New material halts bleeding

Anne Trafton

MIT and Hong Kong University researchers have shown that some simple biodegradable liquids can stop bleeding in wounded rodents within seconds, a development that could significantly impact medicine.

When the liquid, composed of protein fragments called peptides, is applied to open wounds, the peptides self-assemble into a nanoscale protective barrier gel that seals the wound and halts bleeding. Once the injury heals, the nontoxic gel is broken down into molecules that cells can use as building blocks for tissue repair.

Doctors currently have few effective methods to stop bleeding without causing other damage. More than 57 million Americans undergo nonselective surgery each year, and as much as 50 percent of surgical time is spent working to control bleeding.

“We have found a way to stop bleeding, in less than 15 seconds, that could revolutionize bleeding control,” said Rutledge Ellis-Behnke, research scientist in the MIT Department of Brain and Cognitive Sciences.

This study, which will appear in the online edition of the journal Nanomedicine on Oct. 10, marks the first time that nanotechnology has been used to achieve complete hemostasis, the process of halting bleeding from a damaged blood vessel.

Doctors currently have few effective new techniques to stop bleeding without causing other damage. More than 57 million Americans undergo nonselective surgery each year, and as much as 50 percent of surgical time is spent working to control bleeding. Current tools used to stop bleeding include clamps, pressure, cautery, vasoconstriction and sponges.

In their experiments on hamsters and rats, the MIT and HKU researchers applied the clear liquid containing short peptides to open wounds in several different types of tissue—brain, liver, skin, spinal cord and intestine.

“In almost every one of the cases, we were able to immediately stop the bleeding,” said Ellis-Behnke, the lead author of the study.

Earlier this year, the same researchers reported that a similar liquid was able to partially restore sight in hamsters that had had their visual tract severed. In that case, the self-assembling peptides served as an internal matrix on which brain cells could build new connections.

Physicists catch glimpse of subatomic particle

Deborah Halter

It’s taken 19 long years of painstaking, high-precision experiments, but it’s finally official. Physicists have announced the observation of a subatomic particle known as the $B_s$ (pronounced “B sub s”) meson switching between matter and antimatter states at a mind-boggling 3 trillion times per second. The work could lead to a better understanding of the early universe, in which these particles were present in great abundance. It will also help physicists refine different theoretical models in high-energy physics.

Christoph Paus, associate professor of physics at MIT, led the analysis of years’ worth of data from the world’s highest-energy particle accelerator Representing the 700-member team of the Collider Detector at Fermilab (CDF) collaboration, Paus presented the discovery to the scientific community Sept. 22 at the Fermi National Accelerator Laboratory in Illinois. The CDF result is an exquisite examination of the Higgs boson, the theoretical particle that gives mass to other subatomic particles.

Task force recommends changes to undergrad curriculum

Faculty recommendations for the most far-reaching changes to MIT’s undergraduate curriculum in the past half-century were released Oct. 13.

The Institute’s Task Force on the Undergraduate Educational Commons has spent the last two and a half years in a comprehensive review of MIT’s educational mission and core curriculum. It recommends new requirements in science, mathematics and engineering as well as in the humanities, arts and social sciences.

The task force also endorses an increased role for international educational experiences in the undergraduate years.

In endorsing the report of the task force and recommending its consideration by the Institute’s full faculty, MIT President Susan Hockfield said, “MIT has a tremendous institutional tradition of innovation. The changes in our core curriculum proposed by the Task Force on the Undergraduate Educational Commons respond creatively to changes in science, technology and the world around us and will ensure that MIT continues to educate the leaders the world needs.”

The curricular proposals address the explosive growth in scientific and technological knowledge over the last half-century; the need for graduates to be confident participants in what MIT’s founding president, William Barton Rogers, called “the humane culture of society”; and the global context in which today’s students will live and work.

The task force was chaired by Robert J. Silbey, MIT’s Class of 1942 Professor of Chemistry and dean of science. Commenting on the recommendations, Silbey said, “We stand at a critical juncture in higher education and at a time when MIT can play a lead role in shaping the future.”

The task force’s full report is available online at http://www-math.mit.edu/Undergraduate-Commons/
MIT releases endowment figures

The Massachusetts Institute of Technology Investment Management Company (MITIMCo) has announced that the Institute’s endowment generated a return of 23.1 percent for the fiscal year ending June 30, 2006. As a result of strong investment performance and gifts, the endowment’s assets totaled $13.4 billion as of June 30, 2006, an increase of nearly $2 billion from the previous year, net of spending. For the past 10 years the Institute’s endowment has had an annualized return of 15.5 percent. Investment gains were broadly spread across MITIMCo’s diversified portfolio, with real estate, real assets, private equity and international equities performing particularly well. The strong investment performance and gifts to the Institute have made it possible for spending from the endowment to more than triple over the past 10 years. Total spending is projected to be $345 million in fiscal year 2007, up from $139 million just 10 years ago.

MITIMCo is led by Seth Alexander, who became president in May, succeeding Allan S. Berlefeid, who retired as MIT’s treasurer and founding president of MITIMCo after 34 years of service to the Institute. MITIMCo is a division of MIT, created to manage and oversee the investment of the Institute’s endowment, retirement plans and operating funds. As of June 30, 2006, MITIMCo had $12.4 billion of total assets under management.

Henderson named dean for curriculum and faculty

Dean for Undergraduate Education Daniel Hastings has named Professor Diana Henderson to the dean for curriculum and faculty. In this role she will serve as director of the new Office of Faculty Support. Henderson is a literature professor with 30 years of experience teaching in undergraduate and graduate settings on its Cambridge campus, in the professional settings on its Cambridge campus, in the professional settings on its Cambridge campus, in the professional settings on its Cambridge campus, in the professional settings on its Cambridge campus, in the professional settings on its Cambridge campus.

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Faculty to meet today

A regular meeting of the faculty will take place Wednesday, Oct. 18, at 3:30 p.m. in Room 32-123. The agenda includes:

• Update on underrepresented minority faculty and graduate student recruitment and retention
• Financial foundation for MIT’s future: Fiscal year 2008 and beyond
• Report from the Task Force on the Undergraduate Education-Commons
• Remarks from President Susan Hockfield
• Topics arising and questions for the president, provost and chancellor

Curriculum

Continued from Page 1

education. Our graduates need the skills to navigate a world in which the pace of discovery and innovation is faster than ever before. The task force aimed to design a core curriculum that maintains MIT’s characteristic intellectual rigor while allowing students the flexibility they need to enter exciting new areas of science and technology and giving them even stronger grounding in the humanities, arts and social sciences.

The major recommendations of the task force are as follows:

In the future, students will take eight subjects as part of a new science, mathematics and engineering requirement. Three of these will be prescribed as part of the student’s degree requirements. Multivariable calculus and classical mechanics are the remaining two.

The remaining five will be selected by students from a very small and tightly regulated number of subject options organized into six foundational technical categories: chemical sciences; computer and electrical engineering sciences; mathematical sciences; physics; and project-based engineering.

The task force has also urged MIT to make it clear that acquiring a global educational experience is essential to an undergraduate education. This will require expanding current international education programs that have proven successful in the MIT environment, as well as designing new opportunities to create new possibilities for students to travel to countries around the world. The ultimate goal is to allow any MIT undergraduate who wishes to participate in a meaningful experience abroad to be able to do so.

MIT’s current core curriculum is based on a model first developed by Nobel Laureate Richard Feynman in 1950. The core curriculum’s central requirements have been periodically revised since then. In recent years, MIT has launched a number of innovative new major and minor programs while intensifying its commitment to underwrite its international education programs. The new task force’s recommendations aim to fulfill the challenge of expanding while maintaining the quality of opportunities.

The recommendations of the task force will be considered by the Board of Trustees and by the MIT Corporation, which sets the Institute’s policies. MIT recognizes the need to phase in the new requirements over a period of three years.

The curriculum task force’s report can be found at the following URL: http://web.mit.edu/newsoffice/2006/due-resq.html.
Faculty named to Academy of Arts and Sciences

Institute Professor Bizzi is installed as president

Three MIT professors were inducted Oct. 7 into the American Academy of Arts and Sciences as part of the 226th class of fellows.

The new MIT fellows are Timothy M. Swager, professor of chemistry; K. Daron Acemoglu, the Charles P. Kindleberger Professor in Applied Economics; and Joshua A. Bloom, professor of management at the Sloan School of Management. The three professors were all inducted into a class of 175 fellows and 20 foreign honorary members. The academy also installed Institute Professor Emilio Bizzi, a brain scientist, as its 44th president.

“The academy takes great pride in honoring the accomplishments of these outstanding and influential individuals,” said Bizzi, who officiated the day’s proceedings. “Throughout its history, fellows of the academy have been dedicated to advancing intellectual thought and constructive action in America and the world. We are confident that our newest group of fellows will help us fulfill that mission in significant ways.”

The academy, located in Cambridge, was founded in 1780 and has elected more than 4,000 fellows since then, including Benjamin Franklin, Albert Einstein and Winston Churchill.

This year’s 211 inductees include former Secretary of State Madeleine Albright, composer and lyricist Stephen Sondheim, photographer Richard Avedon and former President Yehuda Hameiri of the Czech Republic.

The academy’s charter is “to cultivate every art and science which may tend to the happiness of a free, independent and virtuous people.”

TIMOTHY M. SWAGER

MIT joins higher-ed recruitment consortium

MIT recently formed a consortium with 35 higher-education institutions and affiliated teaching hospitals to address the challenges of recruiting and retaining the best faculty members and researchers.


“I think the site is going to be very helpful for people who are interested in working at the IOM,” said Emilie M. Nysics, an advertising consultant. “I think it’s a great way to spread the word about opportunities in a very efficient manner.”

MIT Tech Talk

October 18, 2006 PAGE 3

NEWS

Institute of Medicine elects 5 from MIT

Three members of the MIT faculty were among the 65 scientists elected to the Institute of Medicine (IOM) of the National Academies this week, bringing the total IOM membership to 1,654.

The new MIT members are Elazer R. Edelman, the Thomas D. and Virginia W. Cabot Professor of Health Sciences and Technology; Rudolf Jaenisch, a professor of biology and founding member of the Whithead Institute for Biomedical Research; and Susan L. Lindquist, a professor of biology, member of the Whitehead Institute and a Howard Hughes Medical Institute investigator.

“It is a great pleasure to welcome these distinguished and influential individuals to the Institute of Medicine,” said IOM President Harvey F. Fineberg. “Members are elected through a highly selective process that recognizes people who have made major contributions to the advancement of the medical sciences, health care and public health.”

“The election of Elazer Edelman, Rudolf Jaenisch and Susan Lindquist to the Institute of Medicine is a significant honor for MIT,” said President L. Rafael Reif. “As members of the IOM, they join a distinguished group of scientists and engineers throughout the country who are dedicated to advancing our understanding of health and disease.”

In addition to IOM membership, the three MIT professors are also elected as members of the National Academy of Sciences, the National Academy of Engineering and the American Academy of Arts and Sciences.

MIT researcher Rutledge Ellis-Behnke, left, and Professor Gerald Schneider bracket a monitor showing a transected liver after it has been treated with a liquid solution containing peptides. The peptides self-assemble into a gel that essentially seals over the wound. The two developed the technique with MIT colleagues and researchers at the University of Hong Kong.

MIT research scientist Rutledge Ellis-Behnke, left, and Professor Gerald Schneider bracket a monitor showing a transected liver after it has been treated with a liquid solution containing peptides. The peptides self-assemble into a gel that essentially seals over the wound. The two developed the technique with MIT colleagues and researchers at the University of Hong Kong.

HEMOSTASIS

Continued from Page 1

The research is funded by the Desh pande Center for Technological Innovation at MIT and the Technology Transfer Seed Fund at HKU.

The researchers are confident, however, that the material does not work by inducing blood clotting. Clotting generally takes at least 30 seconds to start, and the researchers found no platelet aggregation, a telltale sign of clotting.

Other MIT researchers who are co-authors on the paper are Gerald Schneider, professor of brain and cognitive sciences, and Shuyuan Zhang, associate director of MIT’s Center for Biomedical Engineering. Collaborators at the University of Hong Kong Li Ka Shing Faculty of Medicine, Department of Anatomy, include Yu-Xiang Liang, David Tay, Wutian Wuu, Philius Kau and Rokk-Fai So, an MIT alumnus.

The research is funded by the Desh pande Center for Technological Innovation at MIT and the Technology Transfer Seed Fund at HKU. 
For the first time, researchers at MIT can see every vibration of a cell membrane, using a technique that could one day allow scientists to create three-dimensional images of the inner workings of living cells.

Studying cell membrane dynamics can help scientists gain insight into diseases such as sickle cell anemia, malaria and cancer. Using a technique known as quantitative phase imaging, researchers at MIT's George R. Harrison Spectroscopy Laboratory can see membrane vibrations as tiny as a few tens of nanometers (billionths of a meter).

“Cell membrane dynamics are just the beginning,” said Gabe Popescu, principal investigator in the Spectroscopy Laboratory. “The beauty is that with this technique, you can study dynamical processes in living cells in real time.”

Scientists have long been able to peer into cells using electron microscopy, which offers a much higher magnification than a traditional light microscope. However, a major limitation is that only the surface of the cell can be imaged, as electrons cannot pass through living tissue. To overcome this, researchers have developed quantitative phase imaging, which allows scientists to view the membrane vibrations of living cells.

Drums in Perpetual Vibration

So far, the team has focused its attention primarily on the beating heart of the cell: the red blood cell. Red blood cells are an especially good model to study cell membrane dynamics because they are the most abundant blood cells, with no nucleus or internal cell structures, said Popescu. “A red blood cell is a postdoctoral associate in the Spectroscopy Lab.”

In work that is soon to be published in Physical Review Letters, the MIT researchers show that the frequency of cell membrane vibration is related to the elasticity of the cell membrane. Elasticity is important for red blood cells because they have to be able to squeeze through tiny capillaries in the brain and elsewhere as they deliver oxygen.

“The elasticity of these cells is crucial for their function,” said Popescu. “It has been known for more than a century that red blood cell membranes are continuously undulating, or as Popescu puts it, a red blood cell is “effectively a drum in perpetual vibration.” This undulation offers a chance to study the mechanical properties of the membrane, including how the membrane provides the cell with both the softness and the elasticity needed to squeeze through narrow capillaries.

Red blood cell abnormalities, such as sickle cell anemia and malaria infections, also influence membrane dynamics. Studying cell membrane dynamics can offer insight on how networks are organized and how networks are affected by diseases.

“This project is one of the ways we are trying to measure such tiny waves,” said Popescu. “This creates an interference pattern that forms nanometer-scale images of individual cells. The major problem with this interference pattern is that the apparatus is highly sensitive. Even breathing near the interferometer can disrupt the system, leading Popescu to observe that in a typical laboratory environment, trying to measure such tiny optical signals is “like trying to sense the waves of a jellyfish in a stormy ocean.”

One way to overcome that is to mount the system in an isolated environment.
is the Iraq that Americans see today on their TV screens—rife with escalating violence that seems to verge on civil war—the same Baghdad that Saddam Hussein left in 2003? Or did critics mistake doom our best intentions to establish a democracy?

Those questions, posed by MIT visiting scholar Henry Jenkins, formed the basis of a conversation between two prominent journalists appearing in a panel called "Reporters' Notebook: The U.S. in Iraq," a MIT Center for International Studies (CIS) Star Forum held by CIS on October 3.

"It's fashionable in some circles to say now if 'we only had committed more resources to the occupation,'" said Rajiv Chandrasekaran, the former Baghdad bureacu chief for the Washington Post and author of the recently published "Imperial Life in the Emerald City," an account of life in the U.S. enclave in Baghdad, the Green Zone.

But Chandrasekaran speculates that perhaps the United States tried to do too much, too soon. "We needed to have had a smaller footprint there, to be less ambitious." For example, the United States didn't want to impose "just any old democracy." Officials wanted a secular, federalist democracy with an American-style free market, he said. They tried to institute bank sector reform, a flat tax, even laws on microchip design and intellectual property.

"We rewrote the traffic code," Chandrasekaran said. "We wanted time telling people to have both hands on the wheel while driving."

As a result, the United States did not move quickly enough to set up a system in which Iraqis could govern themselves, he said.

However, George Packer, who covers Iraq for The New Yorker; warned against "indsight bias," that is, the idea that the deeper Iraq spirals into violence, "the more it seems it was inevitable that Iran was always going to spiral down into a civil war."

Packer, author of the 2005 book "The Assassins' Gate: America in Iraq," said he is not convinced that disaster was inevitable. Yet Iraq was a more tribal, a more religious, a more conservative and, at all levels, a more shattered society than most people understood. When the lid was lifted and nothing took its place ... there was no center to hold Iraq together. The Americans were never in control from day one.

"Yet it's hard to know what would have happened if we didn't make mistakes because we made every mistake we could make," he said.

A key error, noted Bodine, was that Americans entering the Iraqi Coalition Provisional Authority were selected for political credentials, not international experience. Chandrasekaran said that, for example, half of the incoming CPA staff had to apply for passports in order to go to Iraq.

Bodine, a former ambassador and diplomat for 30 years, said CPA officials chose to see Iraq as a "blank slate" in which they could impose their political vision. The "clean-slate school saw looting as a good thing," she said.

What is truly "astonishing" is that "no one has been made to pay a price for screwing up the most important American undertaking of my adult life," she said.

The most difficult question put to the two journalists was whether U.S. troops should be withdrawn. Chandrasekaran speculate that a withdrawal could lead to a spike in violence, from dozens a week to hundreds a day. But he also wonders if the violence might level off over time. "Some (U.S.) presence might be necessary," he said.

Packer was more pessimistic about either staying or leaving. "I am not optimistic about bad things in either case. We have the tiger by the ears," he said.

Both agreed that no progress could be made until the Bush administration honestly assesses the situation and acknowledges the mistakes made. They said, is not being done, even behind closed doors.

Packer cited an incident in which Gen. Jay Garner, who briefly served as president of reconstruction, established humanitarian assistance for Iraq, met with President Bush, Vice President Dick Cheney and other officials. During the meeting, Garner presented his honest assessment of the reconstruction effort. Instead, the meeting "turned into a back-shapping session of congratulations," Packer said.

According to Packer, Bush even asked Garner, "Do you want to go to Iran for the next one?"

MIT, Singapore create Game Lab

MIT recently announced plans to establish the Singapore-MIT International Game Lab in collaboration with the Singapore Media Development Authority.

The new initiative aims to further digital game research, develop world-class academic programs in game technology and establish Singapore as an international node in the international game industry.

The directors of MIT's Comparative Media Studies Program—Henry Jenkins, the DeFoe Professor of Humanities, and William Uricchio, Media, Arts and Sciences—will codirect the Game Lab, which will have offices both in Singapore and at MIT. Jenkins and Uricchio will serve as the leading principal investigators in the Game Lab.

Uricchio, a specialist in transnational media distribution and reception, described the Game Lab as a unique chance to reflect on games and to push in new and unexpected directions, whether in terms of emerging technologies and interfaces, diverse cultural vocabularies or important niches that have simply been neglected in the rush to seize the largest market share. Jenkins, who researches and teaches media and the way people incorporate it into their lives, said, "The Singapore-MIT International Game Lab collaboration will provide a strong catalyst for innovation by bringing together students, industry leaders and faculty from very different cultures and backgrounds to work together and to conduct research that could have a great impact on the international game industry."

"We will work with Portugal and innovation in the use of mathematical methods and innovation in the use of mathematical methods and computational tools to provide a new field of study and research in engineering. In this area of engineering systems, the MIT-Portugal Program will be led by Professor Daniel Roos, founding director of ESD, and Professor Paulo Manuel Cadete Ferro, director of the Center for Innovation, Technology and Policy Research at Instituto Superior Técnico, the Technical University of Lisbon.

For the management segment of the MIT-Portugal Program, MIT's Sloan School of Management faculty will collaborate with faculty from Portuguese universities and industry professionals on international research that could have a great impact on the global economy."

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Student inventors: Apply for the Lemelson $50K Prize

The Lemelson-MIT Program encourages student inventors to apply for the annual Samuel S. and Alva von Maur Lemelson Student Prize for inventiveness. All currently enrolled MIT seniors and graduate students are eligible to apply for a Lemelson Student Prize, regardless of major or area of study. The application deadline is 4 p.m. on Jan. 12, 2007.

Past Lemelson-MIT Student Prize winners have garnered national media exposure from sources such as CNN, MSNBC, the Boston Globe, USA Weekend and Newsweek, which has served as valuable exposure to the investment community. Said 2006 winner Carl Dietrich, “I have put the money from the prize toward the development of my company, Terrafugia.” Dietrich will show us a glimpse at the development of the Terrafugia Transition, and I am now in a much better position to raise the next round of money that Terrafugia will need to move forward.” Andrew Heafitz, 2002 winner, gained a contract with the U.S. Air Force after a team featured on TV as a result of winning the student prize.

Interested students need to complete an application that includes at least 1,000 words, less than 3,000 words, description of their inventiveness and/or entrepreneurial ability for a fluke (a signature caused by a cosmic ray) or a strange anti-quark.” Paus said. “I’ve done research about this for years, and we’re more than certain that I think that the biggest risk facing us is global warming.”

Carl Dietrich

Andrew Heafitz

New reading room is open 'round the clock

The new and improved reading room on the fifth floor of the Student Center officially opened with an afternoon bash in the Moran Lounge on Sept. 21. The party featured an MIT string quartet, students reading aloud including Carl Dietrich, an MIT student, and Larry Benedict, director of the campus activities program. “This is a space students have shown time and again how important it is to them,” Walsh said during the opening celebration.

Benedict spoke of the room’s significance as a true center of student output and collaboration. Several years ago, a group of students really pushed for the idea that there was a sense of quiet on the floor that we couldn’t best for them,” said Benedict, who called the room, student initiative and student program. The new room is a quiet place for lighting, a brighter color scheme and soft lounging furniture. The space is the second renovated study space to open this fall, following the Building 10 community lounge Sept. 15.

The theme of the student center renovation is collaboration, Walsh said. The transformed space now offers seven group study spaces of varying sizes, equipped with LCD panels and electronic white boards, to accommodate groups from four to 10 students.

There is also space for individual study with desks that convert into study carrels, says Walsh, by a soundsealed partition.

The reading room will be open 24 hours a day.

Continued from Page 1

ple of precision measurements extracting a small amount of information from nature, said Richard G. Milner, professor of physics and director of MIT’s Laboratory for Nuclear Science (LNS). “The MIT group under the leadership of Christoph Paus, and with the strong support of the U.S. Department of Energy Office of High Energy Physics, the MIT Department of Physics and the MIT School of Science, constructed a key detector that was essential to this achievement.”

Like Jekyll and Hyde, some subatomic particles are able to act as both matter and their antimatter counterparts. Often referred to as mixing or oscillation, this process is known as beta oscillation and is found in subatomic particles like neutrinos for 50 years. The CDF team looked at data collected from the Tevatron, a large accelerator at Fermilab, which is composed of two subatomic particles: a heavy “bottom quark” bound to a “strange anti-quark.”

Earlier this year, the CDF collaboration announced the first evidence of the oscillation process. “But now only the prob- ility for a fluke (a signature caused by a random fluctuation) has been reduced to the commonly accepted standard to call it an observation,” Pasu said. To rule out the observations, particle physicists require this kind of data to consider. The CDF group is looking for other traces of the two particles to inter- act with each other and make exciting discoveries. “We have a project headed by assembling a large number of precise measurements involving the exotic behavior of these par- ticles, they can begin to understand why they exist, how they interact with one another and what role they played in the development of the early universe. The particle physicists goals are to discover the identity and properties of the particles and to understand the forces and interactions between them. The early universe is thought to exist in nature today. They are created in the form of various forms of large particles, which scientists can study by analyzing the ghosts of the trails they leave behind in the form of particles.”

“The rapid matter-antimatter oscillations, three trillion times per second, give us a glimpse at the development of the early universe and might help us understand why there is so little antimatter in it right now,” Pasu said.

Data of CDF physicists come from 61 insti- tutions and 13 countries. Pasu, a member of the CDF team, led the four groups involved in collaborating with 80 scientists from 27 institu- tions. “Scientists have been pursuing this measurement for two decades, and the discovery of the convergence of capabilities to make it pos- sible has occurred just now,” said CDF co- spokesperson Jacobo Konigsberg. Physicists will now have to check many theoretical models of why they began to interact in the development of the early universe. The current CDF data does not bring all the models together into a single theory. “We must know where the models stand right now,” Pasu said. CDF co- spokespeople Jacobo Konigsberg and Robert Silbey, dean of the MIT School of Science. “Now we turn to the JLC at CERN,” said Benedict. The JLC is a Department of Energy Office of Science national laboratory. CDF is supported by the DOE, the NSF and international funding agencies.

EnergNight shines a bright light on new work

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Comedian Margaret Cho will host ‘Fierce Forever’

Stand-up comedian Margaret Cho will headline MIT’s sixth student drag show, “Fierce Forever,” on Oct. 29 at 7 p.m. in Kresge Auditorium.

The award-winning celebrity is best known for her successful one-woman shows, including “I’m the One That I Want” (2000) and “Notorious C.H.O.” (2001), and her 1994 television sitcom, “All-American Girl.”

The main event of MIT’s annual Fall Festival, “Fierce Forever” features more than 30 student and professional performers and usually plays to packed houses. Hosting duties this year will be shared by Cho, Honey Dijon (aka Sylvain Bruni), a graduate student in aeronautics and astronautics and Kitty Elektra (aka Ricky Ramirez, a senior in chemical engineering and the director of the Sloan Auto- motive Lab), and Kitty Elektra (aka Ricky Ramirez, a senior in chemical engineering and the director of the Sloan Auto- motive Lab).

A champion of gay rights, racial equality and feminism, Cho was described as a “sequined comic love child of Benny Hill and Gloria Steinem” by Helen Razer in The New York Times.

“Cho, who regularly tours and maintains an award-winning blog, recently received the First Amendment Award from the American Civil Liberties Union of Southern California, and the Intrepid Award from the National Organization for Women. She last appeared at MIT in October 2003, when she performed at MIT’s Fall Festival during her third national comedy tour, “Revolution.”

The Oct. 29 event, which is expected to sell out, is open to MIT students and affiliates as well as to local college students and their guests. Advance tickets are $10 for MIT students, $20 for other students and MIT staff, faculty and affiliates, and $30 for tickets purchased by a student or affiliate and will become available on Oct. 23; an additional $5 will be charged for any tickets available at the door.

For more information, call x3-0684, e-mail fierce@mit.edu or visit web.mit.edu/fierce.

Iranian graphic novelist presents her recent works

The Center for Bilingual/Bicultural Studies will present an evening with Iranian graphic novelist Marjane Satrapi on Oct. 23 in the Staats Center’s Kisch Auditorium at 7 p.m.

A native of Tehran and a resident of Paris, Satrapi is the author and illustrator of the internationally acclaimed graphic autobiographies “Persepolis” (2000) and “Persepolis 2” (2003). She also created a graphic novel, “Embroideries” (2008).

At MIT, Satrapi will discuss her newest work, “Chicken With Plumas.” The book tells the story of her great-uncle, a celebrated Iranian musician who gave up his life for music and love.

Satrapi’s memoir, “Persepolis,” originally published to wide critical acclaim in France, “fascinates what it was like to grow up in an intellectual Marxist family during the Islamic Revolution in Iran. Using only stark, flat black-and-white comic strip images, Satrapi recounts her experiences as the overthrow of the Shah’s regime, the triumph of the Islamic Revolution and war with Iraq in the 1980s took their terrible toll on society, family and personal life in Iran.

A sequel, “Persepolis 2,” follows Satrapi as a young woman who has left her home to study in Vienna and Paris.

There is a thread connecting Satrapi’s works that stands apart from the political. “When I come to the United States, I’m supposed to be the axis of evil,” she said. “But the basic problem of a country like mine, apart from the regime, apart from the government, is the patriarchal culture that is leading my country. That is why the government is still there.”

Satrapi does not define herself as a woman, “I am a humanist. I believe in human beings. After what I have seen in the world, I don’t think men are any better than the women. See what the women soldiers did in Iraq—that was not better than the men. Macbeth was a woman, look at what she did to Great Britain. Look at Madeleine Albright,” she said.

Satrapi’s talk is sponsored by MIT’s foreign languages and literature section, the MIT Contemporary French Studies Fund, the Center for Bilingual/Bicultural Studies, the De Florez Fund for Humor and the Council for the Arts at MIT.

MIT Museum box series focuses on future of energy

The popular Wednesday evening “Soap Box” series at the MIT Museum, now in its second season, will focus on the future of energy this fall. The series kicks off this month with talks from MIT’s world-renowned experts in chemistry, physics, biology, materials science and technology.

On Oct. 18, Ernest Moniz, the Cecil and Ida Green Professor of Physics and co-director of the Laboratory for Nuclear Science, will discuss the future of energy with “The Role of New Technologies in a Sustainable Energy Economy.”

A week later, on Oct. 25, Daniel Nocera, the W.M. Keck Professor of Energy and professor of chemistry, will speak along with Professor Andrew Valentine, director of the Lincoln Laboratory, about the future of energy with “Growing Plants: Transitioning to a Sustainable Energy Economy.”

Finally, the series will wrap up with a Nov. 1 talk featuring John Heywood, the John J. De Paoli ’42 Engineering Chair and the director of the Sloan Automotive Laboratory, together with Stephen Ananth, professor of electrical science. Their talk will center around “Growing Pains: Transitioning to a Sustainable Energy Economy.”

“Soap Box” is an MIT Museum series of salon-style, early-evening conversations with scientists and engineers who are making the news that really matters, according to the institute’s website.

“Soap Box is a public forum for debate about important issues and in science and technology.”

During its first season, hundreds of people came to the weekly meetings. The talks are held from 6:30 to 7:30 p.m. in the main gallery of the MIT Museum. Light food and drink is served.
Mini golf park owner tees up at Sloan

Sarah Foote
MIT Sloan School of Management

Miniature golf was the start of much bigger things for Elizabeth McQuillan, a second-year graduate student at the MIT Sloan School of Management. A few years ago, while driving home from a day of snowboarding in New Hampshire, she noticed a “for sale at auction” sign on Banana Village, an amusement park in North Conway. Even though she had never played a full round of miniature golf in her life, McQuillan was interested in owning her first piece of property and excited to take on the challenge of running her own business.

After working at two failed startups, McQuillan had settled into a job in investment banking. But she was ready for something different. She had the winning bid at auction and became the new owner of the miniature golf course, waterfall park, and video arcade in June 2003, just a few weeks before the park’s peak season.

Purchasing Banana Village in the summer meant that prime miniature golf season was approaching, so McQuillan quickly set out to clean up and rebuild the course. She attributes the successful two-week turnaround to good luck and a good attitude.

“Attitude is everything,” she said. “Employees can sense a manager’s emotions. So if you’re having a bad day, it’s easy for people to read that off of you and that spills into the way you talk and work. With the right attitude you can achieve the impossible.”

McQuillan said running Banana Village was “a ton of fun,” but it was not her ultimate career goal. While she still owns the park, McQuillan turned over the day-to-day operations to a local small business owner so she can pursue her long-term goal, real estate, along with her new passion — business. She’s pursuing that passion at MIT.

“Without a business background, the hardest thing for me to learn was the accounting at Banana Village. The first year I had an accountant help me with QuickBooks, but the second year I forced myself to understand and learn it and that helped me with projections, etc. One of the beauties of the MIT Sloan is that they are not teaching you to be an accountant. They’re teaching you how to understand the numbers in front of you,” McQuillan said.

“MIT Sloan is the perfect place to take risks, like I did at Banana Village.”

Now beginning her second year at MIT, Sloan McQuillan remains interested in real estate. With the help of her MIT Sloan network, McQuillan has already worked for two other real estate companies. She is also co-president of the MIT Sloan Real Estate Club. “What’s fun about the Real Estate Club is that at some point in their lives everyone is in touch with real estate,” she said.

When her lease with the new operator of Banana Village expires, McQuillan may sell the amusement park to him. But owning property and working in real estate is something McQuillan plans to continue.

She hopes to work for a mid-sized real estate company in the Boston area when she completes her M.B.A.

Choreographer’s work, ‘Not About Iraq,’ explores rhetoric, race

Choreographer and filmmaker Victoria Marks creates works for stage, film, community settings and professional dancers with the overarching artistic and personal goals of “redressing stereotypes like physical ability, body shape and age,” and of connecting the ordinary to the extraordinary. Winner of a Fullbright fellowship in choreography and numerous other awards, she will present her 2006 piece, “Not About Iraq” in Boston on Friday and Saturday, Oct. 20 and 21, at Boston University’s Dance Theater.

Marks, a professor of choreography at UCLA, will perform “Iraq” with UCLA graduate student Taisha Paggett. The MIT community is invited to a master class about this piece on Thursday, Oct. 19, from 1 to 3 p.m. in Room 50-201.

According to Marks, “Not About Iraq” questions the relationship between words and experience, government rhetoric and reality. “Victoria Marks is a troublemaker, a true subversive,” wrote Lewis Siegel for the Los Angeles Times on Aug. 6, 2005.

MIT junior sells high-school social networking site

Sasha Brown
News Office

Junior Joe Presbrey has a good idea how the owners of YouTube must have felt this week when they sold their site to Google for $1.65 billion.

In March 2006, Presbrey sold Sconex, the high-school networking web site he cofounded, to New York teen marketing firm Alley for more than $6 million.

“We just had the right timing,” said Presbrey, a Florida native, whose site is similar to established social networking sites like Friendster, Facebook and MySpace, except that it is exclusively for high-school-age students. “Had Facebook not started, we may not have become so popular.”

Since its inception in 2005, Sconex has grown extremely popular with high school students. Thousands of students log on each day from high schools across the country to post information about themselves, read about classmates, link with friends, share photos, talk about classes, and meet up.

When Presbrey and his team launched the site, they were not sure how far it would go. “It spread mostly through word of mouth,” Presbrey said. Although used nationwide, the site is most popular with urban high schools on the East Coast.

With all of the recent publicity about the security of social networking sites like MySpace, social networking sites have to take security seriously, said Presbrey. All Sconex registrants answer security questions about their high school to verify they are real students. People who aren’t recognized by others on their school can be removed.

Although he is young, Presbrey is no stranger to computers. In high school, he started his own computer business covering service, network programming and more.

He has written various pieces of software, including security software for which he earned a copyright.

Presbrey and his partners started Sconex with an eye on selling eventually. It was a rough road, he said. “For a while I thought more about the health of the web site than my own health,” said Presbrey. There were many late nights and hours spent working on the site. “It was definitely worth it in the end though,” Presbrey said.

Since selling the site some things have changed, Presbrey said. High school students ask him questions and want him to hear their ideas. “It gets everyone excited and hopefully more motivated,” he said.

Presbrey will continue to work on Sconex out of a Kendall Square office until he leaves Boston. But the electrical engineering and computer science major still finds time to stay involved with MIT. He is the president of his fraternity and makes his schoolework very seriously. “MIT students are trained to do more than one thing,” he said. “I like to keep things varied.”

Presbrey said he is far from resting on his laurels. He hopes to continue his work and launch more successful web sites in the future. “This is one of the first big successes for me,” he said. “It has all been a lot of fun.”