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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

Reaching out in wake of tsunami

Students, staff raise money to help rebuild Southeast Asia

Denise Brehm
and
Sasha Brown
News Office

MIT has about 300 students and many other researchers and alumni from India, Sri Lanka, Thailand, Indonesia and other countries in Southeast Asia where coastal areas were destroyed by the tsunami. Many of these members of the MIT community may have been visiting their homes when the tsunami crashed onto land Dec. 26.

Like countless families around the world, MIT is taking pains to contact students and other community members who were in the area during the disaster.

The International Students Office sent an e-mail to students from affected countries on Dec. 29, asking them to “let us know that you are okay.” Just over 80 of those students have responded to date, according to Danielle Guichard-Ashbrook, director and associate dean for international students. She anticipates hearing from many more students as phone and computer service is slowly restored to those areas.

“Though we are tremendously distressed as we see the rise in casualties and the horrific photos of the devastation, our deepest hope is that a natural disaster of this scale presents an opportunity for all nations to work together to assist their fellow human beings in need,” the letter said. “Our thoughts and prayers are with you,

your family members and your friends. Let us know if we can help in any way.”

The MIT Alumni Association has set up an electronic message board for alumni and other community members to gain information about friends and family from South Asia.

Community groups have also initiated fund-raising campaigns to send money to the regions hardest hit to support humanitarian relief efforts following the tragedy.

Student groups join together

Working together, three student organizations at MIT—the Association for India’s Development-MIT (AID-MIT), Sangam, and South Asian American Students (SAAS)—set up donation collection booths in Lobby 10 and the Student Center beginning Jan. 3, collecting donations to aid survivors of the tsunami that is estimated to have killed more than 156,000 people in 11 different countries.

The groups have raised close to \$2,000. They plan to use some of the funds to purchase a community fishing boat, along with a supply of nets. The supplies would be donated to a fishing cooperative so many fishermen would benefit. With estimates from AID’s contacts in Chennai, India, they expect the total cost to be around \$3,000, said AID’s Vidya Jonnalagadda, a postdoctoral associate in biological engineering who is from Hyderabad in southern India.

Jonnalagadda, who has been collecting donations in Lobby 10, said she felt overwhelmed by the generosity and caring she

has seen at MIT. “When we see students donating a crumpled dollar bill dug from the pocket of their jeans, it is really touching, because it perhaps represents their lunch money,” said Jonnalagadda, adding that some people have been very emotional, which has been especially moving. “Really, it is not the dollar amount of the donation that is so touching, it is the concern that they show,” she said.

AID is planning a dinner and silent auction to be held in Walker Memorial on Jan. 20 at 7 p.m. All proceeds will go towards tsunami relief. AID-MIT has also set up a web site to post updates from the volunteers at their Chennai branch. Donations can be made via the Sangam web site.

Sri Lankan students pitch in

Additional funds are being collected by the Sri Lankan Student Association (SLSA), which has raised nearly \$1,400 in donations they collected at a booth in the lobby of Building E25. They will continue to collect money over the coming months to help with the reconstruction effort, said former SLSA president and postdoctoral associate Sanith Wijesinghe, who received his Ph.D. in aeronautics and astronautics in 2003. He is from Colombo, Sri Lanka, just under 15 miles from the coast; he planned to travel to his country on Jan. 6 to assess the situation himself and report back to the SLSA on his findings.

See **TSUNAMI**

Page 5

Reduction in chemo doses is a real possibility

Christina Yoon
Center for Cancer Research

MIT biologists may have found a way to decrease the dose of chemotherapeutic agents needed to tackle cancer, a feat that would also reduce toxic side effects.

Cancer cells are unique because they divide faster than ordinary cells; this also makes them susceptible to chemotherapy. While chemotherapy is an effective treatment against fast-growing tumors, it is also associated with toxic side effects because of the high doses required to be effective.

Researchers from MIT’s Center for Cancer Research have suggested a new approach to achieving the same response using a lower dose of chemotherapy, thereby limiting the harmful side effects of the drugs. Their approach involves making cancer cells more sensitive to these agents.

In a paper published in the Jan. 7 issue of *Molecular Cell*, a research

See **CHEMO**

Page 4



PHOTO / DONNA COVENEY

Deborah Douglas, curator of science and technology for the MIT Museum, studies some of the 600 historic slide rules recently donated to the museum. Douglas is demonstrating a seven-foot slide rule that was used for teaching.

MIT Museum measures up

The MIT Museum now has more than 600 historic slide rules in its permanent collection, representing a major resource for scholars and collectors.

After several months of negotiations, IntelliCoat Technologies of South Hadley, Mass., selected the museum to be the permanent repository of the Keuffel & Esser Company Slide Rule Collection.

Through a series of mergers, IntelliCoat, which manufactures coated papers, films and specialty substrates, acquired the remaining assets—including the slide rule collection—of Keuffel & Esser of Hoboken, N.J., the most significant manufacturer of slide rules in the U.S. IntelliCoat executives Robert Champigny and Charles E. Quinby decided to find an appropriate home for the collection and selected the MIT Museum.

“We feel there’s no better place than MIT, one of the world’s premier engineering schools, for this historic collection,” said Quinby, director of quality, commercialization and technical support. “And we are very excited that it will be preserved and accessible. Visitors, especially younger people such as my children, will learn to appreciate the slide rule’s role in shaping our world.”

“It is a privilege to serve as the first steward of this collection,” says Deborah Douglas, the museum’s curator of science and technology. “It has a strong emotional appeal to the MIT community, but to be provocative, one could argue that the slide rule is the most important technology of the 20th century that historians have not studied.”

PEOPLE

PROFESSORIAL HONORS

Charles Stewart is the new head of political science. John Dower of history receives the prestigious Mellon Distinguished Achievement Award for scholarship.

Page 2

SCIENCE STUDENTS MAKE MARKS

Senior wins national math prize, and physics students represent the U.S. at historical conference.

Page 2

RESEARCH

DOING QUALITY WORK

Plastics help environmentalists monitor the health of Boston Harbor.

Page 4

THE FINAL FRONTIER

Giant telescope eyes other solar systems while scientists monitor spacetime warp.

Page 5

ARTS

CELEBRATED FAILURE

St. Louis’ infamous Pruitt-Igoe housing project is the subject of MIT exhibit.

Page 7

TIPPING THEIR WORLD

Alumna dancer returns to campus to tilt the dance floor beneath performers.

Page 7

Stewart will head political science dept.

Professor Charles Stewart III, a political scientist with expertise in legislative politics, American political development and voting procedures and technology, was named the new head of the MIT Department of Political Science, effective Jan. 1.

In making the announcement, Philip S. Khoury, the Kenan Sahin Dean of the School of Humanities, Arts and Social Sciences (SHASS) and a professor of history, said he was "extremely pleased."

"Having worked with Charles in recent years in his capacity as associate dean of the School of Humanities, Arts and Social Sciences, I am sure that he will bring the same excellent leadership to the department that he has exercised on behalf of the school," Khoury said.

Stewart, who served as associate dean of SHASS since February 2001, came to MIT in 1985. He received the Everett Moore Baker Memorial Award for Excellence in Undergraduate Teaching in 1989, was elected to the second class of MacVicar Faculty Fellows in 1993 and received a Class of 1960 Innovation in Education Award in 2000. He has been the undergraduate officer in political science since 1993 and has been the faculty director of the MIT Washington Summer Internship Program since he helped found it in 1994. Along with his wife, Kathryn M. Hess, Stewart has been housemaster of McCormick Hall since 1992.

"I'm excited by this opportunity to help lead a great department of international standing," said Stewart. "From the

moment I first walked into the place, over 20 years ago, I've known it to be supportive of the unique strengths of each of its students and faculty.

"We have a history of department heads who have nurtured this supportive environment, which is unusual among major research-oriented political science departments. My only hope is that I can keep this tradition alive, to help support the intense curiosity of the people who have come to work and study here," he said.

His courses include Introduction to Congressional Politics, The Political Science Laboratory and Public Policy Seminar for Washington Interns.

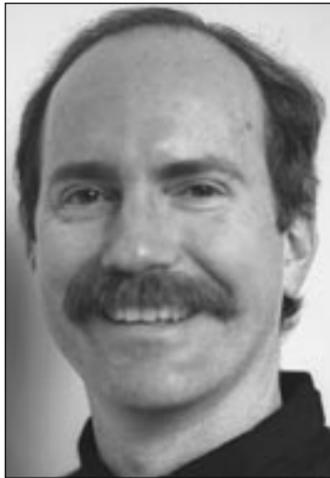
Since 2000, Stewart has been a participant in the Caltech/MIT Voting Technology Project, in which he has concentrated on analyzing the policy implications

of the rise of absentee and early voting in the United States, in addition to estimating the number of votes that go uncounted in presidential elections due to shortcomings in voting technologies.

He has served on the HASS Overview Committee and chaired the Working Group on the HASS Requirement. He served on the Institute's Task Force on Student Life and Learning, chaired the Committee on the Undergraduate Program, and was associate chair of the Presidential Task Force on the Undergraduate Educational Commons.

Khoury acknowledged his personal gratitude to Joshua Cohen, the Goldberg Professor of Humanities and a professor of political science and philosophy, "for his eight years of inspired leadership of the department."

—Sarah H. Wright



Charles Stewart III

Dower awarded Mellon prize

Sarah H. Wright
News Office

John W. Dower, the Ford International Professor of History, has been awarded a Mellon Distinguished Achievement Award in recognition of scholarship that has contributed decisively to the study of history and promises to influence teaching and learning in the humanities at large.

Dower was formally notified on Dec. 17 that he had won the prestigious humanities award, which provides funds of up to \$1.5 million to deepen and extend humanistic scholarship over a three-year period. The funds will be granted to, and overseen by, MIT.

Philip S. Khoury, the Kenan Sahin Dean of the School of Humanities, Arts and Social Sciences and professor of history, said, "John Dower is so deserving of the Mellon Distinguished Achievement Award. He is widely considered the most distinguished historian of modern Japan and of Japanese-U.S. relations in the West."

The Mellon funds come "right at the point when it looks like we can take off with a project to wed humanities at MIT with new technological opportunities and change the way we talk about and teach historical materials," Dower said.

Dower specializes in the history of Japan. He is the author of "Embracing Defeat: Japan in the Wake of World War II," winner of the 2000 Pulitzer Prize and the National Book Award, among other prizes. His other books include "War Without Mercy: Race and Power in the Pacific War," winner of the 1986 National Critics' Circle Award for non-fiction and the Masayoshi Ohira Memo-

rial Prize in Japan.

In 1986, he was executive producer of "Hellfire: A Journey from Hiroshima," a documentary film that was nominated for an Academy Award. His 1979 book "Empire and Aftermath: Yoshida Shigeru and the Japanese Experience, 1878-1954," became a bestseller in Japanese translation.

Dower's recent and planned projects move from the printed page to the interactive and visually lively screen. In 2002, he and Shigeru Miyagawa, MIT professor of linguistics and Japanese, developed several projects, including an online course and an exhibit on Com-

odore Perry's "black ships," which makes use of text wrapped around visual materials.

"Our course, 'Visualizing Cultures,' will be the model for this new way of using technology to present complex academic material," said Dower. "I'd like to see this work made accessible in the public realm; I'd like it to become a new way of doing public education."

The Mellon funds will be especially helpful in offsetting the costs of developing the "Visualizing Cultures"

project, which had received internal MIT support through the d'Arbelloff Fund for Excellence in MIT Education, Dower noted. "This work is expensive. It's exciting to be able to take it to the next level," Dower said.

Dower, 66, came to MIT in 1991. A Fellow of the American Academy of Arts and Sciences, he received the B.A. from Amherst College and the M.A. and Ph.D. from Harvard University. At MIT, he was the Henry R. Luce Professor of International Cooperation from 1991-96 and the Elting E. Morison Professor of History from 1996-2003.



John W. Dower

Students represent U.S. at historic physics conference

Three MIT undergraduates and a recent alumna will represent the United States at a conference in Paris this week where Nobel laureates and other eminent scientists, and 500 outstanding students from 80 countries will discuss the future of physics, the impact of physics on daily life, and the importance of physics research for socio-economic development.

"We are very proud of these students' achievements. We are delighted that they chose to study physics here at MIT where they have taken advantage of the breadth of our research opportunities and the flexibility of our programs," said Thomas J. Greytak, associate head of the Department of Physics.

The Jan. 13-15 Physics for Tomorrow conference officially launches the World Year of Physics 2005. This international celebration is timed to coincide with the 100th anniversary of Albert Einstein's "miraculous year," when he revolutionized much of science with three groundbreaking advances.

One hundred years ago Einstein

proved the existence of atoms and molecules, validated the emerging field of quantum mechanics, and developed the theory of special relativity, which led to the most famous equation ever written, $E=mc^2$.

The United Nations has officially declared 2005 the International Year of Physics, and more than 30 nations are participating in the year-long celebrations with public lectures, museum exhibits and educational projects.

The four students affiliated with MIT received scholarships from U.S. physics organizations to attend the historic meeting. They are Chintan Hossain, a sophomore double major in physics and brain and cognitive sciences; Benjamin Schwartz, slated to graduate in 2006 with a degree in physics with electrical engineering and math; Sean Markan, a junior studying physics, math and computer science; and Natalia Toro (S.B. 2003, physics and math), who is now a physics graduate student at Harvard.

—Elizabeth Thomson

Senior wins math prize

Reid Barton, a senior in mathematics at MIT, has been awarded the 2004 Frank and Brennie Morgan Prize for Outstanding Research in Mathematics by an Undergraduate Student.

This prize, presented annually by the American Mathematical Society, the Mathematical Association of America, and the Society for Industrial and Applied Mathematics was presented Jan. 6 at the Joint Mathematics Meetings in Atlanta, Ga.

Barton was honored for his paper "Packing Densities of Patterns." The prize citation states: "After resolving the basic conceptual issues elegantly, Barton delves into the study of packing densities for specific families of layered patterns. He proves several important results, some generalizing earlier results by [other mathematicians], some opening up new vistas."

"Barton also outlines a possible program to tackle open questions and formulates new conjectures. This is all in all a remarkable debut paper in the area of

pattern research in combinatorics, an area of considerable current interest. Commentators consider Barton's paper the best paper so far on packing densities, and praise it for its clarity, new techniques, and new results."

Barton has won other competitions in math as well as computer programming. When still a freshman, he led an MIT team to a second-place finish in the prestigious William Lowell Putnam intercollegiate mathematics competition. In 2004, the MIT team took first place in the Putnam contest, the first time since 1979. Barton was on the MIT teams that won the ACM's (American Computing Machinery) regional computer programming competitions in 2002 and 2003. The 2002 team placed second in the world at the ACM's International Collegiate Programming Contest that year. Barton also placed third in Google's 2004 Code Jam, the company's annual programming competition.

—Elizabeth Thomson

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Political reporter will speak at MLK breakfast

Political reporter Gwen Ifill will be the keynote speaker for MIT's 31st annual celebration of the life and legacy of Dr. Martin Luther King Jr.



Gwen Ifill

The theme for this year's celebration is "Justice and Equality for All: America's Moral Dilemma." Ifill will deliver her remarks at the celebratory breakfast in Walker Memorial's Morss Hall on Thursday, Feb. 3 at 7:30 a.m. MIT President Susan Hockfield will host the breakfast.

Ifill holds two of the most highly respected posts in her field. She is moderator and managing editor of Washington Week, the longest-running public affairs program on public television,

and senior correspondent for The NewsHour with Jim Lehrer.

For Washington Week, Ifill selects each week's stories to examine, chooses each panel of leading Washington D.C.-based news correspondents and moderates the lively Q&A format on air. Ifill is also frequently asked to moderate debates in national elections, most recently the Vice Presidential debate during the 2004 election.

On The NewsHour with Jim Lehrer, PBS's nightly

newscast, Ifill is a familiar presence as both a correspondent and a moderator. She helps provide its trademark in-depth coverage of current events with a unique mix of informed debates, comprehensive interviews and expansive feature stories. Ifill spent several years as a Washington Week panelist before assuming the moderator's chair in 1999.

Prior to joining PBS, Ifill served at NBC News for five years as chief congressional and political correspondent. While at NBC she covered national political stories for NBC Nightly News with Tom Brokaw, Today, Meet the Press and MSNBC.

Ifill also worked as a reporter at papers such as The New York Times, where she covered the White House and politics, The Washington Post, where her focus was national and local affairs, The Baltimore Evening Sun and The Boston Herald American.

Ifill grew up in New York City and lives in Washington, D.C. She is a graduate of Simmons College in Boston and has received eight honorary degrees. She serves on the board of the Harvard Institute of Politics and the University of Maryland's Philip Merrill College of Journalism.

The breakfast honoring Martin Luther King is open to students and other members of the MIT community. Space is limited and reservations must be made by Tuesday, Feb. 1. To request an invitation, go to the MLKing web site.

Previous keynote speakers for the annual event include economist Julianne Malveaux (2004), NAACP chairman Julian Bond (2003), commentator and author Tavis Smiley (2002), civil rights attorney and law professor Lani Guinier (2001), Rensselaer Polytechnic Institute President Shirley Ann Jackson (2000) and NAACP former president Kweisi Mfume (1999).

NEWS YOU CAN USE

Arts fellowships

The application deadline for the 2005 List Foundation Fellowship is Monday, Jan. 24. The fellowship offers an award of up to \$5,000 for an MIT sophomore or junior for a year-long project in the performing, literary, visual or media arts. The program is geared toward students who want to explore their personal, racial and cultural identity through an exploration of traditional and non-traditional art forms. During the fellowship, the student can work with a mentor with a background in their art form. Applicants must be U.S. citizens or permanent residents and remain in good academic standing throughout the project. Interested students should e-mail artsfellowship@mit.edu to set up an appointment to discuss their application. More information is available online at arts@mit.

Arts grants available

Friday, Jan. 28, is the deadline for the second round of arts funding through the 2004-05 Council for the Arts Grants Program. All students, faculty and staff may apply. Forms are available in the Office of the Arts (Room E15-205) or online at arts@mit.

MIT book catalog published

The MIT Press has created a new catalog exclusively for the MIT community, featuring its MIT and MIT-related titles. The catalog brings together for the first time new books, familiar books, and some less well-known titles that MIT readers may enjoy discovering. Titles range from MIT histories and social commentaries to the entertaining "Nightwork," a history of student hacks, and illustrated books about MIT and on Boston/Cambridge topics. The new catalog—MIT @ The MIT Press—offers a special discount on bulk purchases to encourage readers to buy copies as gifts for campus visitors, family and others.

To request a copy of the catalog, contact Erika Valenti at 258-0582 or special_sales@mitpress.mit.edu.

CDO will blend computation methods with design

Sasha Brown
News Office

As people grow more dependent on conveniences like the Internet, cellular telephones and air travel, there is a greater need to make those systems run as efficiently as possible.

MIT's new S.M. program in Computation for Design and Optimization (CDO) will prepare graduates to understand the key computational methods and issues in both the design and operation of complex engineering and scientific systems. "Engineering education needs to change as the world changes," said Robert Freund, the Theresa Seley Professor of Management Science at the Sloan School of Management and co-director of the new CDO degree program.

The program begins this fall; it was

approved officially at the Dec. 15 faculty meeting. Though CDO will be part of the School of Engineering and will report to the office of the Dean of Engineering, it will have its own admissions and will be led by co-directors Freund and Jaime Peraire, professor of aeronautics and astronautics. The inter-departmental program will draw on a variety of courses from engineering, mathematics and the Sloan School.

"Through creating this program, MIT is recognizing CDO as a key element of engineering education now and in the future," said Freund, who credited the ease with which the new program passed through the Institute's approval process to CDO's immediate relevance. "It is an idea whose time is now," he said.

MIT will be one of the first institutions to have such a program though similar programs are in the works at other universities. "We anticipate that this program will

lead the way," Freund said.

The CDO degree program has been in the works "in earnest" for two years, building on ideas for similar program proposals that have been discussed by faculty for the past 10 years. Alan Edelman, professor of applied mathematics; Dimitris J Bertsimas, the Boeing Leaders for Manufacturing Professor of Management; Professor Anthony Patera of mechanical engineering; Professor Gilbert Strang of mathematics and Professor Jacob White of electrical engineering and computer science all worked with Peraire and Freund to bring the program to fruition.

For the first few years, the program will be small, accepting only 20 to 25 students. Eventually, it may accept as many as 35 students. Freund expects it will take between 12 and 24 months for students to complete the program. Degree requirements will consist of three core classes,

two restrictive electives, one unrestricted elective and a thesis.

Additionally, the program will serve doctoral students whose research relies on computational methodologies. Such students will have the opportunity to earn a dual degree to both gain and certify their knowledge for future employers.

"Today and tomorrow the high technology sector will demand engineers and scientists who understand how to do efficient computation on the problems in their domain," said Freund. With applications ranging from computational biology to airline scheduling to telecommunications design and operations, "there is just a huge demand for these skills right now," he said.

The degree program has already begun accepting applications. The deadline to apply is Feb. 15. For more information, please see the website <http://web.mit.edu/cdo-program> or contact Laura Rose at lrose@mit.edu.

DIGITAL TALK: WHERE IT'S AT



West campus phone outage

For one to two hours on Friday, Jan. 14, beginning at 11:59 p.m., IS&T must take out of service all MIT phones in buildings west of Massachusetts Avenue, as well as N42, N52, N51 and N57 to perform a critical repair to switch module equipment in NW12. Crucial lines, such as those for Campus Police and for housemasters and dormitory front desks, will be temporarily rerouted to operate out of mid-campus during the outage.

What's a virtual private network?

A virtual private network (VPN) provides a solution to work through various port blocks and other things that Internet Service Providers (ISPs) do to prevent spam, virus outbreaks and other forms of network abuse. These preventative measures often interrupt or prevent legitimate work. The MIT VPN—developed to assist MIT clients with connectivity off campus—can help resolve a number of problems associated with e-mail, Windows file sharing and other network-based applications.

IS&T recently released VPN 4.6. It is supported on Windows, Macintosh and Linux platforms and includes a profile that makes it easy to establish an MIT VPN

connection. You can download the VPN client for your platform from the MIT software download site at <http://web.mit.edu/software>. Certificates are required.

To learn more about VPN, go to <http://itinfo.mit.edu/product?name=vpn>. If you need assistance installing or using it, contact the Computing Help Desk at computing-help@mit.edu or 253-1101.

EHS transactions move to SAP

Two Environment, Health and Safety (EHS) transactions are now available in SAP: Principal Investigator (PI) Space Registration and Substance Authorization and Reauthorization Act (SARA) reporting. PI space registration focuses on the PI and the space for which he or she is responsible. This application lets authorized users identify hazards, safety equipment, and room roles such as emergency contacts, EHS representatives and SARA reporters.

SARA reporting, previously a paper-based process, now includes a custom worksheet and online submission transaction. Listings of SARA substances can be copied from the previous year, updated and submitted to the EHS office during the SARA submission period.

MIT's Data Warehouse provides a custom dashboard for EHS PI space registration and SARA reporting with more than a dozen reports providing data analysis for EHS lead contacts and coordinators.

To access the EHS transactions, go to <http://web.mit.edu/ehs-ms> or <http://web.mit.edu/sapweb>.

MITnet upgrade boosts external connectivity

IS&T recently reconfigured its external Internet connections, lowering costs and effectively doubling MIT's commodity Internet bandwidth. Three communications vendors—Sprint, Level 3 and Cogent—now provide MIT's external connectivity, so if one link goes down, the Institute will still have Internet access through the other two vendors. The increased bandwidth includes new one-gigabit Ethernet connections to Level 3 and Sprint.

These new connections are routed via the Boston Area Metro Fiber Ring, which MIT, Harvard, Northeastern University and Boston University recently acquired. In addition, IS&T continues to maintain its existing network connections to Comcast, Northern CrossRoads (Boston area Gigpop), Abilene (Internet2) and the Energy Sciences Network (ESnet).

IAP provides computing insights

Once again, IS&T is offering a flurry of IAP events. Informative sessions for the second half of January focus on topics such as home networking, best practices in web publishing, and MIT's evolving e-mail system. For a complete listing, see the IAP web site.

Digital talk is compiled by Information Services and Technology.

Plastic packaging helps monitor ocean pollutants



PHOTO / PHIL GSCHWEND

Ranier Lohmann, a former postdoctoral associate at MIT's Parsons Lab, takes samples in Boston Harbor to assess levels of toxic organic compounds.

Andrea Cohen
MIT Sea Grant

When Phil Gschwend exclaims "plastics!" it's hard not to think of the career advice given to Dustin Hoffman's character in "The Graduate." But Gschwend's enthusiasm for the material isn't about financial profit; he's using plastics to better understand chemicals in the environment.

In a project funded in part by MIT Sea Grant, Gschwend, a professor in the Department of Civil and Environmental Engineering, is using plastic to collect data on levels of organic pollutants in Boston Harbor waters and sediments. The data can be used to determine which areas pose risks to the animals living there—and the humans who eat them—and to make decisions about which areas should be targeted for cleanup efforts.

The traditional method for measuring chemicals in sediments and waters is to look at chemical levels in animals such as clams and mussels. But the levels accumulated by the animals do not correspond to researchers' models, Gschwend said. The levels in the animals were much lower than expected.

In part that mismatch was due to the presence of soots and chars. Collectively referred to as black carbons, these solids include diesel soot from buses and cinders from forest fires. Black carbons get carried by wind or washed out by rainwater and end up in places like Boston Harbor. There, says Gschwend, they mix with the mud and grab hold of many organic chemical pollutants, making it harder for the pollutants to move out of the muds and into animals.

Taking that process into account, Amy-

Marie Accardi-Dey (Ph.D. 2003) discovered that predictions of chemical levels using animal samplers were off by a factor of 40. (Accardi-Dey did her graduate work in the joint program between MIT and the Woods Hole Oceanographic Institution.)

Since animals are iffy indicators of what's around them in mud and water, various researchers decided to put out a material that would absorb the chemical of interest. Gschwend describes the first material chosen as "little bags of fat," plastic bags filled with the triglyceride triolein. Rachel Adams, a Ph.D. student in civil and environmental engineering, found that the bags often broke and lost the triolein. Eventually researchers realized that the plastic alone could do the job.

That plastic, Gschwend points out, is cheap, strong, easy to clean, and can be placed in air or water or mud for a short time to collect molecules of interest. "Anybody who's ever had milk go rancid in a plastic milk bottle knows you can't rinse out the plastic," he said. "It's going to stink for a long time because the smelly compounds have diffused into it."

Working in Quincy and Dorchester Bay, Gschwend and colleagues insert plastic strips into the mud and water column to accumulate chemicals for a day or two. Back in the lab, they analyze the strips to identify and quantify the chemicals.

Thus far, Gschwend says that the amount of pollutants indicated by the plastic samplers is less than what would have been expected, reinforcing the inferences of the model calculations. Another finding is that certain chemicals are being diffused from mud into water, while others appear to be moving from water into the mud.

Team identifies genetic link in ovarian and endometrial cancers

Christina Yoon
Center for Cancer Research

A new study from the MIT Center for Cancer Research provides the first mouse models of endometriosis and endometrioid ovarian cancer, two major gynecologic diseases that are frequently associated with each other in women.

The work was reported in an online publication in *Nature Medicine* on Dec. 26.

Endometriosis is a gynecologic disease characterized by the presence of functional uterine tissue outside the uterus. This disease is extremely prevalent in the general population and is a major cause of infertility; moreover, women with a long history of endometriosis are also at an increased risk for developing endometrioid ovarian cancer, a subtype of epithelial ovarian cancer. Ovarian cancer is the most deadly of gynecological cancers, due to the difficulty of early detection and lack of effective therapies.

"Not only did we create new mouse models for two important gynecological diseases, but also this research provided evidence for a genetic link between endometriosis and ovarian cancer and may explain why some women who have endometriosis also develop ovarian cancer," said Tyler Jacks, leader of the MIT team and director of the Center for Cancer Research.

Daniela Dinulescu, a postdoctoral fellow in the Jacks lab and first author of the study, found that mutation in the K-ras oncogene or the Pten tumor suppressor gene in the mouse ovary resulted in the development of ovarian endometriosis-like lesions. She went on to show that peritoneal endometriosis could be induced in mouse models through activation of oncogenic K-ras mutations.

The key discovery was made when Dinulescu showed that the combined mutation of K-ras and Pten in the ovarian surface epithelium gave rise to endometrioid ovarian tumors. Both genes are commonly mutated in human ovarian cancer.

"The combined mutation of K-ras and Pten in the ovaries gives rise to an ovarian cancer that is extremely aggressive and widely metastatic, and is highly reminiscent of the human disease," said Jacks, who is also the David H. Koch Professor of Biology and an Investigator for the Howard Hughes Medical Institute.

Other MIT CCR researchers include technical assistant Sarah Shafer and research affiliate Denise Crowley. Tan Ince and Bradley Quade of Brigham and Women's Hospital also contributed to this work, which was supported by grants from the National Cancer Institute and the Howard Hughes Medical Institute, the American Cancer Society, the Shoreline Circle of Hope and the Anna Fuller Fellowship Fund.

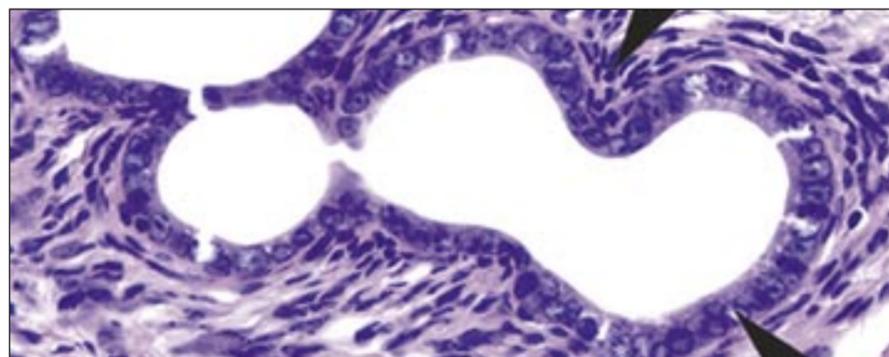


PHOTO / CENTER FOR CANCER RESEARCH

In these endometriosis lesions from the mouse model of endometriosis, both endometrioid glands (bottom arrow) and stroma (top arrow) are shown.

CHEMO

Continued from Page 1

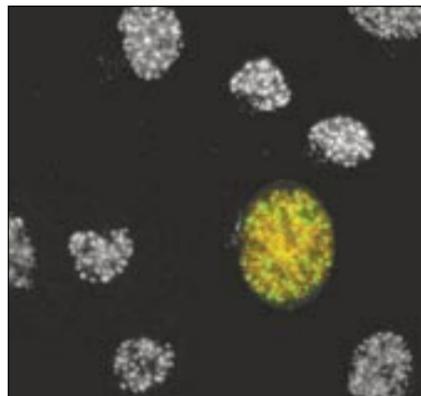


PHOTO / YAFFE LAB

Cells with damaged DNA in their nuclei (gray dots) normally stop dividing. However, the two cells for which MAPKAP Kinase-2 activity has been inhibited still undergo cell division (red stain), even in the presence of DNA damage (green stain).

team led by Michael Yaffe, the Howard S. and Linda B. Stern Associate Professor of Biology, reports that blocking the function of the protein MAPKAP Kinase-2 increases the sensitivity of cancer cells to certain types of cancer treatment.

"MAPKAP Kinase-2 had been previously studied and was thought to be primarily involved in inflammation," said Yaffe, who is also a member of the Department of Surgery at Beth Israel Deaconess Medical Center. "But our work shows that MAPKAP Kinase-2 also integrates DNA damage-signaling responses and cell-cycle arrest in mammalian cells."

"This result is particularly exciting as several drug companies are already developing MAPKAP Kinase-2 inhibitors for use in inflammation," said Yaffe. "Our hope is that we can use drugs already in development as anti-cancer agents."

Normal cells have a remarkable ability to sense when their DNA has been damaged and will repair the problem before continuing to copy their DNA and divide.

Using RNA interference (RNAi) to inhibit the activity of MAPKAP Kinase-2, biology graduate student Isaac Manke showed that cells no longer sense DNA damage caused by ultraviolet light. Instead, he found the cells are more sensitive to the killing effects of ultraviolet light

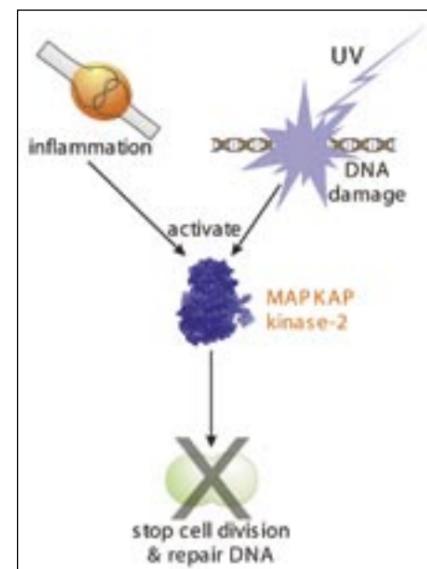
and also divide much faster.

The discovery that the MAPKAP Kinase-2 pathway coordinates cell division and the DNA damage-repair process is remarkable in its similarity to other pathways involved in the response to other types of DNA damage, Manke said.

In fact, clinical trials are under way to test the effectiveness of combining a drug that blocks the DNA damage-response with chemotherapy to see if lower doses of chemotherapeutic agents may be used. The results of this MIT study suggest yet another new approach for improving a patient's response to chemotherapy.

Other researchers include postdoctoral fellows Daniel Lim and Mary Stewart, former postdoctoral fellow Anhco Nguyen and graduate student Andrew Elia of the Center for Cancer Research.

Support for this work comes from the Jane Coffin Childs Foundation, the National Institutes of Health and the Burroughs-Wellcome Fund. Manke is supported by a Koch Graduate Fellowship.



GRAPHIC COURTESY / YAFFE LAB

A single molecule, MAPKAP Kinase-2, appears to be important in controlling both the response of cells to inflammation and their response to some types of DNA damage. Drugs against MAPKAP Kinase-2 that were originally intended as anti-inflammatory agents may possibly be used as cancer-treatment agents.

Spacetime wave orbits black hole

Astronomers have seen evidence of hot iron gas riding a ripple in spacetime around a black hole. This spacetime wave, if confirmed, would represent a new phenomenon that goes beyond Einstein's theory of general relativity.

These observations, presented Jan. 10 at a meeting of the American Astronomical Society in San Diego, confirm one important theory about how a black hole's extreme gravity can stretch light. The data also paint an intriguing image of how a spinning black hole can drag the very fabric of space around with it, creating a choppy spacetime sea that distorts everything falling into the black hole.

Jon Miller of the Harvard-Smithsonian Center for Astrophysics and Jeroen Homan of MIT's Center for Space Research observed the phenomenon with NASA's Rossi X-ray Timing Explorer.

"Black holes are such extreme objects that they can actually warp and drag the fabric of spacetime around with them as they spin," said Miller, who is the lead author on an article to be published in *The Astrophysical Journal Letters*. "Gas whipping around the black hole has no choice but to ride that wave. Albert Einstein predicted this over 80 years ago, and now we are starting to see evidence for it."

A black hole is a region in space where gravitational forces are so great that not even light can escape. Gas and dust funnel towards a black hole in an accretion disk, swirling around and into the void like water down a drain. This process of accretion generates copious amounts of light—predominantly X-ray radiation, par-

ticularly in the innermost regions of the accretion disk. Near the black hole, gravity is intense, but light still can muster an escape by climbing out of the black hole's gravitational well, losing energy during the climb.

Miller and Homan, for the first time, found a connection between two important characteristics of black hole observations: quasi-periodic oscillations (QPOs) and the broad iron K line. QPOs refer to the way the X-ray light seems to flicker. The broad iron K line refers to the shape of a spike on a spectrogram, a tool used to analyze light characteristics such as energy. Light from iron atoms emitted at a specific frequency creates a bright line in the spectrogram. The line is broadened to lower energies, because the light loses energy as it climbs out of a gravitational well.

Miller and Homan studied a black hole named GRS 1915+105, about 40,000 light years away in the constellation Aquila. They noticed that a low-frequency QPO of 1 to 2 hertz was tied to changes in the broad iron K line. The fact that the two signals were in synch and were unaffected by other phenomena—such as black hole jet activity—strongly suggests that both are occurring very close to the black hole. And this, the scientists say, rules out a theory stating that broad iron lines are created in black hole winds far from the black hole itself.

This discovery raised the question of what could be causing the connection. Miller and Homan say that the slower QPO could be the frequency of a spacetime warp. In that case, the low-frequency

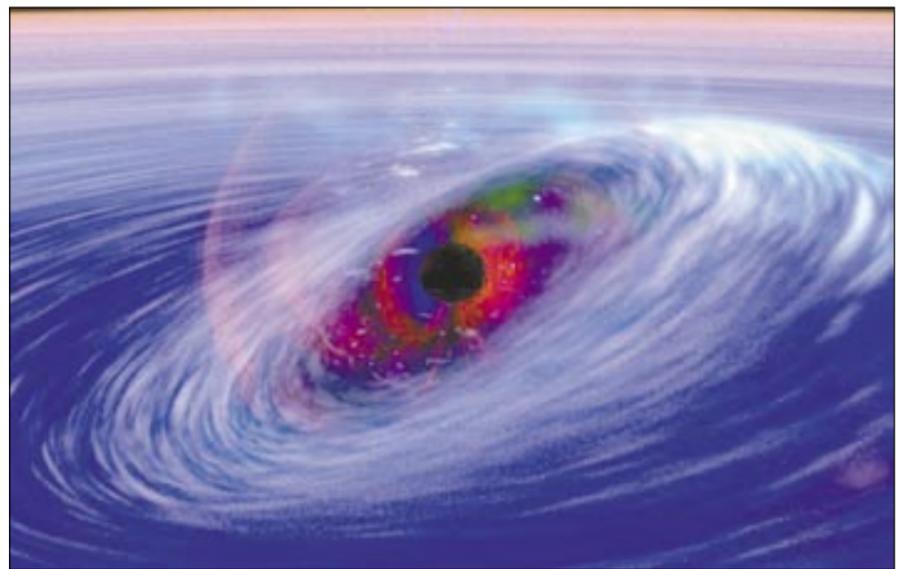


ILLUSTRATION / DANA BERRY/CIA/NASA

Astronomers have discovered evidence for physics beyond Einstein's theory of general relativity. This artist's conception shows a galactic black hole being orbited by a ripple in spacetime—a distortion in the fabric of space itself.

QPO flickering is caused by the fabric of space itself churning around the black hole in a wave. This is known as Lense-Thirring precession, which evolves out of Einstein's theory of general relativity.

Imagine the accretion disk as a music CD. The wave produced by the spacetime warp would increase the surface area of the flat disk. The broadness of iron K lines depends on surface area. So, this momen-

tary increase in surface area, "flickering" at a frequency of 1 to 2 hertz, could explain the repetitive changes observed in the iron K line. Each time the hot iron gas encounters the spacetime warp, the light gets a jolt and the broad iron K line changes its appearance.

Miller and Homan caution that this is only one explanation of their observation, and that other explanations may be possible.

Giant telescope will keep an eye on planets in other solar systems

Elizabeth Thomson
News Office

MIT astrophysicists and their colleagues are excited about the latest milestone toward developing a giant telescope that among other things will allow direct observations of planets orbiting stars in solar systems beyond ours.

On Dec. 13 the Carnegie Observatories of the Carnegie Institution signed an agreement with the University of Arizona's Steward Observatory Mirror Lab to produce the first mirror for the Giant Magellan Telescope (GMT). The telescope will have a diameter of about 25.4 meters or 83 feet—making it about as wide as an eight-story building is tall.

Slated for completion in 2016 at Carnegie's Las Campanas Observatory in Chile, the GMT will have 10 times the resolution of the Hubble Space Telescope enabling a variety of new projects and observations.

"At the very top of that list would be the direct observation of exo-planets around nearby stars and observation of objects yet younger (and therefore more distant) than the youngest objects observable today," said Paul Schechter, the William A. M. Burden Professor of Astrophysics, who leads the MIT group that is part of the eight-member consortium developing the GMT.

Other members are Carnegie Observatories, Harvard University, Smithsonian Astrophysical Observatory, University of Arizona, University of Michigan, University of Texas at Austin, and Texas A&M University.

The new telescope will be composed of seven, 8.4-meter

primary mirrors arranged in a floral pattern. It builds on the successful heritage of the two 6.5-meter Magellan telescopes, the first of which began science operations in early 2001. "The same individuals involved in the building of Magellan constitute the core of the GMT design group," Schechter said.

What role do ground-based telescopes play in the era of satellite telescopes like the Hubble? For one, said Schechter, "ground-based telescopes can be much bigger, which is important because a telescope's light-gathering power is proportional to the square of its diameter. The Hubble is only 2.4 meters in diameter, and the next-generation space telescope, which ought to be finished at about the same time as the GMT, will be smaller than the present Magellan telescopes."

TSUNAMI

Continued from Page 1

"The immediate need for medicine is a priority," said Wijesinghe, who said he was grateful that his own family in Colombo is safe. He will spend the next month with them while he looks at funding more long term help in Sri Lanka such as rebuilding houses and buying fishing boats and nets to ensure an ongoing source of income for the many people whose livelihoods were wiped out by the tsunami. "There is a need to better protect children who are additionally vulnerable in disaster environments," he said. Wijesinghe plans to help allocate funds where he sees the greatest need.

Public Service Center organizes

Since so many countries were affected by the tsunami, the MIT Public Service Center (PSC) has been encouraging a variety of groups to collect funds, allowing those who donate to choose where to send money. "It makes a lot of sense for people to raise funds for the organizations they know or the communities that hold the strongest importance for them," said Sally Susnowitz, assistant dean and director of the PSC, which has also been collecting money both in their office (Room 4-104) as well as in Lobby 10.

In addition to funds raised for affected communities, the PSC is also raising money for a public service fellowship to send MIT students to Sri Lanka this summer to help with rebuilding. "The creativity and technical knowledge of MIT students will be extremely valuable to the community organizations that will be

engaged in reconstructing communities this summer," said Susnowitz. This past year, Evan Freund, a graduate student in urban studies and planning who is involved with the PSC, spent time on a fellowship in Unawatuna, a Sri Lankan village that was destroyed by the tsunami.

"We feel a very personal connection," said Susnowitz. "With 150,000 dead and missing, I think we all appreciate the chance to feel that there's at least some way we can help the survivors and try to assist them to rebuild their lives and livelihoods."

Support staff hold bake sale

Support staff at MIT will hold bake sales and raffles each Friday in January to raise funds for relief efforts of the Sewalanka Foundation and UNICEF. Assorted pastries, cookies and cakes contributed by members of the MIT community will be sold in Lobby 10 from 10 a.m. to 2 p.m. on Jan. 14, 21 and 28. Raffle tickets for special cakes and pies will cost \$1. The winning ticket will be drawn each Friday at 1:45 p.m.

MIT Buddhist community raises funds

The Buddhist Community at MIT (MIT-Prajnapaya) has formed a direct alliance with the Sri Bodhiraja Foundation in Sri Lanka to collect funds for construction of 1,000 houses for the population in the villages regardless of their religious affiliation or ethnic background. This collaborative effort has already raised about \$200,000 internationally. The construction of one house can be provided for about \$1,200.

A board of directors representing various religious traditions has been appointed to supervise and monitor the efficiency of the work and present a report afterward, according to Tenzin L. Priyadarshi, the Buddhist chaplain at MIT.

"One of the issues that always concerns us is whether our contribution reaches those who are suffering. You can be

assured that every dollar of your contribution is benefiting the victims directly," said Priyadarshi, who will go to Sri Lanka to help with these relief efforts. He asks that contributions be sent to MIT-Prajnapaya, which is a 501(c)3 nonprofit organization, at 60 Hartwell Road, Carlisle, MA 01741, or to MIT-Prajnapaya in Room W11-004.



PHOTO / DONNA COVENY

Aparna Jonnalagadda (left), a senior in mechanical engineering, and her mother, Vidya Jonnalagadda, a postdoctoral associate in biological engineering, sell calendars made by students in India. Together they collected donations for tsunami relief in Lobby 10.

Vacant looks could be Eureka! moments

Nearly 20 percent of American adults say they think most creatively in their cars, according to the 2005 Lemelson-MIT Invention Index study, which gauges Americans' attitudes toward invention and innovation. So don't think of your commute as being stuck in bumper-to-bumper traffic; think of it as a potential breeding ground for your next creative breakthrough.

Survey respondents said the ideal conditions for creative thinking are solitude (66 percent) and quiet (47 percent), although 24.5 percent said while working with others, and 23.3 percent said that being under pressure creates the ideal condition for creativity.

"Many Americans feel they spend half their lives in the car, but we were surprised by just how many people felt

their daily commute was conducive to creative thinking," said Lemelson-MIT Program Director Merton Flemings. "But when you stop to think about it, it makes sense. Daily commutes in this country are getting longer each year and the car may be one of the last environments in which we can escape from our over-stimulated lives and just be alone with our thoughts."

Other settings that fared well in the Lemelson-MIT Invention Index were workplaces and schools (20 percent); in bed while falling asleep, waking up or dreaming (16 percent); and outdoors (14 percent). Respondents also cited bathing or showering (5 percent) and exercising (5 percent) as conducive to creativity.

By contrast, watching television (2 percent) and

listening to music (1 percent) were the least likely to lead to creative thoughts.

Americans spend more than 1,000 hours each year, or 11 percent of the year, in front of television sets, according to a 2004 Bureau of Labor Statistics report. By contrast, Americans spend an average 260 hours each year commuting, according to a 2004 U.S. Census study.

"Television has an important place in our culture," Flemings commented. "However, our society faces significant challenges that will require fresh and imaginative ideas. Young people, especially, need to gain real-world experiences and be exposed to environments that are conducive to creative thought. That means turning off the TV every so often."

Burned-out but diligent, TA gets help from students

Sasha Brown
News Office

When chemistry teaching assistant Wes Austin showed up for his office hours on Dec. 1 after spending the night watching his home burn and most of his possessions ruined in a fire, his students were touched by his diligence.

A week later the freshmen in general chemistry (5.111) presented Austin with cards signed by each of them and more than \$400 in cash they had collected to help him get back on his feet.

"I started to cry," said Austin. "It was absolutely awesome and wonderful."

The cause of the fire that devastated the 10-unit apartment building in Cambridge's Central Square is still unknown.

Austin, a Ph.D. candidate who bought his condominium in July, was home at 10:30 p.m. when he heard the fire alarm. Being a veteran of many false alarms, Austin didn't

believe it was a fire, but he gathered up his six-month old kitten, Maya ("she tried to hide behind the couch, but I dragged the couch out and got her," said Austin) and he and his roommates headed outside. "When I looked back there were flames coming out," he said.

It took firefighters 12 hours to extinguish the blaze.

Though he had not slept and was still reeling, Austin showed up for office hours the next morning. "There was nothing I could do at the apartment," he said. "I couldn't fix it so I might as well be at work."

One of his freshman students, Stephanie Chiang, saw Austin that morning. Immediately, she knew something was wrong. "He looked exhausted," she said. When she learned of the fire, Chiang sprung into action, e-mailing the class, her dorm (McCormick Hall), even alumni on the dorm's mailing list. In just one week, she had gathered enough funds to present to Austin on the morning of the last class of the semester. "He has been a really good TA, always open to us all," said Chiang. "It was time for someone to help him out."

Austin's unit was spared from the fire, but the extensive water damage ruined photos, furniture and appliances. Later, looters stole his standing mixer, video game unit, some clothing and other things.

Chiang and other volunteers received dozens of checks and cash, including one check from an alumna. They also received offers of furniture and other items to donate to Austin, who is currently renting an apartment in the same area. Though Austin was insured, he needs to pay for all the new items up front. "It will be okay eventually and everything irreplaceable was saved," he said. "But this helps a lot."

"It was wonderful to see how appreciated he is by his students," said Catherine Drennan, an associate professor of chemistry who teaches 5.111 and watched the Dec. 8 presentation. "It was also heartwarming to observe the generosity of spirit of this freshmen class."

Though thrilled to be able to help, Chiang said she was not surprised by the kindness in her fellow students. "The MIT community really feels like a community," said Chiang. "We all help each other out."

Poetry explored daily during January

The IAP series, Pleasures of Poetry, now in its 8th consecutive season, offers a daily one-hour session of reading and discussing poems that are selected and presented by members of the MIT literature faculty, staff and students. The sessions, which are open to the public, are held in Room 14E-304 weekdays from 1 to 2 p.m. through January.

This year's selection—available in a packet from the literature department—offers a range of poems, from ancient to contemporary, and a range of presenters including the MIT rabbi and Episcopal chaplain.

Professor David Thorburn, head of the literature section and director of the MIT Communications Forum, is the series' organizer.

"The pleasures of poetry are diverse, powerful and subtle. Perhaps this explains the success of our annual adventure in poetry during IAP, for diversity, intellectual power and subtlety are also quintessential MIT virtues," said Thorburn. "This year's roster is especially rich, I think, a testament to the range of interest among our moderators and also, of course, to the amazing reach of poetry as an art. The series is inspiring to me for many reasons, not least because it reminds us of the intimate, enduring friendship of poetry,

science and technology."

The series began last week (Jan. 3) with Professor Stephen Tapscott, on John Clare; Professor Howard Eiland, on Tennyson; and Professor James Buzard on T.S. Eliot. Rabbi Ben Lanckton moderated a discussion of selected psalms.

In each session, lively discussion followed a brief presentation of biographical information and a reading of the poems. Participants explored use of rhyme, meter, setting and tone in each poem; the relevance of historical and cultural influences; and the ever-engaging question, what is a poem anyway?

Upcoming sessions include presentations by professors of literature David Evett on works by Yeats (Jan. 12); David Thorburn on Michael Ryan (Jan. 24); Wyn Kelley on Puritan poems and Noel Jackson on Keats (Jan. 28). Presentations by other enthusiasts include Anne Hudson, administrative assistant, on works by Bob Dylan (Jan. 18); Chaplain Amy McCreath on selections from the Book of John (Jan. 20); Julian Wheatley, senior lecturer in foreign languages and literature, on poems from the Chinese and Burmese (Jan. 25); and Stephen Pepper, administrative assistant in academic services, on Barry Spacks (Jan. 26).

—Sarah H. Wright



PHOTO / DONNA COVENEY

No need to fly south

An igloo of unknown origin appeared Jan. 3 on Briggs Field. MacGregor House rises in the background, while geese feed nearby.

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.

New tires, battery, brakes, alternator, gas tank. \$2,500/bst. 781-935-4856.

1998 VW Jetta GL Sedan, 5-speed manual, 61K, good cond. A/C, keyless entry, power steering, alarm, 6-CD, radio, cassette, alloy wheels. \$5,600/bst. 617-642-4274 or hari@mit.edu.

South Boston: compact studio w/ separate entrance, small kitchen, all utilities included. \$685/mo. Security deposit, references required. 2 blocks from beach. Avail. Jan. 617-268-0880.

Deeded, life-long time-share week, early May, 5-star Westgate Resorts, Kissimmee, FL. Fully-furnished villa, 2 BR, sleeps 6. Full baths, pool, hot-tub, health club. Near theme parks. \$8,500 firm. 617-436-5663 or wtonjoel@juno.com.

Inman Sq.: furnished room for visiting faculty/postdocs, short-term 1 to 6 months, \$250/week, \$950 - \$1,000/mo. Kitchen, laundry, all utils, cable and wireless LAN, linens, included. Walk to MIT. References. 617-625-9839.

1 BR avail. in 2 BR apt in JP, Feb1-April 30. 2 blocks from Green St. stop, Orange Line. New kitchen, bath, W/D, no smoking. Pets ok. \$700/mo. Incl. utils. Laura at 617-524-1874 or LWulf333@aol.com.

East Boston, Eagle Hill: 1 BR, lots of storage, off st. prkng. Patio, backyard. Near public trans. View of Zakim Bridge. No pets. Avail. now. \$1,050/mo. 781-608-0182 or wabbikalemba@yahoo.com.

WANTED

Someone who reads Norwegian and is familiar with boatbuilding terminology for occasional help to model-builder in interpreting Nordlandsbåt written material. 508-358-4897 or matleup@aol.com.

STUDENT POSITIONS

Positions for students with work-study eligibility.

PositWanted: detail-oriented, meticulous, mature individual. Tasks: assisting development director and business manager with data entry and filing; organizing mailings. Work-study eligibility required. Resume and cover letter to Adria Scharf at scharf@dollarsandsense.org.

Boston Learning Center seeks tutors for middle or high school students. Subjects: reading, English, writing, grammar, algebra, geometry, calculus, biology, chemistry, physics, Spanish, French, Latin or SAT prep. Previous experience preferred. boslearn@aol.com.

FOR SALE

Ethan Allan solid cherry computer cabinet w/ fold out desk. Ex. cond. Originally \$950. Asking \$300. 508-668-6742.

Handsome dog. Black labrador retriever mix. Male, 1 year old. Playful, friendly, happy. \$150. Gregor at 617-536-9925.

Butcher Block kitchen table. 3 foot by 5 foot, restle. 1.75 inch thick top. 10 years old. \$450 (\$725 new). Pick up in Belmont. Clare at 253-7708 or clares@mit.edu.

VEHICLES

1992 Pontiac Grand Prix, red, 85K. Good cond.

HOUSING

Ocean front summer cabin, Mount Desert Island, ME: 2BDR/1BA w/living/kitchen area; picture windows, deck overlooking water; stairway to beach. Mins from Acadia National Park, Bar Harbor. \$1000/week June-Sept. Steve at 253-5757 or chorover@mit.edu.

Somerville: 2 BR, \$1,300/mo. 2nd floor in 3-fam, LR, DR, kitchen, bath. Near public transportation, off st. parking. W/D, refrig. No pets. Avail. now. 617-623-8398.

Cambridge: large studio / 1 BR. 10 min. walk to campus, completely furnished and equipped, laundry, enclosed yard. No fee, no security deposit, \$975. johnnatale@verizon.net or 781-729-7725.



Image from the video "TILT," by Paula Josa-Jones and Ellen Sebring, featuring dancers Alissa Cardone and Ingrid Schatz.

Un-leveling the playing field

What happens when a choreographer pulls the floor out from beneath her graceful, agile, well-trained dancers? What happens when gravity shifts beneath their feet?

"TILT," a new collaboration between video artist Ellen Sebring (S.M.VisS 1986) and acclaimed Boston choreographer Paula Josa-Jones, explores that new frontier. The performance combines large-screen video, live dancers, and a gravity-disrupting mechanism called a "levitron" to discover new realms of movement.

Starting Sunday, Jan. 16, the artists will conduct a four-day workshop for students to create performance elements for "TILT," including choreography, lighting and a rudimentary levitron designed by Geoff Benson. The workshop will culminate in a lecture demonstration on Saturday, Jan. 22 at 3 p.m. in Kresge Auditorium. Performers will include Alissa Cardone and Ingrid Schatz, both members of Paula Josa-Jones' dance company Performance Works, and members of MIT's Kinaesthetics Lab, a student choreography group.

The performers will experiment with ways to mirror on stage the tilt effect, which was created by camera movement in the videotape. Sebring notes that

when gravity is disrupted, the dancers are thrown out of balance, evoking new types of dance movement. "We hope to get some ideas as to how to build a more sophisticated levitron in the future," she said.

Josa-Jones and Sebring have collaborated for the past 15 years on a wide range of works for dance and film. Most recently, they created a video version of "RIDE," Josa-Jones' work for dressage horses and dancers currently under development as a Broadway-style production. "TILT" was shown in video form at last year's Dance on Camera Festival at Lincoln Center.

Sebring was a Fellow at the Center for Advanced Visual Studies from 1987-1993 and is currently a research associate in the Visualizing Cultures project under the direction of professors John Dower and Shigeru Miyagawa. Sebring was selected by the American Film Institute's Directing Workshop for Women to direct a film in Hollywood; she has directed more than 30 documentaries on visual artists, dance and theater. In 2004 she received a residency to compose music for "DIVE," an interactive video installation featuring Josa-Jones, which also will be screened at the Jan. 22 event in Kresge.

Exhibit examines origins of infamous housing project

St. Louis's Pruitt-Igoe housing project was a massive high-rise development born in 1956 out of the post-World War II federal public-housing program. Originally hailed for its architectural innovations, it was razed in the 1970s following years of disrepair, vandalism and crime; it is now considered one of the most disastrous public housing projects ever built.

A new exhibition offers a close look at the history of the complex. "Vertical City: The Life and Design of Pruitt-Igoe" is on view in the Wolk Gallery (Room 7-338) through Jan. 28.

The exhibit explores the impact of architectural design through photographs, maps, prints, plans and film and traces the history of efforts to improve the project. Central to the story are narratives from architects and planners, social workers, housing officials, civic and religious organizations, and the tenants themselves.

Part of a massive urban reconstruction program, Pruitt-Igoe was one of the largest housing projects in the United States. Its 33 buildings rose 11 stories to tower over 57 acres of the city. At its peak, it housed some 12,000 people in 2,870 apartments. It was designed by the same architect who designed New York's World Trade Center towers—Minoru Yamasaki of Hellmuth, Yamasaki and Leinweber.

The Pruitt-Igoe plan called for a Corbusien "ville radiuse" of high-rise edifices interspersed with garden apartments, all

surrounded by an expanse of tree-lined plazas. Federal cost-cutting measures, however, eliminated many of the best features of Yamasaki's design and forced contractors to cut corners in the construction of the project. Still, it was hailed in the national press as an innovative application of modernist design principles to the problem of chronic urban housing shortages.

Most families that settled in the project regarded their move into Pruitt-Igoe as an improvement in their housing conditions. They worked to establish a playground, recreation center, public library branch, Boy Scout Troop, day-care center and health clinic. Over time, however, the project fell into decline, and in 1972 the housing authority made the historic decision to tear it down. Today, the reasons for the project's decline continue to be debated, and Pruitt-Igoe has become a symbol of policy and design failure.

The exhibition is curated by Joseph Heathcote, assistant professor of American Studies at Saint Louis University, along with graduate students in the American City Studio. Artifacts and images are drawn from the collections of the Mercantile Library, the Missouri Historical Society, the St. Louis Post Dispatch Archives, St. Louis Public Library General Records, Washington University Special Collections, Western History Manuscript Collection, Saint Louis University Archives and private collections.

Employees share artistic talents

Erika Hartweg knows a thing or two about balancing multiple interests and tasks. She's a research specialist in electron microscopy, working in the biology department, who is also a potter, having learned pottery with the MIT Student Art Association. She's a printmaker who is fascinated with the patterns of daily life. She's a busy woman who takes flute lessons in her spare time.

Fully aware of the many sides and talents of MIT employees, Hartweg is also the curator of a new show by members of Artists Behind the Desk titled "Artists by Night...Administrators by Day." The exhibition of works by 21 artists is on view at the Rotch Library (Room 7-238) through Jan. 28.

Artists Behind the Desk is a group of

employees from a variety of departments holding a large range of positions. "All have a very strong interest and commitment to art," said Hartweg. "I appreciate their struggle to honor the demands, regulations and routines of the day job in order to enjoy the freedom of their spare time and their creativity."

"This exhibition is not only about art on the walls, but is also about the duality of the lives of the artists behind the desks," said Hartweg. The exhibition includes photography, watercolors, painting with oils, printmaking and computer-art.

Library hours are Monday-Thursday 9 a.m. to 8 p.m.; Friday 9 a.m. to 6 p.m.; Saturday 1 to 6 p.m. and Sunday 1 to 8 p.m.

—Lynn Heinemann, Office of the Arts

List Center gets accreditation and grant for Internet work

The List Visual Arts Center has received a prestigious grant for \$98,908 from the federal Institute of Museum and Library Services. With this grant, the LVAC will launch "Beyond Ames Street," a multifaceted approach to using web-based technology to connect with audiences more deeply.

The effort to increase online projects to enhance public participation is an integral part of the LVAC's mission. It parallels MIT's OpenCourseWare, which distributes MIT course content online.

The project's centerpiece will be an interactive online guide to MIT's collection of modern and contemporary art, which includes works by Henry Moore, Pablo Picasso, Jennifer Bartlett, Louise Nevelson, Jorge Pardo, Dan Graham, and Matthew Ritchie. The guide will feature video tours of buildings and art projects that allow the web user to move through rooms or around a sculpture, and view public works such as Alexander Calder's "Great Sail" and lesser-known works such

as Frank Stella's "Loohooloo," which is located in a conference room not open to the public.

The online guide will include a description of each work, artist/architect biographies and essays by critics and curators. Users will have access to the LVAC's past programs, including talks by artists, curators and critics, exhibition tours and interviews.

"We are delighted that this major grant will help to make our materials, exhibitions and collections available to people everywhere," said Jane Farver, director of the LVAC.

List earns accreditation

The List Center has again achieved the highest recognition for a museum—accreditation by the American Association of Museums. AAM Accreditation signifies excellence within the museum community. Of the nation's nearly 16,000 museums, only about 750 are currently accredited.



Late-Night Speed Viewing

The fast-forward, fugue state of multi-tasking gains new meaning in Jason Salavon's video artwork, which allows the viewer to simultaneously watch the opening monologues of 64 nights of three TV shows in just three minutes, 35 seconds. Salavon, an American video artist, created "The Late Night Triad" by obsessively recording hundreds of hours of programming from "The Tonight Show with Jay Leno," "Late Night with Conan O'Brien" and "Late Show with David

Letterman." He then wrote code in the C programming language that generated the frame-by-frame mean average of pixel values from the shows. The resulting looped triptych projection is accompanied by the averaged sound from all of the programs, resulting in an experience in which the viewer sees and hears all 192 shows simultaneously. The work can be seen 24/7 at the Media Test Wall in Building 56 through January. Watch it if you can.

MIT EVENT HIGHLIGHTS JANUARY 12 - 16

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



IMAGE / QINGXIONG MA

"They Look Like Priests"

The MIT Student Art Association (SAA) published a 2005 calendar that matches images made by SAA artists to quotations by Lao Tsu, the sixth-century B.C. Chinese philosopher. The calendars sell for \$15 each; \$12 for students (bulk discounts are offered). To order, e-mail SAAhelp@mit.edu. "They Look Like Priests" depicts May in the calendar.

WEDNESDAY
January 12

 **Physics IAP: Feynman Films**
Symmetry in Physical Law.
Noon-1:30pm. Room 6-120. 253-6259.

 **The Perilous Earth: Understanding Natural Hazards**
Professor Kerry Emanuel talks about New England's hurricane risk. Noon. Room 54-915. 253-3382.

 **Learn a Bisl Yiddish**
Michael Katz discusses the origins of the Yiddish language. 5-7pm. W11 Hillel Center. 253-2982.

 **Kokikai Aikido**
Come learn the modern Japanese martial art teaching coordination of mind and body. 7:15-9pm. Room W32-Wrestling Room. 253-0772.

 **Israeli Folk Dancing (participatory)**
8pm. Lobby 13. 484-3267.

THURSDAY
January 13

 **Knit By Numbers**
Share knowledge or learn from scratch for an hour of stitching. Bring project. Also on Jan. 20 and 27. Noon-1:30pm. Room 2-236.

 **Bridge Tournament**
Teams-of-four tournament. Noon-6pm. Room 2-290.

 **What can you do with a degree in science?**
Lecture by Marilyn Wilson on the many career paths open to those with science degrees. 3-5pm. Room 3-133. 253-4733.

 **Varsity Women's Ice Hockey vs. Salve Regina University**
7pm. Johnson Ice Rink. 258-5265.

FRIDAY
January 14

 **Artists by Night... Administrators by Day**
Artists Behind the Desk exhibition featuring works in a variety of media. 9am-6pm. Room 7-238.

 **Bake Sale and Raffle**
Assorted baked goods from Support Staff and other members of the MIT community. Proceeds go to tsunami relief. Also Jan 21 and 28. Sale: 10am-2pm. Raffle: 1:45 pm. Lobby 10. 258-7037.

 **The Perilous Earth: Understanding Natural Hazards**
Stephane Rondenay, Dept. of Earth, Atmospheric & Planetary Science speaks on natural hazards. Noon. Room 54-915. 253-3382.

 **Garden State LSC Film.** \$3. 7pm. Room 26-100. 258-8881.

SATURDAY
January 15

 **Visualizing Physics: Transforming Science**
Learning at MIT
Get an insider's view of how MIT is redesigning the way it teaches physics. Noon-5pm. MIT Museum. 253-4444.

 **Varsity Women's Gymnastics vs. RIC, Ursinus, and Wilson**
2pm. Du Pont Gymnasium. 258-5265.

 **Beginners / All Level Tango Classes**
Taste what Argentine Tango is all about. No partner necessary and no previous experience required. 2-4:30pm. Sidney-Pacific Multi-Purpose Room.

 **Milonga: Social Tango Night**
Tango music all night, plenty of partners to dance with and new people to meet. Sponsored by the Graduate Student Council and the Sidney-Pacific House Council. 9pm. Sidney-Pacific Multi Purpose Room.

SUNDAY
January 16

 **IVCF Urban Plunge**
A week of hands-on urban ministry and volunteer opportunities. All over Boston.

 **Varsity Men's and Women's Swimming vs. Springfield College**
1pm. Zesiger Sports and Fitness Center Pool. 258-5265.

 **International Folk Dancing (participatory)**
8pm. Lobdell Dining Hall (2nd floor). 253-FOLK.

 **January Object of the Month**
Illustration from Report on Van de Graaff Generator, 1933. All day. Hallway across from 14N-118. 253-5136.

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

PSC TSUNAMI RELIEF PROJECT

Ongoing fund-raising for the Sewalanka Foundation, UNICEF, and a PSC Fellowship in Southeast Asia. 253-0742.

Jan.

Lobby 10
9 a.m.-5 p.m.

350 YEARS OF AMERICAN JUDAISM

Exhibit chronicling the history and accomplishments of American Jews, with lecture following. 253-2982.

Jan. 20

W11 Small Dining
5:30 p.m.

"TILT" A VIDEO DANCE

Collaboration by video artist Ellen Sebring (S.M.VisS '86) and choreographer Paula Josa-Jones.

Jan. 22

Kresge Auditorium
3-5 p.m.

MIT EVENT HIGHLIGHTS JANUARY 17 - 23

MONDAY
January 17

 **Martin Luther King, Jr. Holiday**
Institute Closed

 **Introduction to Self Defense Skills Course**
Focus on practical ground-fighting skills; self-defense from knife, gun, and blunt weapons and from multiple attackers. For beginners. Dupont Wrestling Room.

 **Garden State LSC Movie.** \$3. 8pm. Room 26-100. 258-8881.

TUESDAY
January 18

 **Copyrights, trademarks and intellectual property issues**
Lawyers Ann Hammersla and Elizabeth Carlson talk about handling intellectual property. 11am. Room 33-116. 253-1564.

 **Intellectual Property at MIT**
Talk on copyright issues for using information. 1pm. Room 4-237.

 **Two Case Studies at Launch Vehicle Mishaps**
Colonel Peter Young discusses the circumstances leading to two launch vehicle mishaps. 2pm. Room 33-206. 253-1564.

 **American Jews: Behaving, Believing, and Belonging**
Rabbi Ben Lanckton speaks on the current state of American Judaism. 7:10pm. W11 Boardroom. 253-2982.

 **Why Me? Why Anyone? The Problem of Suffering**
Trilogue with members of the Jewish, Lutheran-Episcopal, and Hindu communities on the meaning and purpose of suffering. 6:30-8pm. W11 Main Dining Room. 253-2982.

WEDNESDAY
January 19

 **The Perilous Earth**
Daniel Barclay talks on understanding natural hazards. Noon. Room 54-91. 253-3382.

 **GIS: Introduction to ArcGIS**
2-5pm. Room 37-312.

 **Celestial Mechanics from Newton to Einstein**
Talk by Professor Scott Hughes. 1:30pm. Room 6-120. 253-8523.

 **Math Department Music Recital**
Annual concert that gives mathematics community a chance to perform for each other. 3-5pm. Killian Hall.

THURSDAY
January 20

 **Avoiding Plagiarism Pitfalls or Who's Line Is It, Anyway?**
10:30am-Noon. Room 14N-132.

 **Tools for Communicating Your Recycling Message**
Workshop aimed at Recycling Ambassadors and other environmental stewards. Noon. Room 34-401A, Grier Room. 253-0292.

 **Biosphere 2 - Lessons for Space Travel**
Talk by Dr. Bruno Marino, Science Director, Biosphere 2. 2-3:30pm. Room 33-206. 253-5340.

 **Math Department Music Recital**
Annual concert that gives mathematics community a chance to perform for each other. 3-5pm. Killian Hall.

FRIDAY
January 21

 **Cambridge-MIT Exchange Program**
Seniors Henry Bergquist and K. C. O'Brien who both went to Cambridge discuss the program with prospective students. Noon-2pm. Room 6-212. 253-6057.

 **Varsity Women's Ice Hockey vs. Bates Club**
Team 7pm. Johnson Ice Rink. 258-5265.

 **Weekly Anime Screening**
MIT Anime Club presents the best of Japanese animation. 7pm. Room 6-120.

SATURDAY
January 22

 **The Late Night Triad (2003)**
Video work featuring The Tonight Show with Jay Leno, Late Night with Conan O'Brien, Late Show with David Letterman. 24 hours a day. Media Test Wall, Whitaker Bldg 56.

 **Varsity Men's Track vs. RPI, Williams, Westfield State**
Noon. Johnson Athletic Center. 258-5265.

 **Varsity Women's Basketball vs. Smith College**
2pm. Rockwell Cage. 258-5265.

SUNDAY
January 23

 **Varsity Men's and Women's Swimming vs. Tufts University**
1pm. Zesiger Sports and Fitness Center Pool. 258-5265.

 **International Folk Dancing (participatory)**
8pm. Student Center: Lobdell Dining Hall (2nd floor). 253-FOLK.