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TechTalk

S E R V I N G T H E M I T C O M M U N I T Y



PHOTO / DONNA COVENEY

Noted author and neurologist Dr. Oliver Sacks speaks at a Thursday, Dec. 1, gala hosted by the Picower Institute for Learning and Memory.

Nobelists lend brain power to launch Picower

Deborah Halber
News Office Correspondent

Clive, an eminent British musician, suffered a brain disease in 1984 that robbed him of his short-term memory. Although he can still perform and conduct new music, within seconds of completing a piece Clive has no recollection of his actions. If he hears his wife's footsteps, he recognizes and embraces her. If she appears without warning, she is a stranger.

Clive is one of the people with enigmatic brain disorders studied by author and neurologist Dr. Oliver Sacks. Sacks spoke Dec. 1 as part of a daylong celebration, "The Future of the Brain," held in honor of the establishment of the Picower Institute for Learning and Memory in its new home, the Brain and Cognitive Sciences Complex at 43 Vassar St.

Sacks, whose nine books include "Awakenings," on which the 1990 film starring Robin Williams as Sacks was based, told an overflow dinner crowd at the Hotel@MIT that neurologists and clinicians will need to collaborate to solve the mystery of patients such as Clive.

The role memory plays in our sense of self was one of the many themes

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Institute dedicates Brain & Cog Complex

Sarah H. Wright
News Office



PHOTO / DONNA COVENEY

Director Susumu Tonegawa celebrates the opening of the Picower Institute for Learning and Memory on Thursday, Dec. 1. The soaring new atrium was also the site for dedication ceremonies opening the Brain and Cognitive Sciences Complex on Friday, Dec. 2.

The atrium of the Brain and Cognitive Sciences Complex resembled a five-story illuminated manuscript — complete with golden light, dazzling surfaces and young faces gazing down — during the dedication ceremony to open the new homes for the Department of Brain and Cognitive Sciences, the McGovern Institute for Brain Research and the Picower Center for Learning and Memory.

Keynote speakers at the ceremony, held Friday, Dec. 2, applauded the soaring, optimistic architecture of the complex and invited those present to imagine the space as an open book on future breakthroughs in understanding the human mind and brain.

The new 411,000-square-foot complex is the largest neuroscience center in the world. Bold and elegant in its design, the Brain and Cognitive Sciences Complex was born of a collaboration between two architecture firms and reflects the extraordinary vision of the lead designer, Charles

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PHOTO / DONNA COVENEY

MIT President Susan Hockfield helps to dedicate the new Brain and Cognitive Sciences Complex on Friday, Dec. 2.

Founding donors add \$100 million to Broad Institute gift

Only 18 months after the launch of the Broad Institute of MIT and Harvard, Los Angeles-based philanthropists Eli and Edythe Broad announced on Nov. 30 that they are doubling their founding gift to the institute from \$100 million to \$200 million.

The Broads' gift is the largest ever given to support a joint endeavor combining the strengths of two great universities — Harvard and MIT. The Broads' first \$100 million gift was made to MIT, so the second \$100 million gift will now be made

through Harvard. The combined gift will be given as \$20 million per year over 10 years.

"Edythe and I have been impressed by the tremendous progress already made by the scientists at the Broad Institute and by the success of this new model for collaborative science involving Harvard and MIT," said Eli Broad, founder and chairman of the Broad Foundations. "We are making this gift because we believe that the next generation of young scientists has the vision and ability to transform medicine.

"Our gift will allow the Broad Institute to create new capabilities that will allow it to take on important new challenges," he added. "We hope others will join us in supporting this unique and powerful venture."

The Broad Institute's mission is to fulfill the promise of genomics for medicine. It aims to empower creative scientists to construct powerful new tools for genomic medicine, to make them accessible to the global scientific community and to apply them to the understanding and treat-

ment of disease. The Broad Institute is a new type of biomedical research institute announced in 2003 and launched in 2004 by an unprecedented collaboration of the Massachusetts Institute of Technology, Harvard University, Harvard-affiliated hospitals and the Whitehead Institute for Biomedical Research.

"Eli and Edythe Broad's vote of confidence, expressed through this generous

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The Rotch Library displays photographs and sculptures by two members of the MIT community.

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The MIT Symphony Orchestra plans a night of all-Russian music inspired by the poet.

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University leaders back women academics

Declaring that “barriers still exist to the full participation of women, not only in science and engineering, but also in academic fields throughout higher education,” the leaders of nine of the nation’s premier research universities, including MIT, announced on Tuesday, Dec. 6, that they will undertake further efforts to remove the barriers.

Making academic careers compatible with family responsibilities is essential if universities are to achieve gender equity, they said in a joint statement. All pledged that their universities will develop academic personnel policies and institutional resources, and take steps to improve campus cultures to better support family commitments.

The statement was signed by President David Baltimore of Caltech; President Law-

rence H. Summers of Harvard; President Susan Hockfield of MIT; President Shirley M. Tilghman of Princeton; President John Hennessy of Stanford; Chancellor Robert Birgeneau of the University of California at Berkeley; President Mary Sue Coleman of the University of Michigan; President Amy Gutmann of the University of Pennsylvania; and President Richard C. Levin of Yale.

Women now make up nearly half of Ph.D. recipients in the United States, but they comprise only about one quarter of professors. Studies published by researchers at the University of California at Berkeley found that women Ph.D.s who were married or have young children were far less likely to secure tenure-track jobs and eventually achieve tenure than men who are married or have young children or sin-

gle women without children.

Funded by a grant from the Alfred P. Sloan Foundation, representatives from the nine universities met at the University of California at Berkeley in June to share best practices and initiatives addressing faculty with family responsibilities. A consensus emerged that more work must be done to assure that all members of the academic community can perform at their highest level of academic achievement and enjoy both a satisfying career and family life.

The group, called Nine Presidents, first met in 2001 in response to an MIT report that found institutionalized gender inequity at all levels of faculty.

For more on this story and to read the leaders’ letter, please visit the News Office web site.

Environmental writing contest now under way

Sasha Brown
News Office

The Working Group Recycling Committee (WGR) is now accepting essays for its first environmental writing contest. Entries are due by Jan. 30.

Sponsored by a number of groups, including Artists Behind the Desk, Department of Facilities, the Environmental Programs Office, the First Year Writing Program, the School of Humanities, Arts and Social Sciences, the Lab for Energy and the Environment, Share a Vital Earth, Students for Global Sustainability, TerraScope and the Working Group on Support Staff Issues, the contest is open to staff, students and faculty alike.

“We have the best minds in the country at MIT,” said Nancy Boyce, an assistant in the Program in Science, Technology and Society and member of the WGR. Boyce said she thought up the contest as a new way to get people thinking about sustainability and the environment.

The essays are to be 2,000 to 3,000 words long and must fit into one of six categories: developing MIT-specific solutions to energy, environment and campus ecology; health and population; building a new ethic of stewardship and sustainable development; exploring solutions for worldwide energy; preserving ecosystems, water and biodiversity; and coping with climate. The categories are drawn from the 2005 United Nations’ Millennium Report, which offered an evaluation of global environmental issues. Only original, unpublished works will be considered.

The 10 judges are a mix of students, faculty and staff. They will be evaluating the essays on originality, quality, content, organization, style and delivery.

First-prize essays will be considered for publication in several journals, including *Worldwatch*, *Technology Review*, *E-Magazine*, *Orion* and *Geo Times*, said Amy Donovan of WGR. Second-prize essays may be compiled and bound for publication in a journal to be distributed to campus libraries. Third-prize essayists will each receive a certificate of merit and a pass to the IMAX theater at the New England Aquarium. Winners will be announced at the MIT Earth Day 2006 event on March 20.

“This is a great opportunity for someone who hasn’t been published before,” said Donovan.

For more information, visit web.mit.edu/wgrecycling/writing_contest.html.

2.009 students sprout ideas for agriculture

Sarah H. Wright
News Office

An agricultural theme unites the six alpha prototypes that will be presented at this year’s final session of Course 2.009, Product Engineering Processes, to be held on Monday, Dec. 12, from 7:30 to 9:30 p.m. in Room 34-101.

The course opened in September with a challenge to students to diversify the product offerings of a successful firm that designs and manufactures agricultural equipment, with a view to sales and sustainability in both developed and developing countries.

The product prototypes to be presented on Monday are: a banana harvester that mechanically lowers the fruit from the tree; a lentil sorter; a root chopper; a manioc grater; a tree mover; and a water pump.

Each was envisioned and engineered by a team of 15 students, most of them seniors in mechanical engineering.

“The goal of the course is to provide experience with the whole process of coming up with ideas, deciding in a team what makes sense to work on and why, thinking about a societal context, and designing and building ambitious product prototypes,” said David Wallace, an associate professor of mechanical engineering who has led the 2.009 course since 1996.

Many teams test their 2.009 prototypes in the field — the banana harvester was tested in Puerto Rico this year — and some 2.009 designs have been developed



PHOTO / DONNA COVENEY

as products, Wallace said. For example, Kinkajou, a portable microfilm projector developed for 2.009 in 2002, has been used in Mali in a night school for women.

Product design is a process of continually refining ideas and processes, scrapping ones that don’t work and engaging as teams in developing designs that respond to particular, real-world needs, Wallace said.

Meghna Trivedi, senior in mechanical engineering, used “Tree-Tran,” the orange team’s tree mover, as an illustration. “Tree-Tran” looks like a boat-trailer with a mast and a harness that could hold a big fish or a small tree; it’s designed with a local nonprofit urban forestry group in mind.

Urban forestry volunteers plant trees as a public service. “We wanted our product to make it easy for them,” Trivedi said.

With just days to go before the 2.009 final presentations, Trivedi said the product still needed tweaking. “But we did move two cherry trees — 200 and 300 pounds — right outside. That’s the fun part — when it works!”

The annual 2.009 presentation is a fast-moving and festive event, providing each team with a 10-minute slot in which to display merits of its design, plus explain how it could be realized as a product.

2.009 course sponsors include The Lemelson Foundation, Ford Motor Co., General Motors, United Technologies and Shell.

Lindquist earns Procter Prize

Susan Lindquist, professor of biology and member of the Whitehead Institute, has been chosen to receive the 2006 Sigma Xi William Procter Prize for Academic Achievement.

The award will be presented at the society’s annual meeting next year, where Lindquist will deliver the Procter Prize address.

Sigma Xi’s highest honor, the Procter Prize recognizes scientific achievement and an ability to communicate the importance of that research to others. MIT recipients of the prize have included Alexander Rich, the William Thompson Sedgwick Professor of Biophysics (2001); Philip Morrison, Institute Professor emeritus in physics (1997); and Victor F. Weisskopf,

Institute Professor emeritus in physics (1984).

Lindquist’s research focuses on the impact of protein-conformational changes on diverse processes in cellular and organismal biology. She employs a combination of genetics, molecular and cell biology and biophysics to understand the mechanisms of chaperone proteins, prion propagation and human disease.

She is former director of the Whitehead Institute.

The award was endowed in 1950 by William Procter, a distinguished natural scientist and heir to one of the founders of Procter and Gamble. The prize consists of a certificate of award, a Steuben glass sculpture and \$5,000.

NEWS YOU CAN USE

Toys for Tots

A Toys for Tots drive will be held at MIT through Dec. 19. New, non-violent, unwrapped toys or warm winter clothing may be dropped off at MIT Medical, the MIT Police Station or the Parking and Transportation Office. Gifts will be distributed to families living near MIT.

The Parking and Transportation Office is also sponsoring a “Toys for Tickets” program, which allows people to donate new toys to settle parking tickets. The value of the toy must be of equal or greater value than the parking violation.

Calling all inventors

The Lemelson-MIT Program invites inventors to apply for its annual \$30,000

Lemelson-MIT Student Prize. All currently enrolled MIT seniors and graduate students are eligible, regardless of area of study. The application deadline is Wednesday, Jan. 11, at 4 p.m.

Interested students need to complete an online application that includes a 1,000-word (or less) description of their inventiveness while at MIT, two letters of recommendation and a current resume or CV. Supporting photos or diagrams may also be included. Students can apply at mit.edu/invent/a-student.html. They must register as new users before accessing the application.

The winner will be announced Feb. 15.

For more information, visit mit.edu/invent or contact Ingrid Dudek at x3-3490 or idudek@mit.edu.

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Hastings named undergraduate dean

Sarah H. Wright
News Office

President Susan Hockfield and Chancellor Phillip L. Clay have announced the appointment of Daniel Hastings, currently director of the MIT Engineering Systems Division, as dean for undergraduate education.

Hastings, professor of aeronautics and astronautics and engineering systems, will assume his new role on Jan. 1. He succeeds Robert Redwine, professor of physics, who served as dean from 2000 to 2005.

In making the announcement, Hockfield said, "I am delighted that Professor Hastings has agreed to take on this role, particularly at such an exciting time in the evolution of our undergraduate program. He brings both deep experience in teaching at MIT and national leadership in engineering and science to this important task."

Clay praised Redwine's "outstanding job of advancing the educational mission of MIT and of building the systems to support undergraduate education."

Redwine was "particularly effective in engaging both faculty and students in the dialogue about how to improve the educational program at MIT. These accomplishments have made it possible to attract an ever more qualified and diverse student body and to provide stronger support to them, from orientation programs to new modes of learning," Clay said.

The dean for undergraduate education

reports to the chancellor and oversees a department that includes admissions, academic services, student financial services, registrar, the Office of Minority Education, career services, the Edgerton Center, the Teaching and Learning Laboratory and ROTC.

Hastings, 49, joined the MIT faculty in 1985. His teaching has covered a broad range — from freshman seminars and undergraduate teaching in rocket propulsion to leadership of the Technology and Policy Program and presently, the Engineering Systems Division (ESD). He has served on many Institute committees and has been recognized both inside and outside of MIT for his educational and research contributions.

Chancellor Clay expressed confidence that Hastings will use his "considerable talents — together with Dean of Student Life Larry Benedict — to help draw out the synergies that will strengthen education at MIT and our still challenging agenda for student life and learning."

Hastings takes on the position just as the Task Force on the Undergraduate Educational Commons completes its report, which he described as an "exciting opportunity for MIT to define a 21st century version of a science and technology-centric undergraduate education."



Daniel Hastings

The nation will benefit, Hastings said, as MIT develops a vision of global leadership to guide its educational mission.

"The forces of globalization that are making the world flatter demand that we understand how to educate our undergraduates to lead in this new world. The country needs this and we can be a model that reflects breath, depth and quality," he said.

Hastings said his personal challenge in his new role will be to work along with his colleagues across the Institute toward "substantial progress on ensuring that we are attracting the best and brightest of all our diverse undergraduate population into graduate school in engineering and science. The country needs this, and we can show how to do this with MIT quality. This issue starts in the undergraduate school."

Clay added, "One of the areas where we have a chance to shine is the undergraduate/graduate interface. MIT's educational programs and subsequent contributions to society will be enhanced by paying more attention to that interface."

For Redwine, the work of the task force has placed the Institute community "well on our way to redefining an MIT education for the future. This continues to be a truly exciting time for education at MIT."

Adding a personal note on the rewards

of serving as dean, Redwine counted the "interactions with so many dedicated members of our community, including faculty, staff and students" as most gratifying.

Hastings has long been involved in educational and research leadership, serving as director of several laboratories and programs.

When Hastings was appointed co-director of ESD, Daniel Roos, associate dean for engineering systems, said, "ESD was established to broaden engineering education and practice. Daniel Hastings has the wisdom and experience to oversee that development."

Hastings' leadership experience also includes service on the national level. A member of the National Science Board, he has chaired and served on several NASA advisory committees and has led national studies on government investment in space technology.

In his role as Air Force chief scientist (1997 to 1999), Hastings provided assessments to the chief of staff on a wide range of scientific and technical issues affecting the Air Force mission. He led several influential studies on where the Air Force should invest in space, on global energy projections and on options for a science and technology workforce for the 21st century.

Hastings received the B.A. in mathematics from Oxford University in 1976, the S.M. degree in aeronautics and astronautics from MIT in 1978 and the Ph.D. degree in plasma physics from MIT in 1980.

Vice President Willmore to retire

MIT President Susan Hockfield has announced that Kathryn A. Willmore, vice president and secretary of the MIT Corporation since 1998, will retire at the end of the academic year, after nearly 40 years at MIT. One of the Institute's four corporate officers, Willmore has been responsible for MIT's external and internal communications and for trustee relations.

In making the announcement at the quarterly meeting of the MIT Corporation on Friday, Dec. 2, Hockfield noted that, "With quiet professionalism Kathryn has managed a demanding portfolio of responsibilities, including the administration of our governing board and the coordination of public relations services. Just as important, she has served as a trusted advisor and sounding board to successive presidents and chairmen of the MIT Corporation, to the members of the Academic Council and to colleagues across the Institute."

Hockfield continued, "She exemplifies many of the qualities MIT most prizes — integrity, a commitment to excellence and a capacity for hard work. She understands the Institute's history, culture and values deeply, and in analyzing policy alternatives she always seeks the good of the entire MIT community. Kathryn has been an invaluable resource and support to me over the last year, and I am grateful to have had the chance to learn from and work with her."

Willmore was elevated to her current position by then-President Charles M. Vest, who said, "Kathryn Willmore has served MIT, its broader community, senior officers and Corporation with an unparalleled grace and effectiveness. Behind her calm demeanor is an unrelenting devotion to her work, to institutional strategy and to detail. But above all, she brought to every task a deep understanding of MIT people — their concerns, and aspirations. In many ways she has been the glue that held our community together in times of stress. She also led us through times of celebration, because she reveled in recognizing the joys and accomplishments of colleagues."

Willmore joined the Institute shortly after her graduation from college in 1965. She joined the Analytical Studies and Planning Group in the Office of the President in 1971, and three years later also became

manager of campus information services. She assumed additional responsibilities as executive assistant to then-President Paul E. Gray in 1981 and was promoted to director of public relations services in 1986.

Gray said, "Kathryn Willmore's long career at MIT, which spans six presidents, is a sterling model of continuing growth of capability and responsibility. She cut her professional teeth here under the tutelage of Constantine Simonides, who is much remembered for his patient development of the careers of smart young women. She became my executive assistant in 1981, where her judgment, skills as a writer and her boundless energy made a demanding job less difficult and more fun."

As director of public relations services, Willmore has management responsibility for the Conference Services Office, Events and Information Center, News Office, Publishing Services Bureau and Reference Publications Office. She spearheaded the 1997 opening of the Publishing Services Bureau, which advises Institute offices and programs on their publications and communications initiatives.

Willmore was elected secretary of the MIT Corporation in 1994. In this role, she has administered the operations of MIT's board of trustees, including membership, quarterly meetings, standing committees and the activities of 30 visiting committees. She also serves as secretary of the Corporation's Executive Committee, and in that role manages the flow of issues and decisions between the administration and MIT's trustees.

Vest named Willmore vice president and secretary of the Corporation in 1998. "Kathryn was my wise and trusted counselor and closest confidante," Vest said. "We worked together constantly — in person, in meetings, and electronically at all hours of the day and night. She is my friend, and she is the friend of everyone at MIT. We have been blessed by her service during the last 40 years. MIT is the better for it."

Willmore was elected an honorary member of the MIT Alumni Association in 1997 in recognition of her service to the Institute. She serves on the board of the Cambridge Trust Co. and has long been active in women's culture and music.



PHOTO / EDWARD MCCLUNEY

Kathryn Willmore



PHOTO / DONNA COVENEY

Winter wonderland

December's first snowstorm covered this rhododendron on Killian Court with a blanket of snow.

MIT freshman Zachary Morris dies

Zachary Morris, an MIT freshman from Bellville, Texas, died early Thursday, Dec. 1, in an accident at East India Wharf in Boston. He was 19.

Morris attended a Celtics basketball game Wednesday evening, then went out to dinner with friends. After leaving a restaurant on Franklin Street, he apparently headed to the wharf alone where a surveillance camera caught his image as he explored the dock in a private area. Morris was found on the public sidewalk outside the fenced area at 6:45 a.m. in a manner that suggests he fell while climbing over the fence. Boston Police consider the

death to be accidental.

Described as a confident, engaging young man who was very sociable but also enjoyed his privacy, the Baker House resident had friends in many different campus groups. He graduated from Bellville High School, where he was president of the student council and captain of the robotics team.

Morris is survived by his parents, Michael and Lisa, and his sister, Allison.

About 700 people attended a memorial service for Morris on Sunday, Dec. 4, at the Austin County Fair Pavilion in Bellville.

Team sniffs out new info about olfactory cells

New brain cells in the olfactory system are especially sensitive to novel stimuli, preferentially learning to respond to new odors, according to an MIT researcher and colleagues. This level of flexibility suggests that such newly generated neurons could be induced to adapt to and integrate into other regions of the brain, perhaps allowing them to replace neurons lost to injury or disease.

The work is reported in the Nov. 16 Journal of Neuroscience.

"Our results show that these new neurons have a lot of plasticity and can contribute to important learning and memory functions of the brain, suggesting that similar, newly recruited neurons may be able to function in other parts of the brain," said Sanjay Magavi, a postdoctoral fellow at MIT's Picower Institute for Learning and Memory. "Eventually we'd like to be able to redirect brain cell precursors or stem cells to make other types of neurons in regions of the brain that do not normally regenerate."

Magavi led the study as a fellow in the laboratory of Dr. Jeffrey Macklis, director of the Massachusetts General Hospital (MGH)-Harvard Medical School (HMS) Center for Nervous System Repair (CNSR).

It had long been believed that neurons, the active cells of the brain and nervous system, do not regenerate. Recent research has shown, however, that new cells are added to certain areas of the brain — including those involved with memory and the sense of smell — well into adulthood.

Very recent work, in particular a number of studies from the MGH-HMS CNSR team, show that neural precursors/stem cells can be induced to form a few of the much more complex neurons in the cerebral cortex, the brain's highest level structure. The current study was designed to investigate whether newly generated olfactory neurons simply replace older neurons or play a distinct role in learning and memory.

The investigators used two groups

of mice whose precursor cells had been labeled to mark those that were dividing, allowing identification of newly generated, adult-born neurons. These mice were then exposed either to a panel of unusual odors or to a normal environment. Several weeks later, the response of the adult-born neurons was evaluated by measuring the activity of genes known to be expressed when olfactory neurons respond to odors.

They found that the adult-born olfactory neurons of mice exposed to the panel of odors subsequently responded more strongly to those odors than did adult-born neurons of mice that had no experience with the odors. The findings suggest that the new cells specialize in detecting previously unencountered odors and in subsequently responding to those smells.

"These contrasting responses suggest that adult-born olfactory neurons have a unique role in the brain, becoming linked to new smells while the older neurons essentially step out of the way. And since adult-born neurons are continually being generated, there is always a group of new cells waiting to link up with new stimuli," Macklis said. "We're also seeing how the environment can alter adult-born neurons, and how experience and activity are important for making sure new cells integrate properly."

An associate professor of surgery at Harvard Medical School, Macklis also notes that "these results can contribute to our efforts, and those of others in the field, to repair the diseased brain and spinal cord using directed development of specific neurons from precursor/stem cells. These experiments show that new neurons can join brain circuits and function in complex ways — contributing to learning, memory and potentially to motor function — and that we may need to retrain the brain to use the new neurons effectively."

The work was supported by the National Institutes of Health, the Leopold Schepp Foundation, the LifeBridge Foundation and the United Sydney Association.



Picower Institute benefactors Barbara and Jeffrey Picower stand at the entrance to the Picower Institute for Learning and Memory's facilities within MIT's new Brain and Cognitive Sciences Complex.

PHOTOS / DONNA COVENEY



Five Nobel laureates spoke at the Picower Institute's inaugural symposium on Dec. 1. From left, Eric Kandel, Director Susumu Tonegawa; Richard Axel of Columbia; Sydney Brenner of the Salk Institute; and James Watson of Cold Spring Harbor Laboratory.

BROAD

Continued from Page 1

gift, is a tribute to the work of hundreds of young scientists who have come together under this unique collaboration," said Professor Eric Lander, founding director of the Broad Institute. "The Broad Institute's scientists have already made major advances in cancer, medical genetics, chemical biology, infectious disease and other fields. The Broads' unrestricted sup-



We continue to be profoundly grateful to Eli and Edye Broad for their visionary commitment to this important work and for their extraordinary leadership as philanthropists.

Susan Hockfield
MIT President

port helps a remarkable generation seize the opportunities ahead."

The Broad Institute's annual budget of \$100 million is derived largely from traditional peer-reviewed scientific grants, but the Broads' gift will allow the institute to pursue new directions and initiatives.

"The promise of genomic medicine to diagnose, treat and potentially cure diseases that affect millions can be more rapidly achieved through collaboration and partnership," said Harvard President Lawrence H. Summers. "The Broad Institute,

thanks to Eli and Edye Broad's continuing generous support, has become a model for the way we think about, organize and conduct research. By bringing together different scientific disciplines, the institute will allow us to increase our understanding of the human genome and turn this knowledge into treatments and cures for diseases more rapidly."

"The mission of the Broad Institute draws on the extraordinary strengths in the Boston/Cambridge area, with its world-leading institutions and scientific minds and resources. The vision of the Broad reaches across the frontiers of scientific, technological and medical research and sets out new structures for collaborative work," said MIT President Susan Hockfield.

"We continue to be profoundly grateful to Eli and Edye Broad for their visionary commitment to this important work and for their extraordinary leadership as philanthropists."

The Broad Institute involves a world-class faculty, including a total of 60 core and associate members, with appointments at one of the Harvard- or MIT-based institutions.

A new Broad Institute building, located at 7 Cambridge Center in Kendall Square in Cambridge, is scheduled for completion in the early spring of 2006. The expansion from the institute's current nearby location at 320 Charles St., along with the new gift from the Broads, will allow Broad scientists to undertake additional exciting and critical scientific studies they have identified as priorities for furthering the understanding of human biology and disease.

The new gift will be provided through The Broad Foundations, a Los Angeles-based venture philanthropic organization established by Eli and Edythe Broad.

For more information, visit www.broad.mit.edu.

PICOWER

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explored by five Nobel laureates and other eminent brain researchers during the day's events, which were attended by Picower Institute benefactors Barbara and Jeffrey Picower and included the unveiling of the Picower Institute's manifesto in the lobby of the new facility. The manifesto, in white letters on the wall opposite the main entrance, proclaims the Picower Institute's mission to "understand the mysteries of the mind through study of the brain."

Attendees at the inaugural symposium for the Picower Institute filled the main level and balconies overlooking the new building's sweeping atrium, a 90-foot-high open space filled with natural light and dramatic angles and curves.

In welcoming remarks, MIT President Susan Hockfield said, "I am profoundly optimistic about the future of brain science. The work conducted at the Picower Institute will go a very long way toward relieving crippling diseases of the brain, improving education and enhancing the qualities of our lives. Work at Picower will change the future of the brain itself."

Joining Nobel laureate and Picower Institute Director Susumu Tonegawa in what National Public Radio's "Talk of the Nation" host Ira Flatow called an "unprecedented assemblage of Nobel scientists" were fellow laureates Sydney Brenner of the Salk Institute; Richard Axel and Eric Kandel of Columbia University; and DNA pioneer James Watson of

Cold Spring Harbor Laboratory.

The speakers gave their visions for the future individually and as part of a panel moderated by Flatow. Tonegawa said memory provides our sense of self. Memory is the "mental glue that binds your life experiences. Life without memory is life with no connections to your past, present and future." He said that while scientists are accumulating knowledge rapidly about the brain, a novel non-invasive technology with greater spatial and temporal resolution is needed to really understand the human brain.

Brenner said the challenge for today's researchers is to "gain an understanding of how the internal description written in the DNA language of our genes gets transformed into fully functioning organisms." Axel, who studies the olfactory system, said that although we now understand how the brain perceives odor, the question remains of how different patterns of activity sparked by odors translate into behavior. Kandel said he hopes the latest imaging techniques that provide a window into the working human brain will lead to new approaches to psychotherapy and understanding of mental illness.

Watson, who with Francis Crick elucidated DNA's double helix, said that the brain would not be fully understood until scientists understand how and why it evolved.

As a group, the scientists agreed that nature and nurture are inextricably co-depend-



Dean of Science Robert L. Marder, MIT's role shepherding the brain research. "I can say it all with

Com Brain



Dr. Thomas Silbey tells the audience at the BCS Complex dedication about his building process along. 'Now at the BCS Complex, the work is being done.'



Mriganka Sur, the head of MIT's Department of Brain and Cognitive Sciences, says the facility will 'catalyze' the imaginations of the scientists who work there.



From left, Dr. Thomas Byrne, Barbara and Jeffrey Picower, MIT President Susan Hockfield, Pat McGovern and Lore Harp McGovern, applaud at the BCS Complex dedication.

Community celebrates Brain & Cog Complex



Robert J. Silbey of Columbia University; Picower Institute for Learning and Memory; and Susumu Tonegawa of Cold Spring Harbor Laboratory.

BRAIN

Continued from Page 1

Correa, and the exceptional design of laboratories and research spaces by Goody, Clancy and Associates.

The complex also includes facilities for the Athinoula A. Martinos Center for Biomedical Imaging.

President Susan Hockfield described the new complex as a "place of community and inspiration, an oasis of light and space that makes the spirit soar. This opening is a great day for MIT and for all those around the world who will benefit in years ahead from work that will be done in this building."

A neuroscientist herself, Hockfield said, "The opening of this complex opens a new era for brain sciences, a truly unique opportunity for cross-fertilization and creative interactions not only with life sciences and medicine but also with engineering, linguistics and computational science."

Hockfield encouraged those present to join her in imagining what lies ahead. "Faculty, students and staff are already at work in the labs around us, taking the next steps in the journey of discovery. I cannot predict what they will find, but I am certain that in these extraordinary new facilities they will do astonishing work that will improve life for all of us," she said.

She praised "visionary philanthropists" Pat and Lore Harp McGovern and Jeffrey and Barbara Picower for their "catalytic private support and dedication to the realization of a great dream" and thanked the architects, engineers, MIT project managers and Turner Construction for "creating beautifully crafted spaces."

Hockfield also acknowledged faculty leaders who played "critical roles at every step," including McGovern Institute founding Director Phillip Sharp, current McGovern Director Robert Desimone and Picower Institute Director Susumu Tonegawa.

Cambridge Mayor Michael Sullivan praised MIT for its vital role in the city's economic development and movingly portrayed his own vision for the future of neuroscience research.

"This facility offers promise for families decimated by brain diseases like Alzheimer's and autism. It offers hope that such tragedy will not touch a family. I thank the donors, the people working here and everyone who is bringing the promise of relieving pain in our families," Sullivan said.

Mriganka Sur, head of the Department of Brain and Cognitive Sciences, described the opening of the neuroscience complex as a "moment that cleaves history, dividing what came before from what comes after."

Focusing on the 40th anniversary of the department's graduate program, Sur declared the new complex a celebration of "an interdisciplinary approach to understanding the brain and mind in health and in disease."

Earlier in the day, the department celebrated its anniversary with a symposium, "Looking Back, Looking Forward: Shaping Neuroscience and Cognitive Science."

Sur said he anticipated the building itself would serve as a catalyst for imaginative



Robert Desimone, director of the McGovern Institute for Brain Research, said the ceremony was a celebration of scientific collaboration.



Cambridge Mayor Michael A. Sullivan thanks all the people who will work in the new building for their contributions to science.



From left, Mriganka Sur, head of the Department of Brain and Cognitive Sciences, joins Dean of Science Robert J. Silbey and Susumu Tonegawa, director of the Picower Institute for Learning and Memory, for a casual moment before the dedication ceremony for MIT's new Brain and Cognitive Sciences Complex on Friday, Dec. 2.

breakthroughs and noted, "I look forward with anticipation to the road ahead."

Sur joined the other featured speakers in expressing gratitude to Charles Vest, president emeritus, Robert Brown, former MIT provost, and Robert Silbey, dean of the School of Science, for their vision, understanding and resoluteness as the complex was funded, designed and completed.

Desimone described the day's event as a "time to celebrate all that we have accomplished together and all that we will do together."

For Desimone and his fellow speakers, "we" included major donors, MIT colleagues and colleagues outside MIT. He thanked the Picowers and the McGovern for crucial contributions that made the new complex possible.

The kind of cooperation and collaboration that produced the elegant new complex is exactly what we are going to need in the future, Desimone said. "We are a long way from understanding the human mind, and having truly effective treatments for brain disorders like schizophrenia or autism. To make progress, we are going to need teamwork from every group represented in this complex, from cognitive science, molecular biology, genetics, physiology, computation and much more. This building complex is the place where it's all going to come together, where we show everyone how it's done," he said.

Tonegawa described the opening and dedication of the new research facilities as an "epoch-making day not just for sciences but also for humanity throughout the world."

The 1987 Nobel laureate added, "To know how the brain works is to know what human beings are. The history of science is punctuated by moments when big leaps happen. Neuroscience stands at such a moment today," he said.

Tonegawa joined the other speakers as he expressed his "deeply felt gratitude to the Picowers — extraordinary patrons — and to everyone who made the three days of memorable celebrations."

Silbey drew the crowd's attention to the youthful faces gazing down from the atrium's upper levels — "Fantastic! Like birds on a wire!" — then focused on the lighter side of ambitious, innovative construction projects.

And how do those get done? Silbey offered understated step-by-step instructions, including "have scientific leaders with great vision," "convince administration the time is now," "convince donors," "have patience" and "keep your sense of humor."

Silbey praised the "untiring efforts" of administrative staff who worked "incredibly long hours" as well as the architects who "made this wonderful building work."

Dana Mead, chairman of the Corporation, welcomed the group of 350 including faculty, Corporation members and community members to the ceremony.

"This is a signal event in the history of the brain and cognitive science department and science at MIT. It has been 40 years since the department was launched, and now this magnificent complex provides a new intellectual home for our distinguished scientists, students and colleagues," Mead said.

Introducing new MLK profs

Nance focuses on urban affairs

Sarah Wright
News Office

Earthea B. Nance, a civil and environmental engineer whose research focuses on the ways in which infrastructure, civil society and urban politics intersect, has been named a Martin Luther King Jr. Visiting Professor for 2005-2006.

"Nance is working in an interesting and important field. Her work will combine teaching and writing, as well as leading a research trip to Brazil. Her appointment at MIT should enrich our community and, we hope, provide an environment to further her professional development," said Professor Michael Feld of physics, who is also the director of the George R. Harrison Spectroscopy Laboratory and co-chair of the Martin Luther King Jr. Planning Committee.

An assistant professor of urban affairs and planning in the School of Public and International Affairs at Virginia Tech (Blacksburg campus), Nance focuses her research and teaching on water and sanitation in developing countries, grass-roots organizing and community participation, sustainable urban infrastructure, environmental planning and policy and qualitative research methods.

The majority of Nance's work is in Brazil. She is now expanding her focus to African countries and on the issues and challenges related to the rebuilding of New Orleans, she said.

"I am involved in the environmental justice component of the work being done by urban studies and planning faculty for communities impacted by Hurricane Katrina," she said.

While at MIT, Nance is working on a book about reforms to the water and sanitation sector in Brazil, where officials, engineers and citizens have accepted low-cost sanitation technology and community participation as the new model for expanding sanitation services.

"The depth and breadth of reform in Brazil is unusual, and to understand it requires an understanding of the functional role of myth in development projects.

"In my book, I explain the variety of policy outcomes that were achieved by activist engineers, progressive politicians and organized communities, and I show that the new model of participatory sanitation was established not as the result of empirical evaluation but as part of a larger set of ideologies, or myths, of development," Nance said.

Nance is now teaching an advanced seminar in water and sanitation at MIT. In spring 2006, she will team-teach an introductory course in water and sanitation in developing countries with Susan Murcott, research engineer in civil engineering.

Nance will be directing a research trip to Recife and Natal, Brazil, during MIT's Independent Activities Period (IAP) 2006.

Nance received the B.S. degree and the M.S. degree in civil and environmental engineering from the University of California at Davis in 1985 and 1991, respectively, and the Ph.D. degree in civil and environmental engineering from Stanford University in 2004.

A licensed professional civil engineer, Nance has served as a principal engineer, environmental/chemical engineer and environmental engineer for several private and public sector organizations since 1987.

The Martin Luther King Jr. Visiting Professor Program, established in 1995, has brought more than 30 professors to MIT. MLK visiting professors have been appointed in all of MIT's academic areas — architecture, engineering, humanities, management and science.



Earthea Nance

Broome works in engineering ethics

Lois Slavin
Engineering Systems Division

Professor Taft Broome Jr. walks in many worlds.

A faculty member at Howard University in Washington, D.C., Broome is now a Martin Luther King Jr. Visiting Professor in MIT's Engineering Systems Division (ESD). He is a civil engineer whose research focuses on engineering ethics and using personal narrative to find and fulfill one's destiny.

"The difference between 'being successful' and 'fulfilling one's destiny' is that the first could bring only material rewards, but the other can lead to inner satisfaction and harmony with the outer world," Broome said.

Broome works to help engineers articulate the pivotal experiences in their lives and find underlying themes.

Giving an example from his own life, Broome described the first morning of his first job as a "real" engineer.

"I found myself alone in the office trailer of the construction site where I'd been hired," he said. "I was drinking coffee, wondering what it would be like to know what I was doing — and then it happened."

A huge and seemingly hostile man arrived and told Broome to sign for the delivery of a massive amount of concrete churning in a fleet of trucks outside. He also asked Broome where to pour it. When Broome protested that he was alone on his first day at his first engineering job, the man threatened to have the entire delivery dumped outside the trailer. Broome promised to make a decision quickly, then stepped outside to think.

After some deliberation, he decided to emulate his Uncle Roy, after whom Broome had patterned his career. As he returned to the trailer with this decision in mind, Broome noticed a critical path schedule on a desk. It listed that day's tasks, including "pour concrete into elevator pit." Broome directed the man accordingly.

It was the right thing to do for many reasons, Broome said. Not only were his directions correct, but Broome said he later realized that by deciding to turn within and ask what Roy would do, he had found inspiration, a strong sense of self, and a feeling of being helped by unseen hands. Broome had also completed an important rite of passage: moving from the world of novice engineer to that of professional.

Broome's path from Howard to MIT led through the National Academy of Engineering (NAE), where he worked with Institute Professor Joel Moses and ESD Director Daniel Hastings. According to Hastings, "We invited Taft to help us think about how to integrate engineering ethics into ESD's curriculum."

Broome is available to work with all members of the MIT community to help them find and fulfill their personal destinies.

"The privilege of a lifetime is being who you truly are," said Broome, quoting his idol, Joseph Campbell. "The question is whether you can say a hearty 'yes' to the call of your own adventure."



Taft Broome

Elizabeth Whittaker, retiree, dies at 76

Anne Trafton
News Office

Elizabeth J. "Betty" Whittaker, of Belmont, former associate secretary of the MIT Corporation, died Nov. 30. She was 76.

Whittaker retired in 1993 after 30 years at MIT. She was active in the MIT Women's League and the MIT Retirees Association.

As associate secretary of the Corporation, Whittaker was responsible for the management of the Corporation quarterly meetings, continuing relations and services to MIT trustees and the permanent records of the Corporation.

MIT President Emeritus Howard Johnson, who worked with Whittaker for 17 years, said that "you could always count on her in every situation."

Whittaker was executive assistant to the president during Johnson's tenure, then moved to the Corporation office when he retired.

Her career at MIT spanned four presidents — Johnson, Jerome Weisner, Paul Gray and Charles Vest.

"Betty was a perfectionist in all that she did," said Gray. "I first met her in 1966 when (Johnson) became president and I, as young member of the faculty, was chair of the Freshman Advisory Council. I was at first a bit intimidated by her stern demeanor and her obvious mastery of the Office of the President. Over the years we became friends and I relied on her sound judgment and flawless work during the years she worked with Howard."

Whittaker graduated from Wellesley College in 1951 and was an honorary alumna of MIT.

She is survived by her sister, Rosemary W. Crowley and her husband James J. Crowley of New Jersey; her brother-in-law Robert J. Whalen of Westwood, Mass.; her sister-in-law Ruth D. Whittaker of Pennsylvania; and many nieces, nephews, grandnieces and grandnephews.

Funeral and burial services will be private. There will be a memorial service at MIT at a later date.

For fuller text and donation information, visit the News Office web site.

Yuri Chernyak dies at 60

Yuri Chernyak, an MIT research scientist, died unexpectedly Nov. 23 at his home in Waltham. He was 60 years old.

Chernyak, who worked in the laboratory of Professor Richard Cohen in the Harvard-MIT Division of Health Sciences and Technology, taught mathematics and physics to undergraduates for many years in the MIT Concourse Program. He was the co-author, with Professor Robert Rose, of "Chicken From Minsk," a collection of brain teasers of the kind he used in teaching. The book has been published in 10 languages.

Born in Moscow, Chernyak received his Ph.D. in mathematical physics in 1972 from Moscow State University and went on to become an associate professor there. In 1976, he applied for permission to emigrate, which resulted in his being fired from his faculty position and prohibited from leaving the Soviet Union.

Chernyak came to MIT in 1990. He served as a mentor and advisor to many students and research fellows and as an advisor and consultant to a number of companies.

He leaves his wife, Natasha Chernyak; a son, Dimitri Chernyak of Santa Clara, Calif.; a daughter, Julia Chernyak of New York City; and a granddaughter Veronica Chernyak of Santa Clara.

A funeral was held Sunday, Nov. 27, at Stanetsky Memorial Chapel in Brookline.

For more information, visit the News Office web site.



Yuri Chernyak

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.

HOUSING

Seeking roommate for 2BR apartment in Arlington. Available 1/1/06. \$600 + utilities. Near Mass. Ave. and #77 and 79 buses to Harvard and Alewife. ~7 mile drive to Lincoln Lab. Contact David at dheggstad@ll.mit.edu or 781-316-2346 (home), 781-981-2329 (work).

N. Cambridge: F roommate sought to share charming 2BR condo w/F in her 30s, avail. immed., nr Davis T & bike path, lrg unfurn. BR, non-smkg, no more pets (owner has cat), \$700/

mo+, pix at <http://luogonphoto.smugmug.com/gallery/1005300>. E-mail nvgrtrjen@yahoo.com.

FOR SALE

LittleTykes Activity Garden w/ veggies, letters, \$100; Maple-finish toddler bed w/ rails, mattress, \$100; Carbon aero seatpost (27.2, Giant #3) \$50; Purple Fender California Cable, \$10; contact amlu@mit.edu, 253-7758.

MISCELLANEOUS

Balloons for holiday office parties available on campus. Experienced (10 years), creative balloon artist. Centerpieces, arches, balloon trees. Contact Jennifer Field at 252-3522 or jfield@mit.edu.

Searching to share wonderful nanny in Cambridgeport. Worked for us 5 years. Never had a sick day. Approximate hours 9 a.m. - 4 p.m. weekdays. Call Audrey at 617-864-3266.

STUDENT EMPLOYMENT

Positions for students with work-study eligibility.

Science Club for Girls seeks someone to provide technical guidance to all-girl high school Rocket Team. Team meets every other week on weekends to build & test model rockets to enter the Team America Rocketry Challenge. Technical Coordinator will be responsible for preparing activities that will allow team to complete model rockets by March 2006. Must have knowledge of & experience building & testing model rockets. Experience w/ Team America Rocketry Challenge (or similar competition) preferred but not needed. Must be avail. to meet weekends, able to

work independently & without supervision. Send e-mail w/ resume and/or job experience. More info at www.scienceclubforgirls.org. 5 hrs/week, \$10/hr. Contact Mairead McSweeney-Shutt (617) 966-1086, mcsweeneysmshutt@scienceclubforgirls.org.

Nuestra Culinary Ventures Intern. Student needed to help develop overall program vision, strategy & logistics. Assist in marketing to entrepreneurs, fundraising, providing technical assistance to program participants, training services, direct community outreach, update website, www.ncvkitchen.org, etc. Qualifications: Strong people skills, ability & desire to work w/ people of different cultural, ethnic and socio-economic backgrounds, self-motivated w/ ability to work independently, Spanish language skills a plus, understanding of Word, Excel & accounting principles a plus. Fax resume to (617) 522-2387. \$10/hr.



PHOTO / JEFF LIEBERMAN

Hot times

Junior Raymond Tong and the MIT Dance Troupe turn up the heat in rehearsal for 'Fahrenheit,' which will be performed Dec. 8-11 in Kresge Little Theater. The show will feature hip-hop, tap, ballet/lyrical, modern and tango dances choreographed by students. Show times are 8 p.m. Dec. 8 through 10, with matinees at 4 p.m. on Dec. 10 and at 2 p.m. on Dec. 11. Tickets range from \$5 to \$10. For more information, visit web.mit.edu/dancetroupe/www/.

Artwork on display at Rotch Library

Lynn Heinemann
Office of the Arts

Artwork by two members of the MIT community is currently on view at the Rotch Library of Architecture and Planning in Room 7-238.

Paul Angiolillo, a copy editor at Technology Review, created approximately 20 carvings and sculptures in wood, stone and mixed media, which are on view in the library's display cases.

Architecture graduate student Wanda W. Lau is exhibiting photographs she took in southern India.

Angiolillo said he's been a casual carver for decades, creating such utilitarian objects as spoons and furniture. Then, sometime around 1999, he began taking the craft more seriously, and he studied wood carving with sculptor Joe Wheelwright at the DeCordova Museum in Lincoln, Mass., and stone carving with Peter Smith in Princeton, N.J.

His MIT exhibition includes representations of a torso, a pair of gloves, a spawning salmon, a giant acorn, and a head called "Minor Garden God." Some are in wood and some in stone. The largest is a 2-by-1-foot open book, which is also a bookstand.

"Hand-carving has an immediacy and intimacy that I find soothing, both to do and to look at — especially today when most things are mass produced," said Angiolillo. At the same time, however, he acknowledges his own impatience sometimes leads him to use ready-made materials such as a broken plaster bowl and a pewter vase (both in works in the exhibit). "It takes a long time to hand-fashion something, and I sometimes get eager to express more ideas more quickly," he said.

Wanda Lau said she hopes her photographs will foster inspiration, appreciation and awareness about the lives of millions of people on the other side of the world. Taken during Lau's travels to the south Indian states of Kerala and Tamil Nadu in July 2005, the photos show a range of subjects, from the people to their local industries, culture and landscape.

"To the Indian resident, these photographs may be only a cursory study in the lives of few," she said. "To an outsider unfamiliar to the region, the photographs show a diversity and vibrancy that one may scarcely believe exists."

As an M.S. student in building technology, Lau traveled to South India to research masonry domes, her thesis topic. "Most people assume that as an engineer, I'm not artistic," she said, adding that in her experience most engineers are artists in some sense. "It's enjoyable to have a mixed bag of talents," she said.

Lau has been hooked on photography since taking a high school art class. But though she's cultivated her technique since then and has exhibited works while an undergraduate at Michigan



PHOTO / WANDA W. LAU

This photograph by architecture graduate student Wanda W. Lau is part of 'Snaps: Journey to South India,' an exhibition of photographs Lau took in the south Indian states of Kerala and Tamil Nadu in July 2005.



PHOTO COURTESY / PAUL ANGIOLILLO

'Happy God/Garden Gargoyle' was carved by Paul Angiolillo from a limestone block salvaged at a building demolition at Princeton University. The sculpture is part of a collection on display at the Rotch Library of Planning and Architecture through the end of December.

State University, she confesses she was overwhelmed in South India. "It's one of the most photogenic places I have experienced," she said. "It almost feels futile because it is impossible to capture the beauty and vivacity on camera."

Both exhibitions will be on view through the end of December.

MIT Symphony Orchestra plans Russian celebration

Kendra Gilbert
Office of the Arts

Alexey Shabalin, assistant conductor of the MIT Symphony Orchestra (MITSO), will make his debut conducting the ensemble in a night of all-Russian music inspired by the Russian poet Aleksandr Pushkin and featuring award-winning baritone Anton Belov.

The Dec. 9 program will be Shabalin's first opportunity to conduct the orchestra since coming to MIT seven years ago. For the past three years he has served as the orchestra's assistant conductor.

Shabalin, who graduated from the Moscow Conservatory in 1995, toured the world as a concert violinist with the Moscow Soloists Chamber Orchestra before coming to MIT.

Shabalin will conduct the orchestra in five works, including Tchaikovsky's Symphony No. 4 and Georgy Sviridov's "The Blizzard." He said he is eager to conduct the performance because "for many years, Tchaikovsky symphonies have not been played by MITSO."

"The Blizzard," the most contemporary piece on the program, is considered a lasting testament to the romantic writings of Pushkin. It is "almost never performed in the U.S.," Shabalin said.

Belov, the Moscow-born baritone soloist, will perform three arias: Onegin's aria, from Tchaikovsky's opera "Eugene

Onegin"; Yeletsy's aria, from Tchaikovsky's "The Queen of Spades"; and Aleko's cavatina, an aria from Rachmaninov's "Aleko."

Belov, who holds a bachelor's degree in music from the New England Conservatory and an artist's diploma and master's degree in music from the Juilliard School, is no stranger to the stage or the music he will be performing with MITSO. Belov sang the title role in "Eugene Onegin" at the Juilliard Opera Center in 2002. This will, however, be his first time performing at MIT with MITSO.

The inspirations for both "Eugene Onegin" and "The Queen of Spades" came from stories of the same names written by Pushkin, and the pieces are full of the intense romanticism, tragedy and drama present in Pushkin's literary works.

Pushkin's narrative poem "The Gypsies," a tale of love and murder, inspired Rachmaninov's "Aleko," and will contribute to the overall tone of the evening.

While the music itself will no doubt touch the audience, Shabalin said the members of MITSO will also benefit from this concert. "I know the students will enjoy playing these emotional pieces," Shabalin said.

The concert begins at 8 p.m. at Kresge Auditorium. Free tickets are available in Lobby 10 and Room 4-243 the week of the concert or they can be purchased for \$5 at the door. For more information, call x3-2826.

Artful holiday shopping on campus

There's no need to brave the crowded malls for holiday gifts this year: MIT community artisans are selling their wares at four upcoming events.

Ceramics and photography will be among the items for sale at the Student Art Association's biannual sale Wednesday and Thursday, Dec. 7-8, from 9 a.m. to 5 p.m. in Lobby 10. The SAA's 2006 calendar, featuring images by its student, staff and faculty members with text by Shakespeare, will also be on sale. A portion of proceeds from artwork sales support the SAA while full proceeds from calendar sales help support teaching at the SAA.

Artists Behind the



Desk will hold its first arts and crafts fair Thursday and Friday, Dec. 8-9 in Lobby 13 from 9 a.m. to 5 p.m., featuring works by members of MIT's support staff.

The Glass Lab's popular holiday sale will take place Monday and Tuesday, Dec. 12-13, from 10 a.m. to 5 p.m. in Lobby 10. Students and instructors from the Glass Lab will sell their hand-blown works, with a portion of the proceeds earmarked for funding the lab's ongoing activities.

And on Thursday and Friday, Dec. 15-16, the Tech Community Crafters will offer jewelry, hand-knitted items, baked goods, candles, hand-made soaps, dolls and more from 9 a.m. to 5 p.m. in Lobby 10.

MIT EVENT HIGHLIGHTS DECEMBER 7-11

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



PHOTO / DONGYU ZHAO

Lamine Touré, artist in residence with Rambax, will perform with the drum ensemble at its winter concert, at 8 p.m. Dec. 10 at Lobdell Dining Hall.

WEDNESDAY
December 7

 **Gallery Talk**
Jane Farver speaks on the List Visual Arts Center exhibition "Christian Jankowski: Everything Fell Together." 6 p.m. List Visual Arts Center (E15). 253-4680.

 **MIT Chamber Orchestra**
Dante Anzolini, music director. 7 p.m. Killian Hall. 253-2826.

 **SAA Holiday Art Sale**
Student Art Association's annual sale of ceramics and other arts. Dec. 7 and 8. 9 a.m.-5 p.m. Lobby 10. 253-7019.


THURSDAY
December 8


 **MIT Student Jazz Combo**
Keala Kaumeheiwa, coach. 5 p.m. Killian Hall. 253-2826.


 **Dance Troupe Fall Concert**
Dances choreographed by students include hip-hop pieces, tap, ballet/lyrical, modern and tango. Dec. 8-11. Thursday's performance \$5; Fri-Sun \$7 in advance, \$10 at the door. 8 p.m. except Dec. 10 at 4 p.m. and Dec. 11 at 2 p.m. Kresge Little Theater.

 **"The Mikado"**
MIT Gilbert and Sullivan Players production. Dec. 8-10. \$12, \$10 MIT community, \$8 alumni, seniors, non-MIT students and children, \$6 MIT students. 8 p.m. except Dec. 10 at 2 p.m. Sala de Puerto Rico. 253-0190.


FRIDAY
December 9


 **Symposium in Honor of Robert A. Brown**
Various speakers, sponsored by the Department of Chemical Engineering. 1-5:30 p.m. Room E15-070. 253-6500.


 **"Leonardo da Vinci and the Search for the Soul"**
Lecture by Rolando del Maestro, director of the Brain Tumour Research Center at McGill University. 5:30-7 p.m. Room 54-100.

 **MIT Symphony Orchestra: All-Russian Concert**
Alexey Shabalin, conductor. \$5. 8 p.m. Kresge Auditorium. 253-2826.


SATURDAY
December 10


 **"Between Samsara and Nirvana"**
A retreat based on the BarDO teachings with Tenzin Priyadarshi, Buddhist chaplain. Free for MIT students, \$60 everyone else. Pre-registration requested. 10:30 a.m.-4:30 p.m. Room W20-306. 324-6030.


 **Emerson Program Student Piano Scholars**
Recitals
3 p.m. and 6 p.m. Killian Hall. 253-2826.

 **Ballroom Social Dance (participatory)**
Evening of social dancing including ballroom and Latin dances, along with favorites such as salsa, hustle, and merengue. \$6 student, \$10 general. 8 p.m. Walker Memorial.

SUNDAY
December 11

 **Women's Chorale Holiday Concert**
Nancy Kushlan Wanger, director. 3 p.m. Killian Hall. 484-8187.

 **MIT Chamber Music Society Student Concert**
Student recitals. 5 and 7 p.m. Killian Hall. 253-2826.

 **"The 40 Year Old Virgin"**
LSC movie. \$3. 7 p.m. Room 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

ARTS AND CRAFTS FAIR
Sponsored by Artists Behind the Desk. Dec. 8 and 9.

Dec. 8
Lobby 13
9 a.m. - 5 p.m.

"AUTOBAHN"
MIT Community Players production of short play cycle by Neil LaBute. Dec. 8-10. Tickets \$5, \$3 for students.


Dec. 8
Room 35-225
8 p.m.


ROBERT A. BROWN SYMPOSIUM
Chemical engineering students and faculty will honor Brown, MIT provost 1998-2005, with a technical symposium.

Dec. 9
Room E15-070
1-5:30 p.m.

MIT EVENT HIGHLIGHTS DECEMBER 12-18


MONDAY
December 12


 **Holiday Catalog Sale**
Approximately 50 different catalogs and brochures from many past exhibitions (1985 - current) at the LVAC will be on sale. Prices from 50 cents to \$5. Noon-6 p.m. List Visual Arts Center.


 **Glass Lab Holiday Sale. Hand-blown items created by students. Dec. 12 and 13. 10 a.m.-5 p.m. Lobby 10. 253-5309.**


 **MIT Course 2.009 Final Presentations**
Six teams working on new products related to agriculture will present their prototypes. 7:30-9:30 p.m. Room 34-101. 452-2275.

TUESDAY
December 13


 **"Rooted in History and Culture"**
Talk by Alexander Brown of the University of Colorado on accidents and engineering in the manned space program. Noon-2 p.m. Room E56-100. 253-6989.


 **MIT Chamber Music Society Student Concert**
Daily through Dec. 14. 5 and 7 p.m. Killian Hall. 253-2826.


 **"How Games Can Transform Learning"**
Talk by Henry Jenkins of Comparative Media Studies and Eric Klopfer of the MIT Teacher Education Program. 5:30-9 p.m. Faculty Club. 308-9795.


 **Holiday Contra Dance**
Music by Pandemonium. \$5, MIT/Wellesley students free. 8-10:30 p.m. Student Center, Room 491. 354-0864.

WEDNESDAY
December 14

 **"Pandemic Influenza: What Are the Risks? Where Are the Policies?"**
Talk by Sanford Weiner of MIT's Center for International Studies. Noon-1:30 p.m. Room E38-615. 253-7529.

 **Computation for Design and Optimization Distinguished Speaker Series**
Talk by Aharon Ben-Tal of Technion-Israel Institute of Technology. 4-5 p.m. Room 1-390. 253-3725.

 **EAPS Department Lecture Series**
Talk by Dudley Shallcross, University of Bristol. 4-5 p.m. Room 54-915. 253-3382.

 **"Iraq: The Occupation and the Challenges Facing the Antiwar Movement"**
Talks by Chuck Turner, John Harris, Elisabeth Leonard and other local activists. 7-9 p.m. Room 4-270. 447-6360.

THURSDAY
December 15


 **Artist Behind the Desk Concert**
Classical flutist Bonnie Cochran. Noon. Killian Hall. 253-9821.


 **Holiday Craft Fair**
Tech Community Crafters' sale. Dec. 15 and 16. 9 a.m.-5 p.m. Lobby 10.

 **Yoga Class**
The Eight-Fold Yoga Practice for body, mind and spirit. 6:30-8:30 p.m. Room 34-302.


FRIDAY
December 16


 **"Theodore Roszak: Working Drawings for the MIT Bell Tower"**
Exhibition includes a selection of 40 preparatory sketches that show sculptor, painter and printmaker Theodore Roszak's many ideas for the MIT Bell Tower. 9 a.m.-5 p.m. Room E52-466. 253-4400.


 **Gallery Talk**
Bill Arning, curator of the List Visual Arts Center, speaks on the List Visual Arts Center exhibition "Christian Jankowski: Everything Fell Together." 6 p.m. List Visual Arts Center (E15). 253-4680.

 **MIT Anime Club Weekly Showing**
The MIT Anime Club shows the best of both recent and classic Japanese animation every Friday. 7 p.m.

SATURDAY
December 17

 **"iSPOTS: Student Perspectives"**
MIT student Chris Waits will be on hand to talk with MIT Museum visitors about the impact of complete wireless coverage on the MIT community and beyond. Noon. 253-4422.

 **Introduction to Self Defense**
Jiu-Jitsu class will cover basic self-defense skills. 3-5 p.m. DuPont Wrestling Room.

 **hiLaRiUm @ Thirsty Ear Pub**
Performance by the comedy duo The Walsh Brothers of ImprovBoston and Comedy Studio fame. Must be 21+. Proper ID required. 8 p.m. Thirsty Ear Pub. 258-9754.

SUNDAY
December 18

 **Chantey Sing**
Music and chanteys with maritime enthusiasts, professional and amateur singers. 1-4 p.m. MIT Museum.

 **Gallery Talk**
Talk by Jane Farver, List Visual Arts Center director, in conjunction with "Christian Jankowski: Everything Fell Together." 2 p.m. List Visual Arts Center (E15). 253-4680.

 **International Folk Dancing**
Every Sunday. 8-11 p.m. Lobdell Dining Hall. 253-FOLK.