meyer, professor of political science and Director of the Project on Environmental Politics and the Global Environmental Security Initiative, has received the Francis W. Sargent Conservation Award in recognition of his contributions and leadership in incorporating the latest science on wetland wildlife habitat in Massachusetts' wetland regulatory program. "On the Origins of the Ice Ages: Insolation Forcing, Age-Related Climate Cycles, and the Long-Term Stability of Marine Biomes," which was nominated for the 1994 Nobel Prize in Economics, was awarded the 2005 Stigler Prize for the most outstanding book in economics. Mark H. Jacobs, Director of Technical Services in Alumni Association Operations and Information Systems, is the 2005 Steven Wade-Neterman Award winner for his "lead in establishing and leading technical, and many non- technical teams, both inside and outside of the Alumni Association" and for his "outstanding commitment to the Alumni Association and to MIT for over 15 years." The award was created by Neterman's parents in memory of their son, who died in 1998 after working at MIT for 11 years.

Eric W. Hudson, assistant professor of physics and Class of 2008 Career Development Chair, was named a Cottrell Scholar by Research Corp., one of the nation's first private foundations to promote basic research in the physi- cal sciences by supporting the research of young faculty in American and Canadian universities. The honor includes a $100,000 cash award to support and recognize excel- lence in both teaching and research. Hudson was one of 13 North American faculty to receive the annual award out of a pool of 130 peer-reviewed proposals.

Professor Esther Dufo of economics has won the Prize for Best Young Economist in France, awarded jointly by the Austrian National Bank and the Union of French Economists. The prize honors contributions made by an economist under 40 to the development of French eco- nomic thought.

The Bosky Award, given annually by MIT's Program in Atmospheres, Oceans and Climate for the most out- standing thesis submitted to the program, went to Peter O. Herbert for 2003-2004. Herbert, whose thesis was titled "On the Origins of the Ice Ages: Insolation Forcing, Age Models and Nonlinear Climate Change," was advised by Professor Carl Wunsch of earth, atmospheric and plan- etary sciences.
MIT families fight disease together

Patti Richards  News Office

Many at MIT already know the story of Stephen Heywood, son of Professor John Heywood of mechanical engineering, who has been fighting a seven-year battle with Lou Gehrig’s disease. The tragedy has drawn in the whole tightknit Heywood family, particularly Stephen’s brother Jamie, who, although he had his own career in the making, focuses on finding a cure.


Although Stephen’s physical condition has declined unexpectedly, his mind is as sharp as ever. There are glimmers of hope: already he has outlived most ALS sufferers. His brother, the ALS Therapy Development Foundation continues to experiment with therapies aimed at restoring function to a wheelchair and unable to speak, Stephen communicates via a computer similar to that used by fellow ALS sufferer Stephen Hawking, the renowned British physicist. “Our determination is as strong as ever,” said Jamie. “We will continue to push forward and we will find a cure.”

Stephen Heywood was a strapping 4-foot-6-sprinter, swimming on his dream home in Palo Alto, Calif, when he was diagnosed with amyotrophic lateral sclerosis (ALS), a disease that gradually destroys the central nervous system.

Stephen and his older brother Jamie had always been close. A mechanical engineering major, the younger Heywood had been head of the MIT Apparatus and Equipment Alliances at the Neurosciences Institute outside San Diego when his brother got the news. The Heywoods had always been close. A mechanical engineering major, Jamie had moved back to the burgeoning world of genetic engineering.

Jamie had no medical training, but he had boundless energy, an entrepreneur’s confidence and drive and an intense curiosity. He was fascinated by the nature of healing in the human body. He wrote a lengthy New Yorker article on the subject, “The promise of green chemistry, the book records. He fall in love. They married in 2000 and have a 4-year-old son, Alex, who they have just met up again with.

Although Jamie has yet to find the magic machine Jamie always envisioned, Stephen wrote in a recent letter posted on his web site, “I think we have doubled the number of mouse trials ever done and have two drugs in human trials. We have tested every conceivable drug and have started to make our own.”

When Stephen was initially diagnosed with ALS, he had just met up again with an old friend, Wendy Stacy, and the two had fallen in love. They married in 2000 and have a 4-year-old son, Alex, who they have just met up again with.

The Heywoods gather together for a family wedding in July 2003. Jamie, on the left, is in the wheelchair with his brothers behind him; Jamie is at left, is at center. At their right, the bride is Jamie’s wife, Wendy. Alex, is at the far left behind Jamie’s daughter, Zoe. Stephen’s son, Alex, is in front.

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Professor plans African AIDS clinics

Denise Brehm

An MIT architecture professor has completed a design prototype to build at least 20 pediatric AIDS care centers in Lusaka, the capital of Zambia.

An estimated 30,000 children in Lusaka have AIDS or are HIV positive. The African city has a population of 1.2 million (about twice that of Boston), but only two hos-
pices for AIDS patients, with a total of 20 beds. Each of the new care centers would have up to 20 beds. Children and pro-
vide outpatient clinical services for many more.

MIT architecture Professor Jan Wampler is working on the project with Subramanian, director of the Power of Love Foundation in San Diego.

"The Power of Love care centers are truly smart designs incorporating expand-
ed functionality, local materials and com-
munity management—all at a cost savings of at least 40 percent over current alter-
natives," said Subramanian, who is raising funds to build the centers.

"We are in the process of identifying partners to help us take this up to scale. Our goal is 20 in 2006, 50 in 2007 and 100 in 2008," Wampler said.

The clinics will be "as self-sufficient as possible," said Wampler, who included solar panels, a power generator and a rainwater collection system in his design.

"They will be built with the simplest mate-
rates of local wood and inexpensive con-
crete blocks covered with white plaster. Children will paint murals on the outside walls," he said. The clerestory roof design allows air and light to flow; ceilings will be made of woven reeds.

Wampler previously has designed attractive, inexpensive housing for Hondu-
sers who lost their homes to Hurricane Mitch in 1998 and for people left homeless after an earthquake in Turkey in 2003.

He said he welcomed the challenge of building clinics for children in Zambia and was determined to keep the new institu-
tions small and cozy so that children feel at home.

"I wanted to make the scale more homelike than institutional. I did every-
thing I could think of to make it not look like a hospital," Wampler said. On a visit to Lusaka, he was taken with the tradi-
tional Zambian insakas or thatched-roof open rooms that can make all the difference in a proj-
ject like this. "

Wampler estimates that the three build-
ingsshape and insaka would cost about $35,000 in total to construct. Construction on the first center is expected to start late this summer.

"With our model, each community can be in a position to have its own care-
center, and with a couple of hundred of these across the country we will make a dent in this epidemic," said Subramanian.

"Twenty years into it, we are learning that the AIDS epidemic can be solved only at a community level and only with the partici-
pation of the family and community," said Subramanian.

Community participation has been inte-
grated into Wampler's design, which calls for an activity room in the service building for people to learn skills for starting their own small businesses. Local skills acqui-
sition is a hallmark of Wampler's projects in the developing world; his projects are designed to build shelter and improve the financial standing of the people they house.

Wampler designed the prototype with out pay. The foundation paid for his travel and a portion of the travel costs of two MIT architecture students—Form and graduate student Katice Helmik—who accompanied Wampler on a short trip to Zambia to assist him with the design.

Other funding for the trip came from MIT's Undergraduate Research Opportu-
nities Program, Public Service Center and Edgerton Center.
Gene may trigger adult stem cell growth

David Cameron

While research on human embryonic stem cells gets most of the press, scientists are investing in the potential therapeutic uses of adult stem cells. Although less controversial, this research faces other difficulties. Adult stem cells are extremely difficult to isolate and multiply in the lab.

Now, as reported in the May 6 issue of Cell, researchers led by Rudolfo Jaenisch of the Whitehead Institute have discovered a mechanism that might enable scientists to multiply adult stem cells and quickly create large numbers of them efficiently.

These findings provide us with a new way of looking at adult stem cells and for possibly exploiting their therapeutic potential,” says Jaenisch, who also is a professor of biology at MIT.

This research focuses on a gene called Oct4, which is known to be active in the early embryonic stage of an organism. Oct4’s primary function is to keep an embryo in an immature state. It acts as a gatekeeper, preventing the cells in the embryo from differentiating into tissue-specific cells. While Oct4 is operating, all the cells in the embryo remain identical, but when Oct4 shuts off, the cells begin growing into, say, heart or liver tissue.

Konrad Hockelrieder, a postdoctoral researcher in Jaenisch’s lab, was experimenting with the Oct4 gene, curious to see what would happen in laboratory mice when the gene was reactivated in adult tissue in which it had long been dormant. Hockelrieder found that when he switched the gene on, tumors formed in the tum and in the skin where the gene was active. When he switched the gene off, the tumors subsided, demonstrating that the process is reversible.

This prevented that when Oct4 is active, tumors grow; when Oct4 is not active, tumors go away. Of course, this does not necessarily mean that the gene is causing tumors to form. It could be that when Oct4 is active, tumors form and then are reactivated. To test that, the researchers tried to turn the gene back on. They did not succeed.

Oct4’s primary function is to keep an embryo from differentiating into tissue-specific cells. When Oct4 is active, all cells are undifferentiated. When Oct4 is turned off, cells begin to differentiate and grow into tissues.

One of the main obstacles with adult stem cell research is that, in order for these cells to be therapeutically useful, researchers need to multiply them in the lab. But when adult stem cells are isolated, they immediately start growing into their normal tissue types, without Oct4’s help.

If scientists could take a live adult stem cell and multiply it in a dish, it would have the potential of many different tissue types, more tissue could be made.

This experiment showed that when Oct4 is reactivated in the adult stem cells in those tissues continued to replicate without forming mature tissue. In a mammal’s body, this type of cell behavior causes tumors. But under the right laboratory conditions, it could be possible.

“This may allow you to expand adult stem cells for therapy,” Hockelrieder said. “For instance, you could remove a person’s skin tissue, put it in a dish, isolate the skin stem cells, then subject it to an environment that activates Oct4. This would cause the cells to multiply yet remain in their stem cell state. And because this process is reversible, after you have a critical mass of these cells, you can then place them back into the person where they would grow into skin tissue.”

“This could be very beneficial for burn victims,” Jaenisch said.

The research was supported by the National Institutes of Health and Genzyme.

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Using high-tech engineering principles, an MIT-Harvard team has developed a low-tech solution to the problem of how to build temporary homes.

The team recently produced an architectural design for a Sri Lankan home that essentially would allow a powerful ocean wave to go through the house, instead of crashing into it.

The Tsunami Safe(h) Houses, which will be built for about $1,200 each using materials available locally in Sri Lanka, will have four core columns made of concrete and rebar, each about 3 meters wide. Between these columns, homeowners can build walls of wood or bamboo to isolate the home from the waves. Engineering simulations indicate that the design will help the core and foundation of the homes to withstand devastating waves.

Waves will flow through MIT team’s new homes

Denise Brehm

An MIT team designed homes to withstand waves and flooding in such tsunami-prone areas as Sri Lanka. Each house stands 2 feet above the ground and has four concrete-block columns.

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Research explains how the brain finds Waldo in a crowd

At any given moment, the world bombards the senses with more information than the brain can process, and for more than a century scientists and psychologists have wondered how the brain filters out distractions and focuses attention on the things that matter.

Using the visual system as a model, Professor Robert Desimone, director of the McGovern Institute for Brain Research at MIT, and his former colleagues at the National Institutes of Health show that the brain conducts a combination of spatial (parallel processing), like a mental stock taking, and temporal (serial processing), like a mental image, when looking for Waldo on the crowded page. Or does the brain scan the page top to bottom, left to right, as in reading, and then conduct a mental image, as in reading? The researchers found that it is something in between.

When looking for Waldo on the crowded page, does the brain scan the page spatially (serial processing), like a mental stock taking, or spatially (parallel processing), like a mental image? This research focuses on the question of what’s important,” says Desimone, who also is a professor at Harvard Medical School, who wrote an accompanying review article in Science.

To explore visual attention, researchers study macaque monkeys, recording the activity of specific neurons, along with the eye movements, while the monkeys scan a complex array in an experimental equivalent of looking for Waldo. The neurons belong to the V4 area, a midregion of the visual cortex known to be important in attention.

Neurons specialize as to what they detect best. A “red” neuron gives off a stronger signal when red appears in the field of view, and the signal is even stronger if the monkey is actively searching for red. Moreover, if the monkey is searching for a red truck, red neurons turn up and down depending on the activity before the eyes even move toward the red item, as if the leader signal were calling, “Look over here!” We think the yinling neurons are commanding the eyes to move toward a feature that matches something in the mental image,” Desimone says.

Even so, the ability of a neuron to raise its lone voice does not explain how it gets heard over all the other activity in the brain. “We think it’s not just a question of the inner voice, neuron,” he says. “It’s how it cooperates with other neurons to make their voices heard. We showed that to increase the signal, the neurons synchronize their activity.”

Desimone uses the analogy of a room full of people talking. If random individuals raise their voices, the room just gets louder. If a group of people starts chanting in unison, their voices rise above the background noise.

Synchronization of the signals helps explain how the brain uses parallel processing to concentrate on relevant features in a complex scene. Then the brain sequentially searches for the relevant relevant objects sequentially to find the ones of interest.