



Volume 49 – Number 7
Wednesday – October 27, 2004

Boat with MIT crew takes first place in regatta event

Sasha Brown
News Office

A boat half-filled with MIT affiliates won first place over 43 other boats in the Club Fours Men's Race Saturday at the 40th Head of the Charles Regatta. Overall, seven MIT varsity crews and several MIT affiliates' boats competed in the three days of races.

"We thought we had a pretty good chance," said team member Toby Ayer (S.B. 1996), a physics lecturer in the Experimental Study Group. His crew team, the Bosphoros BC, met through Oxford University, where they all studied. "We've all been staying in pretty good shape," he said, referring to Dan Perkins, coach of MIT's men's freshmen heavyweight crew, and two Oxford University graduates, Brian Palm and Andrew Dunn.

The Club Fours Men's Race was the third race held on Oct. 23, the first day of the regatta. The day was cool, cloudy and windy. "Choppy water makes it hard to

See **REGATTA**
Page 3

Biology program launched

Computational and Systems Biology program is first of its kind in U.S.

Sasha Brown
News Office

Students in MIT's newest Ph.D. program are going where no students have gone before. In September, MIT launched its graduate program in Computational and Systems Biology, the first of its kind in the country.

The first four students matriculated this fall into the interdisciplinary program at the interface of biology, engineering and computer science.

"We get to be the trailblazers," said graduate student Sabrina Spencer, whose impressive credentials include an undergraduate degree from George Washington University, a master's degree in human genetics from the University of Michigan, and extensive work in

cancer biology. The other three students are Laura Sontag, who has a degree in mathematics and biomathematics; Alexander Mallet, who has a computer science degree; and Grace Zheng, who holds a degree in biology and computer science.

These graduate students will conduct research under the joint supervision of Computational and Systems Biology Initiative (CSBi) faculty from different disciplines in science and engineering. The plan is for the graduates to use their training in computational modeling and systematic experimentation, and their ability to think both at the molecular and systems levels to tackle challenging problems in complex biological research.

"True progress in understanding complex biological phenomena will require new insights from a systems perspective, using tools and concepts from engineering and computer science," said Bruce Tidor, associate professor of bioengineering and computer science and chair of the CSB Graduate Program Committee.

"To make this come about, we need to build a strong multidisciplinary community at the interface of biology, engineering and computation. We also need to educate a new breed of researchers that will thrive at this interface," said Tidor.

Students will take foundational classes in modern biology, computational biology, experimental approaches and computer algorithms, and perform a literature-based inquiry into the emerging field of computational and systems biology. They also will make rotations in research groups to gain a deeper appreciation for work at the frontier of this field. Core classes will be supplemented by advanced electives in science and engineering to enhance the breadth and the depth of education.

The new approach emphasizes the functional behavior of collections and builds on the more traditional approach of studying the roles of components. As

See **CSBI**
Page 5



Action figure Streb sets students in loco motion

Sarah H. Wright
News Office

Elizabeth Streb, dancer, choreographer and all-round action artist, shared her research on extreme movement, music and mindful mayhem with the MIT community during a three-day visit Oct. 18 through 21.

Streb, 53, founded the Brooklyn-based dance company, STREB, in 1985. She has won both a MacArthur Fellowship ("genius grant") and a Bessie Award for her choreography, an explosive, gravity-defiant style in which performers bounce and rebound like they're in a mosh pit on Mars. STREB has performed in national and international venues and on television, including on "Late Night with David Letterman."

"Traditional dance is about mimicking music with your body, camouflaging gravity. But is that grace? Does grace require continuity? We create movement so you notice gravity. It's the opposite of ballet. We want the audience to feel the impact, feel the force, feel they've done the moves," said Streb.

Streb presented the 2004 Abramowitz Memorial Lecture, "Outer Limits: The Analysis and Accomplishment of Wild Action and Real Moves," on Oct. 18 in Room 34-101. "Outer Limits" provided a multimedia guide to Streb's innovative work, developed in the Streb Laboratory for Action Mechanics and performed by STREB dancers. Streb herself retired from performing in 1999.

The MIT Office of the Arts sponsored Streb's residency. While on campus, she visited classes in acting, composition and dance, and modeled layered black clothing, including heavy belted boots, on an Artful Dodger theme.

Like most pioneers, Streb has a complex relationship with her predecessors. On the one hand, her technique is "based on the belief that humans can fly," she said—a classical vision. On the other, Streb claims a cartoonist's turf. "Anyone who has ever slipped on a banana peel can

See **STREB**
Page 7



PHOTO / DONNA COVENEY

Dancer/choreographer Elizabeth Streb (right) shares the Dance Dance Revolution Extreme machine in the Student Center with Noe Kamelamela, a senior in materials science and engineering.

NEWS

CLASS PORTRAIT

Deans paint a portrait of the Class of 2008 at October faculty meeting.

Page 2

TODAY AT MIT

Matt Lauer hosted an NBC "Today" show piece about MIT's mental health programs. The show featured an interview with Dr. Alan Siegel.

Page 3

RESEARCH

BATTLING CANCER

MIT and Broad researchers receive two \$12.6 million grants to integrate computational and experimental approaches to cancer research.

Page 4

EXPANDING DESHPANDE GRANTS

Deshpande Center offers next round of grants to MIT faculty in all schools.

Page 4



PHOTO / JAQUELINE A. TAYLOR

Green lights for Red Sox

Occupants of MIT's Green Building sent a salute across the river to the Red Sox at Fenway Park prior to Saturday night's game, the first of the 2004 World Series. Professor Maria Zuber, head of the Department of Earth, Atmospheric and Planetary Sciences, initiated this show of support for the hometown team, and the graduate students in the department lit up the building. The Red Sox won that game 11 to 9. They play again tonight against the Cardinals at Busch Stadium in St. Louis.

Portrait of Class of 2008 presented by deans

Sarah H. Wright
News Office

The faculty heard a portrait of the Class of 2008, a report on an initiative to facilitate faculty-student interactions, and an update on the Cambridge-MIT Institute in its second meeting of the term, held on Wednesday, Oct. 20 in the Kirsch Auditorium on the first floor of the Stata Center.

Marilee Jones, dean of admissions; Larry Benedict, dean for student life; and Robert Redwine, dean for undergraduate education and professor of physics, portrayed the current freshman class. They focused on academic preparedness, extracurricular activities, housing and financial aid.

Describing the 1,080-member class, Jones noted that MIT has steadily sought students who show academic excellence, initiative, curiosity and willingness to take risks. Despite increased competition due to the increased number of 18 year olds, "we're looking for the same characteristics we've always looked for," said Jones. "We seek the 'match' for MIT in credentials, interest in science and engineering, learning style and attitude."

Jones illustrated her point on competitiveness: in 1994, MIT accepted 33 percent of candidates; in 2004, it accepted 16 percent. Of the students who were accepted for this year's entering class, 65 percent enrolled. "Campus preview weekend is a big driving tool for us," she noted.

Jones addressed the faculty directly, saying, "If you think these students are busier than ever, you're right. The number of extracurricular activities for each student has tripled since 1970." Music and athletics have grown particularly popular, she noted.

Benedict characterized the housing situation as both good news and bad. The good news, he said, was enrolling 1,080 students, rapidly decrowding their dorm rooms, and having seniors who plan to remain for graduate studies use the Senior Segue Program, through which they could move into graduate housing a year early.

The bad news was that single rooms were still sometimes used as double rooms, and some seniors chose not to segue, preferring to remain in close quarters with their friends.

Benedict also noted the FSILGs were recruiting "more aggressively, with almost 50 percent of male freshmen pledged already. They have to pay their bills," he said.

Redwine described the class from a financial aid perspective. He emphasized MIT's need-blind admissions policy, its need-based provision of aid and the goal that students graduate "without excessive debt."

Of the freshmen, 83 percent applied for financial aid; 59 percent of those who applied received MIT scholarship funds, Redwine said. The standard undergraduate budget for one year is currently \$42,700. (According to Student Financial Services, the average MIT scholarship for this class is approximately \$22,500.)

Getting to know you

Hazel Sive, professor of biology, reported on behalf of the Committee on Student Life that a new web site to facilitate faculty-student interaction will be launched in February 2005.

The site Interact@MIT will offer a database of individual faculty members, providing their specific professional and personal

interests; it will also offer a database of all student groups (currently numbering 370).

In addition, Sive said, the site will offer guidelines on how to interact in formal and informal situations, in hopes of removing mutual awkwardness.

"There's a lack of understanding of etiquette. International students especially have questions about protocol in faculty-student interactions. Guidelines will help people discern what's too casual or too formal in social events," Sive said.

Cambridge-MIT Institute update

Established in 2000 to improve competitiveness and enhance productivity and entrepreneurship in the British economy, the Cambridge-MIT Institute (CMI) has provided a platform from which MIT could "learn about what we do well," said Ed Crawley, executive director of CMI and a professor of aeronautics and astronautics and engineering systems.

"We would like to think that MIT graduates are able to be innovative because of their self-efficacy, their deep conceptual understanding of their disciplines, and the skills and attitudes toward teamwork they gain through their MIT education. Knowing you're good at something gives confidence and empowerment," Crawley said.

But the British system has strengths worth testing, students who have participated in the exchange program reported. The mutual respect led to a "bold experiment" now under way at MIT. As Crawley explained it, the sophomore class in mechanical engineering now has experiences based on the supervision system used in universities in England.

"After four years on the books and two years of active organization, we're learning progressively and looking forward to the future," Crawley said.

New degree and new name

The faculty also heard a proposal from the Department of Mechanical Engineering to establish a Master of Engineering in Manufacturing degree.

David Hardt, professor of mechanical engineering, presented the rationale for the new master's program. He cited the role of its graduates in modern manufacturing industries: the "new breed of master's student" would have a few years' experience and be clearly focused on an engineering career in the "technology rich" world of manufacturing operations.

Industry is "more specialized than ever. This new degree would fill the gap between the S.M. program in mechanical engineering and the Leaders for Manufacturing program," Hardt said.

Thomas Magnanti, dean of the School of Engineering, endorsed the proposed manufacturing degree program.

Ian Hutchinson, professor and department head of nuclear engineering, discussed the proposal by the Department of Nuclear Engineering to change its name to the Department of Nuclear Science and Engineering.

The proposed new name is a more accurate representation of the department's research and education. It expresses the breadth of the field, not just nuclear reactors, and it will be more attractive to students, Hutchinson said. The phrase "Nuclear Science and Engineering" is widely used and understood to describe the field, and the use of the phrase "science and engineering" has well-established precedent in MIT engineering departments, he said.

Survey seeks student opinions

Sasha Brown
News Office

Graduate students will have the chance to make their voices heard five days before the general election.

On Oct. 28, each of the more than 6,000 graduate students at MIT will receive an e-mail message from Professor Alice Gast, associate provost and vice president for research, inviting them to participate in an online survey.

The students will be surveyed on a variety of topics including financial support, educational programs and their opinions regarding the Institute. Graduate students have until Thanksgiving break in late November to fill out the questionnaire.

Barun Singh, president of the Graduate Student Council (GSC), said one of the main goals is to address the advisor-advisee relationship.

"We are looking at how to improve that relationship," said Singh. The results of the survey will help give quantifiable results that can be used to implement change if needed, he said. In the meantime, focus groups are already forming to deal with the problems the GSC has already identified.

"We are pretty hopeful that the survey

and focus groups will give us a real, definitive approach," said Singh.

Singh hopes questions like: "If you were to start your graduate/professional career again, would you select this same university?" and "Would you recommend this university?" will get to the heart of student satisfaction levels.

This is the third survey of its kind; graduate students are asked from time to time to gauge where improvements can be made. A similar questionnaire sponsored by the GSC a few years ago attracted 44 percent participation. By working together with the school, Singh said the GSC hopes for even more turnout from this survey.

"We'd like to see 50 percent participation," said Singh. "That would give us the kind of results we need."

The survey will act as a window into the lives of graduate students. Though the data is not anonymous, it is confidential, said Lydia Snover, assistant to the provost for institutional research. When compiled, the data is stripped of all identifiers. "Graduate student satisfaction and opinions on all aspects of community life are very important to MIT," said Snover.

"If we can make it really clear that the results of this survey will be used to drive change, we can get a lot of people to answer," Singh said.

HOW TO REACH US

News Office

Telephone: 617-253-2700
E-mail: newsoffice@mit.edu
<http://web.mit.edu/newsoffice>

Office of the Arts

<http://web.mit.edu/arts>



Printed on recycled paper

News Office Staff

Director Arthur Jones
Senior Communications Officer Patti Richards
News Manager/Editor To be appointed
Associate Editor/Writer Denise Brehm
Assistant Director/
Science and Engineering News Elizabeth Thomson
Communications Officer Kristen Collins
Assistant Director/Photojournalist Donna Coveney
Senior Writer Sarah Wright
Web Developer/Editor Lisa Damtoft
Reporter/Writer Sasha Brown
Operations/Financial Administrator Myles Crowley
Administrative Assistant II Mary Anne Hansen
Administrative Assistant II Patti Foley
Computer Support Assistant Roger Donaghy

Publisher
Arthur Jones

Interim Editor
Denise Brehm

Photojournalist
Donna Coveney

Production
Roger Donaghy

Tech Talk is published by the News Office on Wednesdays during term time except for most Monday holiday weeks. See Production Schedule at <http://web.mit.edu/newsoffice/techtalk-info.html>. The News Office is in Room 11-400, Massachusetts Institute of Technology, 77 Massachusetts Avenue, Cambridge, MA, 02139-4307.

Postmaster: Send address changes to Mail Services, Building WW15, Massachusetts Institute of Technology, 77 Massachusetts Avenue, Cambridge, MA 02139-4307.

Subscribers may call 617-252-1550 or send e-mail to mailsvc@mit.edu.

TechTalk is distributed free to faculty and staff offices and residence halls. It is also available free in the News Office and the Information Center.

Domestic mail subscriptions are \$25 per year, non-refundable. Checks should be made payable to MIT and mailed to Business Manager, Room 11-400, MIT, 77 Massachusetts Avenue, Cambridge, MA 02139-4307.

Periodical postage paid at Boston, MA. Permission is granted to excerpt or reprint any material originated in Tech Talk.



PHOTO / DONNA COVENEY

Members of the Cambridge, England, rowing club carry a boat out of the MIT Boathouse to the Charles River last week in preparation for the Head of the Charles Regatta. That crew was one of about 30 who borrowed boats from MIT's crew teams to compete in the regatta Oct. 23-24.

REGATTA

Continued from Page 1

row. Being a little cool is actually a little better," Ayer said on Monday after the race.

The competition was fierce. As the largest multi-day rowing regatta in the world, the Head of the Charles attracts more than 7,000 athletes to Boston and Cambridge from many countries to compete in 24 different race events during the weekend. Seven MIT crew teams and at least four other boats with MIT-affiliated rowers raced.

Michael Perry (S.B. 1999) came in second in the Men's Championship Single on Saturday afternoon. "That's a great finish," said former MIT head rowing coach Stuart Schmill, who is now director of the Educational Council and associate director of admissions at MIT. "He finished behind a former world champion and Olympian."

Schmill himself competed in the Senior Master's Eight event, placing second out of 32 crews. His crew missed first place by just one second, but managed to beat out the 1980 Olympic crew, who finished fourth in the race.

MIT's 1969 Lightweight crew team came in 23rd of 32 crews. "We were pleased with our race and so we were surprised that we didn't rank higher," said Bruce Anderson (S.B. 1969) the team's captain. "Feels like we must be the only ones getting older each year."

The MIT student teams did not fare as well as Hamilton had hoped. The Collegiate Eight Men's placed the best, coming in 21st out of 45 crews, with a time of 12:05.

"Some of our performances were definitely as fast as I had hoped," said men's heavyweight coach Gordon Hamilton. "But the places were not quite as high."

This year, approximately 30 visiting crews from all over the world launched out of the MIT Boathouse on the Cambridge side of the Charles River in boats borrowed from the MIT crew team. "We make rowing in the Head of the Charles possible for approximately 200 rowers," said Ian Hutton, who coaches MIT's men's varsity lightweight rowers.

In addition to several crews from the Cambridge University team, boats were lent to a Dutch team, a team from Seattle and many others. The MIT boathouse, with its central location on the river, can become very crowded during the regatta.

"We are a popular stop for boats with last-minute repairs to make, and for the

last-minute bathroom break—the frantic mad dash from the dock to the locker room, panicking when they get to the locker room and don't know the combination to get in," said Schmill.

This year, the MIT boathouse also served as headquarters for safety and medical personnel. "We have a good central location," said Hamilton. Though the actual racecourse is generally pretty safe, the practice area that runs right past MIT has been the site of a few accidents in the past.

But things ran smoothly this year. "Other than some broken equipment we helped to replace for some teams, there were no major emergencies," said Hamilton. "It was a very good weekend."

Book explores issues faced by president

Sarah H. Wright
News Office

"Pursuing the Endless Frontier: Essays on MIT and the Role of Research Universities" (MIT Press), a new book by President Charles M. Vest, explores controversial and significant issues facing academic institutions through the prism of Vest's 14 years of leading MIT.

"A journey that began in a warm family in a small town in West Virginia has led to center stage in Killian Court—where my path and that of the Institute have come together," Vest writes in the introduction to his 1990 inaugural address, titled "MIT: Shaping the Future," the book's opening essay.

Vest developed the essays in "Frontier" from his annual year-end messages, adding an introduction to each essay that places it in a wider historical context.

Themes including managing the "fragile envelope" of the Earth's environment, human interconnectivity, political and economic connections, and divisions affecting higher education persist throughout the book.

In "Higher Education and the Challenges of a New Era" (1993-1994), Vest provides a lucid view of the rapid changes in relationships among industry, government and research universities. Emphasizing the importance of federal funding for basic science, Vest goes on to discuss the impact of the marketplace on R&D and the potential clashes between industrial and

Mental Health Service featured on 'Today' show

Arthur Jones
News Office

MIT's Mental Health Service, particularly its nationally recognized suicide prevention program, was featured on a recent segment of NBC-TV's "Today" show.

The episode came at a time when MIT's Mental Health Service is planning to add two new components to its program that are designed to reach and serve more at-risk clients.

The seven-minute segment featured mental health care providers, a United States senator, educators, parents and the heads of a national suicide prevention program—all of whom note that suicide prevention is an ongoing challenge requiring specialized attention, sensitivity and commitment.

They pointed out that suicide is the third leading cause of death in the United States.

Dr. Alan Siegel, chief of Mental Health Service at MIT Medical, appeared in the Oct. 19 segment anchored by "Today" co-host Matt Lauer.

After Lauer noted that in recent years, "MIT has made changes in the ways they try to reach at-risk students," Dr. Siegel said, "We're involved in training everybody that we can think of—faculty, administrative staff, dormitory personnel and students themselves—in recognizing when a student has some difficulties."

Siegel also said, "There has been an increase in the use of mental health services [at MIT]. Part of it, I think, is because students are made more aware of what services are available."

The segment also featured comments from representatives of the University of Illinois and Emory University, both of which have unique approaches to suicide prevention programs. Sen. Gordon Smith (R-Ore.), sponsor of a Senate bill to provide mental health funding for universities and named after his late son Garrett

Smith, was also interviewed.

One of the programs soon to be added to the MIT Mental Health Service practices is identical to the pilot program underway at Emory that was discussed on the "Today" show. It involves an online depression screening outreach program and allows for anonymous online dialogue with a clinician. This online exchange allows students to make a clinical connection in a more private way as a first step towards meetings with a counselor, the Emory staff determined.

MIT's Mental Health Service will add this anonymous online approach to its program in early 2005.

The second new element is adapted from protocol used by the United States Air Force and recommended by the Centers for Disease Control. It targets at-risk individuals with dual components—prevention measures and interventions.

The U.S.A.F. program stresses broad education, training in mental ill-

ness prevention, community programs to enhance protective factors, and identification and early referral of at-risk individuals.

In addition to identifying contributing causes of suicide, it found that protective factors fell into three categories—social support and interconnectedness, individual coping skills, and cultural norms that promote and protect responsible help-seeking behavior.

The Mental Health Service provides consultation, counseling and crisis intervention to all students for many different problems at no cost. It also offers consultation to all faculty and administrators who are concerned about any student.

To reach the MIT Mental Health Service, call (617) 253-2916. Appointments are available within a few days of calling. Walk-in meetings with a staff clinician are available for urgent matters without an appointment, Monday through Friday from 2 to 4 p.m.. Staff are available for emergency consultation 24 hours a day, seven days a week.



Alan Siegel

academic values.

"Industrial issues have become intellectually challenging and exciting from the perspective of faculty and student interest, and we need each other as never before," he writes.

"Three Questions in Search of Answers" (1998-1999) is both contemplative and journalistic. The questions concern merit-based financial aid, the faculty's collective responsibility, and the impact of industry sponsorship of research. They "speak to what principles we rely on to guide our future," he writes.

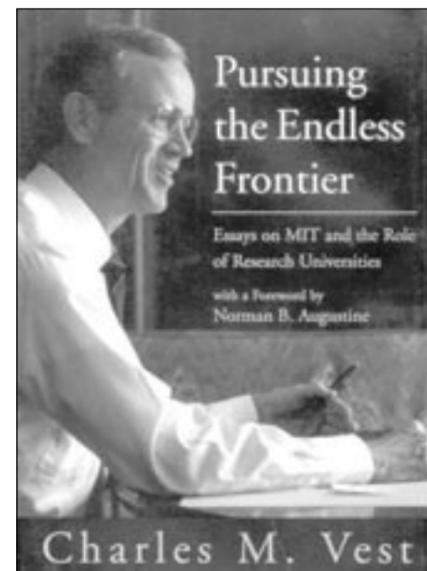
The last two essays in "Frontier" juxtapose the international and the individual spheres. Following Sept. 11, 2001, MIT and other research institutions had to address the balance of security and openness, an issue Vest took on directly and passionately in favor of openness.

In "Response and Responsibility: Balancing Security and Openness in Research and Education" (2001-2002), Vest writes, "As we respond to the reality of terrorism, we must not unintentionally disable the quality and rapid evolution of American science and technology ... Openness in education and research must prevail. But this will be possible only ... if the federal government and academia maintain a respectful, substantive and effective dialogue between those who do science and those who are charged with protecting the nation."

At the book's end, Vest stands again on Killian Court, reflecting on the roots of academic excellence; the values of perseverance, boldness and optimism; and his expe-

rience leading MIT through an ambitious program for campus renewal. He closes these essays with an eye to the future.

"Through its own work, and especially through the lives and works of its graduates, a great university can strive to make the world well. The knowledge we generate, the things we come to understand, and the devices we build, can improve health, economies, security and the quality of life. MIT must continue to be optimistic in its vision of why we are here and what we can do. For then our students will be inspired to take on the great challenges," he writes.



NCI grants encourage new approaches to cancer research

Christina Yoon
Center for Cancer Research
and
Michelle Nhuch
Broad Institute

Biomedical research has increasingly required the integration of computational and experimental approaches. In cancer research, this is becoming known as integrative cancer biology (ICB). To help establish ICB as a distinct field, the National Cancer Institute recently awarded grants to nine institutions, including MIT and the Broad Institute of MIT and Harvard, to establish ICB research programs.

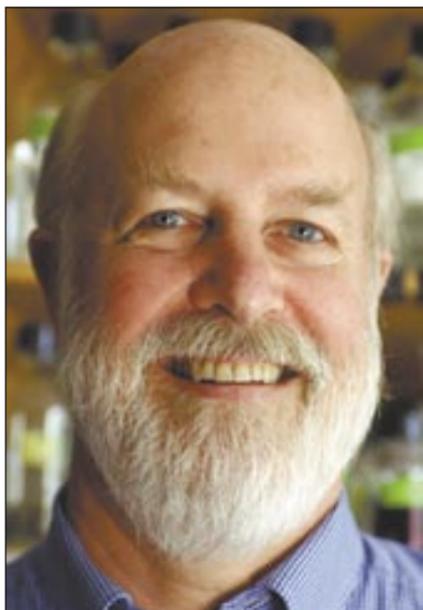
Professor Richard Hynes of MIT's Center for Cancer Research is the principal investigator on a five-year, \$12.6 million grant which will be shared by a group of 13 investigators across MIT. Todd Golub, director of the Broad's cancer research program, is the principal investigator on a grant of the same magnitude that will establish a collaborative program between the Broad Institute and the Dana-Farber Cancer Institute.

ICB research is designed to gain new insights into the development and progression of cancer through a systems-wide approach, and ultimately lead to the development of improved cancer interventions. The National Cancer Institute intends the different ICB programs to interact; the individual focus of each center is distinct and complementary to the others.

ICB research at MIT

MIT's ICB program will focus mainly on three research projects: cell proliferation, DNA repair and cell migration. These processes are involved in cancer initiation and progression and the research will build on the existing strengths of the investigators in animal and cellular models of cancer, cell and molecular biology, and computation and modeling, said Hynes, who is the Daniel K. Ludwig Professor for Cancer Research in the Department of Biology and a Howard Hughes Medical Institute Investigator.

"This award is exciting because it integrates the quantitatively inclined computational people with the wet lab biologists on



Richard Hynes

campus. It will draw in trainees across traditional scientific boundaries," said Hynes.

The grant also includes funds for the establishment of research resources in bioinformatics, computation and modeling, and in the development of RNA interference (RNAi) technology. A third essential component of the grant provides funding for graduate student training and support for courses taught through MIT's Computational and Systems Biology program.

The 12 other investigators on the MIT grant are professors Jianzhu Chen, Frank Gertler, Tyler Jacks, Douglas Lauffenburger, David Sabatini, Leona Samson, Phillip Sharp, Peter Sorger, Bruce Tidor, Forest White, Jacob White and Michael Yaffe.

"This grant nucleated collaborations that wouldn't have happened as quickly without this funding," said Hynes.

Broad's ICB program

Researchers in the Broad ICB program will have a single focus—to determine the molecular signatures of each kinase (a class of proteins) in the human genome. Kinases play a central role in the patho-



Todd Golub

genesis for most, if not all, cancers and represent excellent therapeutic targets, said Golub, who is a Charles A. Dana Investigator at Dana-Farber.

The researchers will use these molecular signatures to measure gene expression results, and develop computational models that are predictive of kinase activation and its essentiality in cancer cells, said the scientists.

"This program will represent a vehicle to unite a great team of scientists interested in working together toward a single goal. It will also serve to further our efforts to work at the interface of cancer biology and computational biology," said Golub.

In addition to its scientific goal, the Broad/Dana-Farber ICB program will focus on community outreach and the training of biologists, computationalists and undergraduate students.

Other investigators involved in the Broad/Dana-Farber ICB grant are Eric Lander, Steven Carr, Jill Mesirov, Pablo Tamayo, William Hahn, Matthew Meyerson, Gary Gilliland, James Griffin, Thomas Roberts and Ed Harlow.

Simon Pitts joins Ford-MIT Alliance leadership

Nancy DuVergne Smith
Center for Technology, Policy and
Industrial Development

London-born Simon Pitts joined the Ford Motor Company in 1976 because it was a global automaker and he was fascinated with the company's products. Now Pitts is using his own international career to work as Ford's executive director of the MIT-Ford Alliance, bringing the automaker's perspectives to campus and delivering MIT insights to Ford headquarters in Dearborn, Michigan.

"Over the last three years, as director of product development operations for the Ford, Volvo, Jaguar and Land Rover brands, I've been working with the Ford-MIT Alliance looking after the product development process," Pitts said. "That really piqued my interest in getting some synergy between a commercial automotive business and its advanced research and harnessing the parallel work that MIT is doing."

Pitts's career began in power-train (the apparatus that transfer power from the engine to the axle in a vehicle, usually known as the transmission) development research with Ford shortly after graduating from the U.K.'s Loughborough University. His assignments, in addition to varied power-train positions, have included global vehicle line director of the Focus, North American director of manufacturing operations, and director of worldwide power-train planning. These positions in the U.K., Germany, and the U.S. have been interspersed with executive education stints in France at INSEAD, the global business school. "Now I'm back into advanced research, so it's full circle."

Since arriving at MIT in August, Pitts has been targeting new strategic connections between faculty, researchers, students and Ford participants from vice presidents to engineers. "My goal is to take the individual pieces of the Alliance and holistically drive them forward. The trick to maximizing the benefit for MIT and Ford is to really look between the individual elements for opportunities—not consider just one project or education program or student at a time. It's the way we put the package together that really drives the benefits for both entities."

Pitts will collaborate with the executive director on the MIT side, Joseph Saleh (Ph.D. 2002 in aeronautics and astronautics).

The Ford-MIT Alliance, an Institute-wide program financially administered by the Center for Technology, Policy and Industrial Development, currently supports more than 25 collaborative research projects and has supported more than 80 since it was established in 1997.

Deshpande Center opens grant program to faculty members from all areas of Institute

Lauren Clark
School of Engineering

The Deshpande Center for Technological Innovation, whose mission is to bridge the gap between laboratory research at MIT and the marketplace, has just announced that its spring 2005 call for proposals will be open to faculty members from any area of the Institute. Up until now, only faculty in the School of Engineering have been eligible.

"We want all MIT faculty to benefit from the funding and expertise the Deshpande Center provides," said Krisztina Holly, executive director of the center. "We expect to attract a wide variety of proposals for innovations with commercial potential by broadening our grant program."

The Deshpande Center's grants, market input, and connections with the business community have been remarkably effective in getting research to market. This month, a research team that developed a novel 3-D imaging system with funding from the center formed a startup company, becoming the third commercial technology to come out of the center. Since its founding in 2002, the center has funded 38 projects totaling \$4.3 million.

The new company, Brontes Technologies Inc. is developing a compact, portable, versatile system capable of converting 2-D optical devices such as cameras, microscopes and endoscopes into 3-D imaging instruments for use in medical

procedures, industrial inspection, facial recognition and entertainment.

Charles L. Cooney, faculty director of the Deshpande Center, said that "with its fast start, Brontes Technologies has made the leap from research lab to new enterprise in exactly the way we envisioned when the Deshpande Center was formed in 2002." The company joins two other spinouts: a biotechnology company called Pervasis Therapeutics, and a memory-cell technology that was licensed to a nanotechnology firm last April.

Professor Douglas Hart of mechanical engineering led the 3-D imaging research, working with research scientist Janos Rohaly and Ph.D. candidates Federico Frigerio and Sheng Tan. After the Deshpande Center awarded the team an Innovation Grant in October 2002, it helped recruit two Boston-area entrepreneurs, Eric Paley and Micah Rosenbloom, to evaluate the project's commercial potential, develop a business plan and raise capital. Paley is CEO and Rosenbloom is COO of the new company.

This week, five new projects and three existing projects received Deshpande Center grants, selected from a pool of 34 applicants. The \$699,000 in grants will fund the development of innovations including a new method of early cancer detection, a breakthrough in the cost of manufacturing fuel cells, and a new way to manufacture ice cream.

"Our team is thrilled to get a Deshpande grant. The funding comes at a criti-

cal time for us, and we are also looking forward to the 'collateral' benefits of the center that will help us meet the right people and understand the potential markets for our technology," said Anuradha Murthy Agarwal, a research associate in the Materials Processing Center who won a grant for work on low-cost, multispectral photodetector arrays. She is working with Professor Lionel Kimerling, director of the Materials Processing and Microphotonics centers.

FALL 2004 DESHPANDE CENTER PROJECTS

Ignition Grants

\$50,000 grants that fund proof-of-concept explorations

- John Brisson—Novel ice-cream production method
- Clark Colton—Finding early-stage cancers using novel contrast agents for enhanced MRI
- Lionel Kimerling and Anuradha Murthy Agarwal—Low-cost multispectral infrared detector arrays

Innovation Grants

\$50,000-\$250,000 grants to help recipients assess and reduce technical and market risks

- Chipping Chen—Making 3G and 4G a reality with low-cost amplifiers for wireless base stations. (renewal)
- Martin Culpepper—HexFlex: Enabling nanofabrication with a six-axis nano manipulator.
- Klavs Jensen—Accelerating innovation in the chemistry lab
- Yang Shao-Horn—Engineered electrode assemblies for proton exchange membrane (PEM) fuel cells. (renewal)
- Michael Stonebraker—Hybrid database management system optimized for read-intensive applications.

Cricket chirping provides voice for interior GPS

Robyn Fizz

Information Services and Technology

What do knowing where to install an electrical outlet, locating your colleague or making a move in a virtual reality game have in common?

They are all potential applications for Cricket, an indoor location system developed by Professor Hari Balakrishnan and colleagues at MIT's Computer Science and Artificial Intelligence Laboratory (CSAIL). Cricket is part of CSAIL's five-year Project Oxygen, a research initiative that aims to bring "abundant computation and communication, as pervasive and free as air, naturally into people's lives," say the researchers.

Cricket provides fine-grained location information to applications running on handhelds, laptops and sensor nodes. This data can range from location identifiers to position coordinates to compass-like orientation. Cricket is intended for use indoors or in urban areas where the Global Positioning System (GPS) does not work well.

While the Cricket project began in 1999, the second major version of the software was released in July 2004; it is the first to be commercially available. Early adopters include research groups at universities, corporations and hospitals; one chemical sensor company is experimenting with Cricket to help monitor chemical and gas leaks.

Cricket uses a combination of radio frequency (RF) and ultrasound technologies. Wall- and ceiling-mounted beacons placed throughout a building publish information on an RF channel. With each RF "chirp," the beacon

sends a concurrent ultrasonic pulse. Receivers attached to mobile devices listen for RF signals and after receiving the first few bits, listen for the corresponding ultrasonic pulse. Cricket calculates distances between the handheld devices and beacons by running algorithms based on the difference in propagation speeds between RF (light) and ultrasound (sound). Even in the presence of competing beacons, Cricket quickly achieves good precision—usually within 1 to 5 centimeters.

Cricket's software—both the code embedded in sensors and the higher-layer software that runs on laptops and handhelds—is open source. It's also flexible, making it easy for others to code location-aware applications.

Balakrishnan foresees three broad areas of use for Cricket 10 years from now.

- Robot and human navigation and discovery. Cricket could enable teams of robots to navigate the floor of a busy manufacturing plant and perform various tasks or help people make their way around large, unfamiliar places.

- Monitoring and controlling environments through sensor networks. Applications could range from equipment and environmental monitoring to activating heating, ventilation and air conditioning (HVAC) systems.

- Games and entertainment. With improved fast tracking of moving objects, Cricket-based virtual reality games have potential. In these games, physical movements made in special rooms in the real world appear in a computer-simulated world shared by others, who can make their own moves in response.

Cricket is funded by the MIT Project Oxygen partnership, the National Science Foundation, Intel Corporation and the Sloan Foundation.

NEWS YOU CAN USE

Educational technologies demonstrated

Faculty and others in the MIT community are invited to view faculty project demonstrations during the second MIT Ed Tech Fair from 10:00 a.m. to 2:00 p.m. on Nov. 2 in Lobby 13 and the Bush Room. Faculty will be able to speak to their colleagues about ways they use technology to impact teaching and learning. Educational technology resources and services representatives will also be on hand to speak with faculty and provide demos. The event is sponsored by IS&T Academic Computing and the Office of the Dean for Undergraduate Education.

Open Enrollment

The Benefits Office would like to remind eligible members of the MIT community that the annual benefits open enrollment period will be held from Monday, Nov. 15 through Friday, Dec. 3.

Unlike in previous years, personal enrollment guides will not be sent to active employees in paper form. Instead, personal enrollment guides will be sent to all benefits-eligible employees through their MIT e-mail address. The online guide summarizes current benefit coverage and provides instructions for making benefits elections using employee self service. You will not need to do anything if you want to maintain your current level of coverage for 2005 unless you want to enroll in a Flexible Spending Account for next year. Employees who want to make changes will need to use employee self service on the web during the open enrollment period. For questions, send e-mail to openenroll2005@mit.edu or call the campus Benefits Office at 253-5100 or Lincoln Laboratory at (781) 981-7055.

CSBi

Continued from Page 1

such, the focus moves from individual players to the concerted effect of networks and pathways leading to biological complexity.

"It's like zooming out as opposed to in," explained Spencer. "If you only study biological systems using a reductionist approach and look only at very small pieces of the whole puzzle, you might miss the larger dynamics of what is going on."

The integrative and interdisciplinary nature of the curriculum fits with National Institutes of Health (NIH) educational priorities. The NIH launched a series of new initiatives under the NIH Roadmap aimed at encouraging interdisciplinary research and education, including a five-year, \$16 million research grant to CSBi.

This fall, NIH awarded CSBi another grant, a five-year training grant for \$3 million to support students in the Ph.D. program, involving Tidor as the principal investigator and 18 other engineering and science faculty who

teach core courses in the new program.

Interestingly, many of the faculty had to invent novel programs to train themselves for careers as interdisciplinary researchers. For instance, Amy Keating did undergraduate work in physics, carried out both her Ph.D. and postdoctoral research under the joint supervision of an experimentalist and a theorist, and is now an assistant professor of biology using experiment and theory to study protein-protein interaction networks. Joel Voldman was trained as an electrical engineer but did postdoctoral work at Harvard Medical School in stem cell differentiation to prepare for a career developing new BioMEMS devices to probe cellular function. He is currently an assistant professor in electrical engineering and computer science.

"The CSBi doctoral program continues MIT's long tradition of pioneering graduate education in new interdisciplinary fields," said Provost Robert A. Brown. "CSBi is a critical part of MIT's activities at the interface between biology, engineering, physical science and mathematics."

Magnanti examines engineering systems

Lois Slavin

Engineering Systems Division

Citing such remarkable achievements as electrification, the automobile, and water supply and distribution, Thomas L. Magnanti, Institute Professor and dean of the School of Engineering, argued that engineering systems were vital to the greatest engineering achievements of the past century.

In fact, while new technologies and engineering achievements are often initiated by individuals, it takes an interdisciplinary approach and a systems perspective to make them a reality, he said.

Magnanti's presentation, "Engineering Engineering Systems," was delivered Oct. 7 as the annual Brunel Lecture on Complex Systems, sponsored by the Engineering Systems Division. He focused on the importance of engineering systems and posed questions to consider for the 21st century. He also shed light on the development and content of educational programs dealing with complex technical systems, as well as the intellectual foundations of this field.

Magnanti provided details of the development of the System Design and Management (SDM) program, MIT's only degree-granting program offered primarily as a distance-learning program. The program's planners used a systems development process to design the graduate-level program, and data-gathering and analysis based on interviews with more than 100 senior managers in industry and government. The resulting SDM program, which the dean said is helping to define the field of engineering systems, integrates a range of disciplines in engineering and management, including engineering design, systems engineering, optimization and risk assessment, marketing, finance and accounting, human resources management and leadership.

Magnanti used a "Four M" conceptual model (measure, mine, model, manipulate) to illustrate how bioengineers, economists, sociologists and others might characterize some of the intellectual underpinnings of their fields. For example, economists might gather data in the form of national income statements, exchange rates, prices, wages and consumption to measure the economy. They could use econometrics and experiments to mine data, models like game theory and comparative statics to analyze it, and manipulate the economy with instruments like fiscal or trade policies.

He concluded by asking the audience to think about whether engineering systems is a field like management that draws upon a variety of disciplines or is itself a discipline like bioengineering, economics and sociology.

Past Brunel lectures have been given by Norm Augustine on simple systems and other myths, Lewis Branscomb on whether science and technology can make the U.S. safer from catastrophic terrorism, and Institute Professor Sheila Widnall on the engineering systems issues the Columbia disaster raised for engineering education.



PHOTO / DONNA COVENEY

John Albeck, a graduate student in biology, and Laura Sontag, a graduate student in Computational and Systems Biology (CSBi), observe how a protein behaves using a technique called live cell microscopy. The new CSBi program blends biology, engineering and computer science.

Haystack Observatory celebrates 40th anniversary today

Madeleine Needles
and
Carolyn Peterson
Haystack Observatory

MIT's Haystack Observatory and Lincoln Laboratory are celebrating four decades of radio astronomy and radar studies made possible by a collection of large radio telescopes and high-power radars at their research site in Westford, Mass.

Since the 1960s, Haystack's flagship radio facility, a 120-foot antenna, has given scientists and students a powerful tool to study targets ranging from planets in our solar system to distant, energetic objects like quasars. The Haystack antenna also has served as part of the U.S. Space Surveillance program, generating radar images of satellites orbiting Earth.

After 40 years of remarkable service, this venerable instrument is about to undergo a major upgrade that will further drive its capabilities to the forefront of research.

"In a sense, this is history repeating itself at Haystack," said Joseph Salah, Haystack director. "When the antenna was first constructed by Lincoln Laboratory in 1964 it was hailed as one of the most precise scientific instruments ever built, and it has served us well. Now we're about to upgrade it, and once again it will be leading the way in imaging applications, in radio astronomy research and in education."

The upgrade is currently in the design phase; major work is slated to begin in 2006. The large radome enclosing the antenna will be lifted off so that the existing antenna can be removed and a new one installed. A new radar transmitter and processing system will be integrated and

tested in 2007-2009. The renovations will allow image resolutions about 10 times better than at present, making the antenna a premier radio astronomy facility for research and education.

A reception will be held today at Haystack to celebrate the facility's four decades of scientific accomplishment and to look towards future research areas.

Instruments associated with Haystack include the Millstone Hill Observatory, which conducts radar observations of the Earth's upper atmosphere; a deuterium array that will assess the abundance of dark matter in the Universe; the Westford radio telescope that makes measurements of the Earth's orientation parameters; and a powerful computer used for processing astronomical and geodetic data obtained from radio interferometer experiments.

In the 1960s, the Haystack radar was used to image the surface of the moon to find suitable landing sites for the Apollo missions. It mapped both Venus and Mars, and was used in the fourth test of Einstein's theory of general relativity.

In more recent times, the radio telescope has been part of the Very Long Baseline Interferometry (VLBI) network, which uses widely separated antennas to image sources in deep space such as quasars and galaxies with fine resolution, pinpoint extragalactic masers and map star-forming regions in our galaxy. Many of the techniques used today in VLBI were invented and developed at Haystack, and the first silicon monoxide maser image of a young stellar object was performed with Haystack's antenna leading a world-wide array of high frequency radio telescopes. The same VLBI technique was turned to studying the Earth's surface, and in the 1980s, the first direct measurement of contemporary plate motions was made with the participation of the Haystack antenna.



IMAGE / MARK DELISLE

This cutaway image is of the 37-meter radio telescope and radar that have been in operation for 40 years at MIT's Haystack Observatory in Westford, Mass.

IN BRIEF

Mayors proclaim Kahlil Gibran Day

The Lebanese Club @ MIT hosted artist Michel El-Ashkar in his internationally acclaimed monodrama, "A Child of Life," a theatrical dramatic interpretation in English that chronicles highlights of the life of the Lebanese-American poet and artist, Kahlil Gibran.

Acting on a request by Loai Naamani, a graduate student in civil and environmental engineering and president of the Lebanese Club @ MIT, the mayors of Boston and Cambridge joined the mayors of nine other cities in the United States in proclaiming an official "Kahlil Gibran Day." In his official proclamation, Mayor Thomas Menino of Boston said, "I shall call upon our citizenry to observe this day [Sept. 18] with deepest admiration and respect and to acknowledge the contribution of Lebanese immigrants and the significance of Khalil Gibran's legacy to our literary heritage."

Boston resident Kahlil Gibran, the 82-year-old grandson, cousin and namesake of the famous poet, was guest of honor at the event in Kresge Auditorium.

For its "Libanissimo III" last year, the Lebanese Club was recognized as the MIT club with the "Best Program of the Year."

Students attend workshop in Germany

Ten graduate students attended a workshop in Ludwigshafen, Germany, Oct. 6 to 9 at the BASF chemical company as part of the MIT-Germany Program. The company provided lectures, plant tours and management training on the theme of "Nanotechnology: a Challenge for the Chemical Industry."

The characterization and targeted manufacture of nanoparticles and the production of nanostructured surfaces are important applications for the chemical industry. BASF scientists are working as part of national and international teams to establish a database to evaluate the opportunities and potential threats of nanotechnology. Presentations at the workshop addressed the scientific aspects of nanotechnology as well as the potential for entrepreneurship.

"The workshop is intended as a means of forging closer ties with the young scientists emerging from this top university," said Marcos Gomez of BASF's university relations and research planning department.

MIT students in chemistry, biochemistry and engineering whose postgraduate research takes them into areas linked to BASF's own research interests attended, along with 10 participants from prestigious European universities.

Fox, Gruber elected to Institute of Medicine

James G. Fox, D.V.M., professor of biological engineering and director of the Division of Comparative Medicine, and Jonathan Gruber, professor of economics, have been elected to the Institute of Medicine.

Fox and Gruber were among 65 new members of the Washington-based institute, which made the announcement on Oct. 18. The Institute of Medicine (IOM) is one of the four national academies, along with the National Academy of Sciences, the National Academy of Engineering and the National Research Council. The IOM's committees engage in a broad range of studies related to health policy issues.

Current active members elect new members from among candidates nominated for their professional achievement and commitment to service. With their election, members make a commitment to devote a significant amount of volunteer time to a broad range of studies on health policy issues. The IOM's charter stipulates that

at least one-quarter of the membership be selected from outside the health professions.

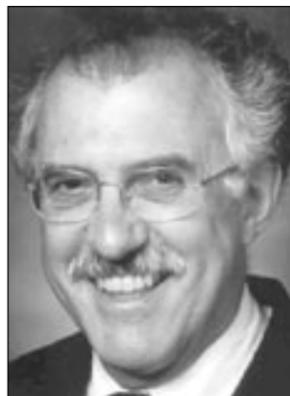
Fox's current research in biological engineering examines the mechanisms by which chronic infection with environmentally acquired pathogens causes cancer in humans. The Division of Comparative Medicine (DCM) employs 145 people; Fox serves as director and as a principal investigator in research on cancer in animals. He also is principal investigator on a program



Jonathan Gruber

at the DCM that trains veterinarians for careers in biomedical research.

Gruber's research focuses on public finance and health economics. His recent areas of particular interest include the economics of employer-provided health insurance, the efficiency of our current system of delivering health care to the indigent, the effect of the Social Security program on retirement behavior, and the economics of smoking.



James Fox

CLASSIFIED ADS

Members of the MIT community may submit one classified ad each issue. Ads can be resubmitted, but not two weeks in a row. Ads should be 30 words maximum; they will be edited. Submit by e-mail to ttads@mit.edu or mail to Classifieds, Rm 11-400. Deadline is noon Wednesday the week before publication.

FOR SALE

Oak Workbench bookcase. 76h x 22w x 12d. Very good condition. 15 minutes by car from campus. \$35. boiko@mit.edu.

2 pr. roller-blades, ex. cond. Roller-blade VTX 5000, W-size 7, Roller-blade Bravoblade, M-size 8. \$30 each, \$50 for both, negotiable. 253-0731.

Indoor mountain bike trainer (Minoura RDA-850D) w/front wheel stand. Used handful of times. \$150. rilsad@mit.edu.

1950s era American Flyer train set. 2 engines (need minor repair), 6 cars, power pack, 2 transformers, 26 pieces of track (2 bent), original catalog/booklet. \$50. Jim at jceggles@mit.edu or 617-547-3590.

HOUSING

Professional working male seeks housing in Gr. Boston area near public transport thru 12/31 for Wed, Thurs, Fri only. Further info, contact 617-876-7335 eve.

Watertown: 2 br apt in 3 family house. 2nd floor. Hdwd flrs, back porch. Near malls, parks, T to Harvard and MIT. W/d in basement, off street parking. Avail. Nov. 1. \$1,200. Belle at 617-926-5531 or 452-2458.

Cambridge: 5 rm apart. Near Kendall Square. Hdwd flrs/new kitchen flr. Laundry in basement. 10 min. walk to MIT/Kendall Square. \$1,200 w/heat and hotwater. Elaine at 617-864-4402 or 617-435-8618.

Belmont, Cushing Sq.: 3BR, 1 bath. Hdwd flr. Walk to bus. Garage parking for 2 cars. Small yard. Avail. now. \$1,300. Arthur at 617-719-2067.

VEHICLES

1995 Nissan Sentra. Auto. Good cond. 75K, great engine, body dings, well maintained yearly. AC/all power/tilt/cruise/air bags/moon roof. \$3000. Clare at 253-7708 or clares@mit.edu.

2000 Volkswagen Passat. 36K. One owner; ex. cond., new brakes. Kept in garage for 3 years. Green w/tan interior, premium CD/radio. \$12,500. 253-8355.

1991 Toyota Camry Station Wagon. 127K, mostly highway. Auto, A/C, pw, runs great, professionally maintained yearly, many new parts. \$1900. John at 253-8286 or feng@psfc.mit.edu.

1991 Honda Civic Hatchback. 87K. 4-Cyl. 1.5 Liter, 4 Sp. manual, front wheel drive. A/C, AM/FM stereo, cassette. Very good cond. \$1749. Anne at dowell@mit.edu or 617-253-8266.

Butera belly dances her way around the world

Lynn Heinemann
Office of the Arts

When Loni Butera first discovered belly dancing in the mid 1980s in her native Germany, she was ironing.

"I was watching television at the same time, which is the only way I'll iron," said Butera, who said she was enchanted by the music, movements and costumes of the Middle Eastern folkloric dance on TV.

In what Butera calls a case of kismet, a friend called a few days later to cancel their plans, saying, "My belly dance class starts tonight."

"That was it for me," recalled Butera, who started classes that night. Since her initial foray, Butera has studied belly dancing intensively in Germany with prominent instructors from Europe, North America and the Mediterranean basin.

"I'd previously done ballroom dancing, but that really doesn't compare," she said, noting that one can begin belly dancing at any age, and with any figure or size. "With practice, you can become very flexible and limber."

Butera has been an administrative assistant with the Tech Catholic Community at the MIT Chaplaincy since 1996. She'll demonstrate her belly dancing skills in an Artist-Behind-the-Desk performance at noon on Wednesday, Nov. 3 in Killian Hall.

Belly dancing is believed to have its origins in the spiritual and ritual birth dance of the pre-Islamic Middle East. No special skills are needed for the art form, according to Butera, who teaches belly dancing at the Boston Center for Adult Education and at MIT through the Spouses & Partners Program on Tuesdays from 7:30 to 9 p.m. Her classes are designed to make participants feel comfortable with their bodies while offering aerobic training, improved body tone and exercises focusing on body isolations, coordination and a sense of rhythmic affinity for the music.

"Some students have been with me for eight years and others for only three weeks," said Butera. Her classes accommodate all levels of experience. Butera devises the routines herself so that everyone can get something from the class. With belly dancing, she says, exercise is always fun. "I used to run," she said, "But there was always a reason not to—it was too rainy or windy or cold."

Butera owns a wardrobe of 10-15 costumes she uses in performances at birthday parties, weddings and international festivals.

"I love to see how much people enjoy my dancing," said Butera, whose husband often babysits when she



Loni Butera

performs. "My daughters are not yet belly dancing," said Butera, "But the five-year-old does imitate me, and the two-year-old copies her."

Wodiczko receives 2004 Kepes arts prize

Krzysztof Wodiczko, professor of visual arts in the Department of Architecture, has been awarded the 2004 Kepes Prize by the Council for the Arts at MIT. The award is given annually to a member of the MIT community whose creative work reflects the vision and values of Gyorgy Kepes (1906-2002), founder of MIT's Center for Advanced Visual Studies (CAVS).

Kepes work explored the relationships between art and science, and art and the environment. The award will be presented to Wodiczko on Oct. 28, at the council's annual meeting.

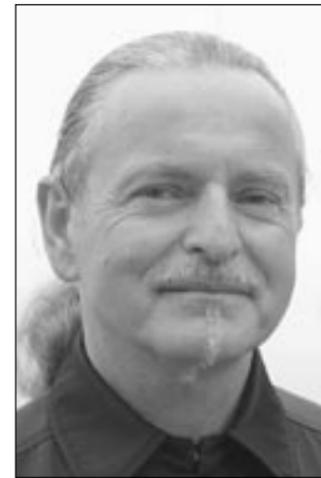
Wodiczko has taught at MIT since 1991. He is director of the CAVS and head of the Interrogative Design

Group in CAVS. He is renowned internationally for his large-scale slide and video projections on architectural facades and monuments. Born in Warsaw, Poland, in 1943, Wodiczko emigrated twice, from Poland to Canada and then from Canada to the United States. He now splits his time between New York and Cambridge.

Since 1980, Wodiczko has created more than 70 projections on monuments and civic edifices including at The Hirshhorn Museum in Washington, D.C. (1988), The Whitney Museum of American Art (1989), Arco de la Victoria in Madrid (1991), City Hall Tower in Krakow (1996), Bunker Hill Monument in Charlestown (1998), A-bomb Dome in Hiroshima (1999), El Centro Cultural in Tijuana, Mexico (2001) and Central Library in Saint Louis (2004).

In 1996, Wodiczko began projecting video images involving sound and motion. The Hiroshima Projection, his third video projection, was organized after he was awarded the Hiroshima Art Prize in 1999 for his contribution to world peace as an artist. He moved on to interactive projects in April 2004 with the project in St. Louis. In the spring of 2005, he will create a projection in Barcelona that will use a prominent city monument as a vehicle for two-way, real-time communication with the public.

The Council for the Arts is a volunteer organization of MIT alumni and friends founded in 1972 to foster and support the visual, literary and performing arts at the Institute.



Krzysztof Wodiczko

STREB

Continued from Page 1

understand what I'm doing. I steal moves from superheroes. I just landed in the dance world. I'm an action artist," she said.

While at MIT, Streb treated every venue as an opportunity for, well, more action art research.

Take her encounter with a wall in Kresge Rehearsal Room B, where Jay Scheib, assistant professor of music and theater arts, teaches acting and composition.

She demonstrated her technique to Scheib's students by standing up, then dropping abruptly and loudly to the floor, a one-woman WWF smackdown. "See? That's DROP. The body goes SOUTH." Heads nodded.

Suddenly, Streb was vertical again, hands flat against her sides. "NORTH. The body goes NORTH," she said. But her goal for Scheib's students was to head WEST, to

fling their bodies onto the wall. To prepare, she guided the group through moves she calls "pops," "flips" and "switches," all involving sudden encounters with the floor.

Next came the challenge. "What if you all kept running even if that wall wasn't there? With extreme movement,



PHOTO / DONNA COVENEY

During her visit, Streb taught her technique to Jay Scheib's acting and composition students.

part of the package is you may get hurt. Carefulness is so hard to cut through," she said.

Streb's bold certainty is contagious. Every student in Scheib's class bashed into the beige wall. They lined up; they did it twice. After that came chest-smashing, an art action done in pairs. "You wouldn't believe how much fun it is to smash chests together," said Streb, by way of encouragement.

In STREB performances, "we mike the surfaces. We'd like to know what sound the liver makes when it hits the spleen," the choreographer said. Scheib's class, unmiked, hummed Streb's favorite tune: crunch, thud, "Ugh!" and "Cool!"

Streb also did some action art research in the Strat-

ton Student Center game room, where she experimented on the popular dance machine, Dance Dance Revolution Extreme otherwise known as DDR.

She became the student once the disco music started. Noe Kamelamela, a senior in materials science and engineering and a skilled DDR player, showed Streb how to keep her eyes on the screen while her heavy boots clomped up and down on the flashing foot pads.

DDR's clunky charm is all about gravity, noise, distraction, staccato, urban moves. Streb was won over.

"It's like hopscotch! It's like tap! It's 'Riverdance!' It's a playground game!" Streb declared. "It's beautiful! I want one in my lobby!"



Elizabeth Streb

MIT EVENT HIGHLIGHTS OCTOBER 27 - 31

-  Science/Technology
-  Performance
-  Architecture/Planning
-  Humanities
-  Music
-  Exhibit
-  Reading
-  Special Interest
-  Business/Money
-  Film
-  Sports
-  Featured Event



'Vignettes'

"Weever's Needle" by Brad Endicott. See Nov. 6 entry.

WEDNESDAY
October 27

 **"Cerith Wyn Evans: Thoughts unsaid, now forgotten..."**
Concurrent exhibitions at the List Center and the Museum of Fine Arts. List Visual Arts Center. Noon-6pm.

 **Bush's and Kerry's Policies on National Security**
Allison Macfarlane and Owen Cote will give their views on the national security policies of Bush and Kerry in 15-minute presentations. 4pm. Room 1-150.

 **"Battle of Algiers"**
1967 Algerian film. 6pm. Room 3-133. 258-8438.

 **Live Music, Silent Films A multimedia concert celebrates**
"More Treasures from American Film Archives: 50 Films, 1894-1931," a new DVD set. 8-10pm. Killian Hall. 253-4967.

THURSDAY
October 28

 **Chapel Concert**
Joshua Millard, guitar. Noon. MIT Chapel. 253-9800.

 **New Roles for Established Media?**
Panelists discuss how the Internet and cable TV channels have fundamentally altered American politics. 5-7pm. Bartos Theater. 253-3521.

 **"The Art of Structural Design: A Swiss Legacy" Lecture Series**
Talk by Peter Marti, Professor of Structural Engineering, ETH Zürich, in conjunction with Compton Gallery exhibition. 6pm. Room 10-250. 253-2825.

 **"The Taming of the Shrew"**
Shakespeare Ensemble. \$8, \$6 MIT/Wellesley students. 8pm. Kresge Little Theater. 253-2903.

FRIDAY
October 29

 **"The Last Four Years: Artists React"**
"Teach-In" presents The Critical Art Ensemble and the recent FBI investigation of an artist. 11am-6pm. Room N52-390. 452-2484.

 **Pumpkin Carving**
Halloween-themed carving competition. 4-6pm. Room E40-149. 253-7412.

 **Special Gallery Tours**
Special tour of "Body Parts—A Self-Portrait by John Coplans." 6pm. Cerith Wyn Evans tour to start at 7pm. List Center. 253-4680.

 **On the Red Carpet**
Campus-wide formal dance. \$6 residents of MacGregor, McCormick or Simmons and \$10 resident couple. Others: \$8 single, \$12 couple. 8pm-1am. Saturday Copley Plaza.

SATURDAY
October 30

 **Varsity Coed Sailing: The Erwin Schell Trophy Regatta**
9:30am. Charles River. 258-5265.

 **"The Clipper Ship Era"**
Exhibit focuses on the design, construction, speed and social experience of the clipper ship era. MIT Museum. Noon-5pm.

 **"Weekend Campus"**
Nancy Davenport's 2003 work. One long looping vertical pan of a scene of an undefined crisis occurring on a college campus. Media Test Wall, Whitaker Building 56. 253-4400.

SUNDAY
October 31



Halloween

 **Varsity Football vs. Salve Regina University**
Noon. Steinbrenner Stadium. 258-5265.

 **Gallery Talk**
Led by Hiroko Kikuchi, Education/Outreach Coordinator. 2pm. List Center. 253-4680.

 **F.A.S.T. Program: Got Brains?**
BCS grad students present an educational, Halloween-appropriate exploration of the human brain and mind. 2pm. MIT Museum. 253-4444.

 **"Dawn of the Dead"**
LSC. \$3. 7pm. 26-100. 253-3791.

Go Online! For complete events listings, see the MIT Events Calendar at: <http://events.mit.edu>.
Go Online! Office of the Arts website at: <http://web.mit.edu/arts/office>.

EDITOR'S CHOICE

THE BILLION DOLLAR FELINE
Ken Belson of the New York Times explains how Hello Kitty became a worldwide phenomenon. 258-8208.

Oct. 29
E51-095
Noon

PRESENTING "N" FOR NAPOLEON
Staged reading by Pilgrim Theatre of a new tragic-comedy by MIT lecturer Laura Harrington. 253-7755.

Oct. 29
Killian Hall
7:30 p.m.

MARAT'S BATHTUB MURDERESS IN ART
Talk by Nina Gelbart, professor of history and women's studies, Occidental College. 253-4965.

Nov. 3
E51-275
4:30 - 6 p.m.

MIT EVENT HIGHLIGHTS NOVEMBER 1 - 7

MONDAY
November 1

 **"The Art of Structural Design: A Swiss Legacy"**
Exhibit celebrating Swiss engineers, recognized as the most innovative structural designers of the 20th century. Room 10-105. 9:30am-5pm. 253-4444.

 **Electronic Paper: The Technology and the Impact**
Talk by Michael McCreary (S.B. 1973), vice president at E Ink Corporation. 5:30pm. MIT Faculty Club. 308-9795.

 **Mars Settlement Brainstorming**
Help plan the first permanent settlement on another world. 6-8pm. Building 33.

 **Cultural Exchange Night**
Presentations, food and entertainment celebrating graduate school diversity. \$2. 7-10pm. Eastgate Lounge.

TUESDAY
November 2

 **Presidential Election Day**
Vote in various campus locations. Polls open 7am-8pm.

 **Underwater Archaeology**
Claire Calcagno discusses Harold E. Edgerton and his technologies for underwater archeology. Noon-2pm. Room E56-100. 253-6989.

 **Cosmology Seminar**
Talk by Nemanja Kaloper of UC, Davis. 2:30-3:30pm. Building 6, third floor. 253-4827.

 **Exponential Challenges, Exponential Rewards**
Shekhar Borkar of Intel Corporation speaks on increasing electronic and computing power by the end of the decade. 4pm. Room 34-101. 253-5264.

WEDNESDAY
November 3

 **Artist Behind the Desk**
Administrative assistant Loni Butera of Chaplaincy belly dances. 12-1pm. Killian Hall. 253-9821.

 **Alcohol abuse**
Dan Trujillo, dean for community development and substance abuse programs, discusses MIT's plan of attack for this persistent problem. 6:30pm. MIT Bush Room. 253-7495.

 **"In this is the End of Sleeping"**
Play based on Chekhov's unfinished fragment "Platonov," adapted and directed by Assistant Professor Jay Scheib. 8pm. Sala de Puerto Rico.

THURSDAY
November 4

 **MIT Chapel Concert**
Vocal and instrumental German music from 1450-1650 directed by Sheila Beardslee. Noon. Chapel. 253-9800.

 **List Film Night**
An evening of films by Derek Jarman organized by filmmaker John Gianvito. 7pm. Bartos Theater. 253-4680.

 **Everyday Feminism: A New Theory of Social Movements**
Jane Mansbridge, of the John F. Kennedy School. 4:30pm. Room 4-234.

 **Libraries Book Sale**
Proceeds benefit the Libraries' Preservation Fund. 2pm-4pm; Nov. 5, 10am-3:30pm. Bush Room. 253-5693.

 **Poetry@mit: August Kleinzahler**
7pm. Room 4-231. 253-7894.

FRIDAY
November 5

 **"Telling It Like It Is: Student Activism at MIT during the Vietnam War"**
Display of 16 posters from the campus-wide protests of the 1970s. MIT Museum. 10am-5pm. 253-4444.

 **Weekly Anime Screening**
Best of Japanese animation. 7pm. Room 6-120.

 **Diwali Nite 2004**
Cultural evening packed with performances, fun and Indian food. \$12 with ID, \$20 others. 7pm. Walker Dining Hall.

 **Kuss Quartet**
Beethoven's Quartet in B-flat Major, "GroBe Fuge," Haydn's Quartet in C Major, Bartók's Quartet No. 6. 8pm. Kresge Auditorium. 253-9800.

SATURDAY
November 6

 **"Yael Bartana: Three Works"**
Israeli artist Yael Bartana's three short films not previously shown in the U.S. Noon-6pm. List Visual Arts Center. 253-4680.

 **"Vignettes"**
Color photographs by Brad Endicott (S.B. 1949). Wiesner Student Art Gallery. 253-4005.

 **Varsity Football vs. Endicott College**
Noon. Steinbrenner Stadium. 258-5265.

 **"Zatoichi"**
LSC. \$3. 7pm. 26-100. 253-3791.

SUNDAY
November 7

 **"Body Parts: A Self-Portrait by John Coplans"**
Series of 26 large-scale, fragmented self-portraits completed shortly before the artist's death in August 2003. List Visual Arts Center. Noon-6pm.

 **Concert and Afternoon Harvest Brunch**
Barbara Hughey, violin. Reservations required by Nov. 1. \$30. 11am. Endicott House (80 Haven St., Dedham). 781-251-6356.

 **International Folk Dancing (participatory)**
8pm. Lobdell Dining Hall. 253-FOLK.