Robots go for Tic-Tech-Toe

Mark Cote's squeezer-grabber-thingy-bopper ruled over Robert Panas' flipper-upper-doo-hoppy in the final tie-breaking rounds of Tic-Tech-Toe, the robot competition for mechanical engineering students in course 2.007, held on Friday, May 13, in the Johnson Athletic Center. Cote and Panas, the first- and second-place winners, are sophomores in mechanical engineering. To ordinary eyes, their 10-pound machines suggested forklifts and catapults. But 2.007 is a transformative experience. Even language lightens up for it.

Thus third-place winner Philip Dawson, a sophomore in mechanical engineering, used a “gripper-attacker” design, while Sang Nguyen, a junior in mechanical engineering, employed speed and an innovative “windshield wiper of doom” to block his opponents' blocks. Alexander Slocum, professor of mechanical engineering and MacVicar Faculty Fellow, exceed the three-hour event, providing free-form commentary on each machine as the competition intensified.

“Repeatability! Infinite cosmic power! This is where physics meets the carpet!” he called out to the students, parents, fans and friends who packed the stands for the annual competition.

Many other items met the carpet during the evening, including the hands of students randomly asked to do push-ups and the contents of the kit from which all 130 machines were built during the spring term. Slocum likened the kit to an engineering student’s brain. “We start with real materials, raw materials. We want to get your brains to dump out all your knowledge and mix it up,” he announced, piling objects at his feet to demonstrate what “thinking outside the box” means.

Tic-Tech-Toe, composed of elimination rounds of 45 seconds each, required each student, using items from the kit, to build a machine to gather 8-inch foam-rubber blocks and place them inside 16 vertically stacked bins before frustrating its opponent machine.

In recognition of their outstanding scholarship and their capacity for original, creative work, four MIT students have been chosen to participate in two highly selective awards programs—the Churchill Scholarships, one of the three most competitive scholarship programs in the United States (along with the Rhodes and Marshall scholarships), and the U.S. Fulbright Fellowships. Both the Churchill and Fulbright awards pay for the winners to live abroad for a year to participate in educational or research programs and to help them gain a better understanding of people from other nations and cultures.

Churchill Scholar

Emily Schwartz, a senior aeronautics and astronautics major from Lawrenceville, Kan., will spend the 2005-2006 school year in Cambridge, England, studying for an M.Phil. degree in sustainable development. She is one of only 12 Americans to be awarded the Winston Churchill Scholarship this year, from a pool of 150 candidates nominated by their college or university.

“I wanted to do something completely different,” said Schwartz, who said the program at Cambridge University drew her interest. She believes that scientists and engineers have a social responsibility to help others in the world.

While she has enjoyed her studies in aeronautical and astronautical engineering and intends to return to them someday, she is looking forward to the new challenge. “I am really looking forward to meeting a lot of new people and gaining a different perspective,” said Schwartz.

Schwartz earned a 5.0 GPA at MIT and won both her department achievement award and the junior year project award with her lab partner. Additionally, she set the.
Clean energy competition rewards teams for best investor pitches

April 27. The competition is designed to reward the best investor pitches, i.e., the 10-minute spiel every startup company needs to master in order to obtain venture capital or angel funding. Relatively few first-time entrepreneurs are able to win high-quality pitches, so the competition was geared toward helping teams develop their pitches as well as introduce them to investors, fellow entrepreneurs, service providers and other energy industry providers in Massachusetts.

Teams could be formed of Massachusetts residents or students (whether from several schools participated), but they could not be funded by investors at the time of the presentation competition.

The winning team out of an original field of 35 was Microwell Scale Solutions, which has developed bacteria that dissolve away the scale that builds up an insulating layer of calcium carbonate in hot water pipes, in a wasted energy each year. The team won prizes worth $32,000.

Recommended systems

Members of the MIT have been working with MIT's preferred hardware vendors—Apple, Dell, Hewlett-Packard and IBM/Lenovo—to identify recommended systems for administrative and general computing on campus. IS&T has set minimum thresholds to help you in deciding when to retire existing systems and to provide guidance on new purchases. Computing Help Desk staff are also available to assist you. For pre-sales advice, stop by the Service Center in N42 during business hours to look at demo systems, send mail to computing-help@mit.edu, or call 253-1011. For more information, visit web.mit.edu/is/topics/hardware/.

E-mail warning

An e-mail now making the rounds urges wireless customers to sign up their cell phones in the National Do Not Call Registry to avoid calls from telemarketers. According to MIT's carriers (Verizon Wireless, Nextel, Cingular, T-Mobile and Sprint), this e-mail is misleading. No vendor sells or gives phone numbers to telemarketers, or provides any information to the national Wireless 411 directory unless the customer asks to be included. Further, customers who request not to be included in the Wireless 411 directory would only have their phone number made available to people who call Wireless 411 and request their listing.

The database will not be sold to third parties, and there are no plans for a printed directory. Even if your cell phone number is not in the Wireless 411 directory, auto-dialers (the automatic dialing systems often used by telephone solicitors) may still randomly dial it. You may want to wait until you actually get telemarketing calls before adding your cell phone number to the Do Not Call Registry at www.donotcall.gov/.

New web service

IS&T has launched a service that enables web publishers to include Real-time Syndication (RSS) feeds in web pages hosted on web.mit.edu. It provides an easy way for web publishers to add news to their pages that updates dynamically. The RSS service lets web publishers designate a news feed and configure various display options via a web form. The RSS output can be customized to blend in with the look and feel of the other dynamic content on the page.

To learn more about RSS, attend a free IS&T Quick Start class. The next sessions on RSS will be held on May 19 and June 16 from noon to 1 p.m. at the N42 Demo Center. For more information, visit web.mit.edu/is/news/spotlight/archive/rss.html.

Digital Math is compiled by Information Services and Technology.
**Class plans fact-finding trip to Mozambique**

Sasha Brown

Many people in Mozambique lack access to clean water and basic sanitation, but a group of MIT students is working hard to change all that.

Department of Urban Studies and Planning Assistant Professor Jennifer Davis and a team of 10 MIT planning and engineering graduate students are going to Mozambique this summer to try to assess what communities there need most. Working with a Mozambican nonprofit called Estamos/Organizações Comunitárias and with the London-based international non-governmental organization WaterAid, the group hopes to help low-income communities improve their sanitation.

The idea is to find solutions that work within the culture, Davis said. “We have to think about options outside our comfort zone,” she said. “Of course every one aspires to having a water supply and sewer connection in the home, but for many households in Maputo [the capital of Mozambique] this won’t happen in the foreseeable future. Our challenge is to identify other types of service that will still represent a vast improvement for households that rely on crowded public taps, or that have no sanitation option other than open defecation.”

The team is embarking on this challenge through a series of participatory assessment and planning exercises that Davis’ students designed during their full-credit project course this semester.

One exercise developed in class could be used to assess the interdependent and complex needs of the stakeholders in the Galapagos: residents, tourists, the government and the ecosystem.

Students have taken intensive Porish courses to reduce the language barrier during their four-week trip to Mozambique.

“Because we were able to see the place that Charles Darwin visited in September, to speak to scientists from the Charles Darwin Research Station and see the absolute beauty of [places like] Baja Bay,” Freshman Garrett Marino described the students’ trip to the Galapagos as “an amazing and rewarding experience because we were able to see the place that has been the focus of our studies since September, to speak to scientists from the Charles Darwin Research Station and see the absolute beauty of [places like] Baja Bay.”

Freshman Lisa Riley, who traveled to the Galapagos Islands as part of the TerraScope program, works on a knot displayed in the lobby of Building 13. The tangled ropes symbolize the interdependent and complex needs of the stakeholders in the Galapagos: residents, tourists, the government and the ecosystem.

**Freshmen exhibit Galapagos lessons**

Sarah H. Wright

A cluster of interactive exhibits on the ecology, history and cultural life of the Galapagos Islands, 600 miles west of Ecuador, has transformed the lobby of Building 13 into a vivid portrait of the land Charles Darwin never forgot.

Designed and developed by freshmen in the TerraScope course called Communicating Complex Environmental Issues: Designing and Building Interactive Exhibits (1.014), the interactive exhibits collectively offer visitors a sense of immersion in the students’ March trip to the Galapagos, a part of their yearlong project developing a communication strategy for the islands.

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Individual exhibits in Lobby 13 include a simulated lava tunnel, appropriately dark, twisty and suggestive of volcanic power; a try-it-on model of a giant tortoise shell; a wooden playground slide that illustrates precious species population decline; an artistic and thorough timeline of the archipelago’s life from the days of pirates through Darwin’s visit to the present; and a giant interactive sea cucumber, which you really have to see for yourself.

The exhibit will be open 10 a.m. to 6 p.m. until May 18. A related event to this year’s TerraScope trip to the islands Darwin made famous was the first widespread broadcast of a radio program written and produced entirely by freshmen. The students recorded ambient ideas and interviews on location in Galapagos. The program is available on WFMB-FM. There is an mp3 of the program now on the TerraScope main site: web.mit.edu/terraScope.

TerraScope faculty include Rafael Ibarra, the Edward A. Abell-Nor Professor in the Schools of Engineering and Science; Kip Hodges, professor of earth, atmospheric and planetary sciences; and Ari Epstein, lecturer, Earth Systems Initiative. TerraScope is a component of the Earth System Initiative.

**Students tackle flooding in Honduras**

Sasha Brown

Eight MIT students—five graduate students and three undergraduate—spent spring break 2005 in Tocoa, Honduras, working on an automated flood early warning system and visiting towns that had been badly damaged by flash flooding in the wake of Hurricane Mitch in October 1998.

The group tested software and radio equipment and installed a river level sensor in the Aguán River in northeastern Honduras. They went as part of the MIT FloodSafe Honduras project, a student-led, mainly volunteer effort sponsored by the Lutheran Episcopal Ministry at MIT and the Edgerton Center.

Centro Tecnico San Alfonso Rodriguez, a nonprofit technology and education center in Tocoa, hosted graduate students Alex Bauer, ocean engineering; Elizabeth Basha, electrical engineering and computer science (EECS); Kristen Bethke, aeronautics and astronautics; Karla Solheim, urban studies and planning; and Emily Van Ark, marine technology and education center in Tocoa, hosted graduate and visiting towns that had been badly damaged by flooding based on aggregate river data, 4) alert receiving communication system to transmit river data, 3) a center for Sistema de Alerta Temprana, will consist of five major subsystems: 1) upstream river level sensors, 2) a radio communication system to transmit river data, 3) a central processing center to crunch the numbers and predict flooding based on aggregate river data, 4) alert receiving stations in downstream communities and 5) power systems for everything.

The FloodSafe system works in the following ways: 1) river level sensors measure the height of the river, 2) a mathematical model at the central processing center determines when the flood danger threshold has been crossed, 3) an automatic radio signal is sent to a community’s emergency committee and 4) the committee warns communities about the danger.

For Bethke, the “greatest part was witnessing and being inspired by the transformational grassroots work of the Centro Tecnico. They educate Hondurans about natural resource management, building houses with local materials, community organization and water sanitation,” she said.

Centro’s director, Gines Saez, “affirms that it really is possible to put big ideas into action, but he shows that humility, patience and good listening skills are essential. His work educates and empowers people all over their region,” Bethke said.

“It was really interesting to try to figure out how our MIT-based technological knowledge could work with the Centro’s efforts in a useful and productive and sustainable way,” van Ark said.

Once it is installed, the early warning system, or SAT, for the Apaneca-El Tambrul region, will consist of five major subsystems: 1) upstream river level sensors, 2) a radio communication system to transmit river data, 3) a central processing center to crunch the numbers and predict flooding based on aggregate river data, 4) alert receiving stations in downstream communities and 5) power systems for everything.

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The FloodSafe system was funded by MIT IDEAS, the Public Service Center; the Carroll Wilson award, and Thrivent Financial Services for Lutherans.

For more information, visit web.mit.edu/lem/honduras.
Disco’s staying alive on E. Campus

Sasha Brown
News Office

Saturday night fever runs high all week long at MIT’s East Campus dormitory, thanks to the 129-square-foot dance floor students built in the lounge.

Made of wooden planks covered by a sheet of quarter-inch clear plastic, the raised 50-person disco floor features more than 500 computer-controlled light-up tiles.

Inspired by the annual East Campus-sponsored Bad Ideas Competition, students came up with the idea for the floor at the beginning of the school year. The competition culminates in a Bad Ideas Ball, held in January, which this year featured a disco theme.

“What is a worse idea than disco?” asked junior physics major Grant Elliott, one of the floor’s creators.

Elliott, Schuyler Sent-Grupp, Scott Torborg and Mike Anderson wanted to build a disco floor for the ball that could be controlled by computer, offering more variety of color mixes than a standard disco floor made using light bulbs and colored gels.

Constructing the floor from scratch proved no small feat. All of the wiring and coding had to be done both inexpensively and efficiently. Anderson spent countless hours hand-soldering thousands of tiny connections to secure the bulbs and coding gels.

The floor may be popular, but none of the “disco guys” would all feel pretty guilty if we were responsible for a such an attraction, it has its own web site: http://web.mit.edu/storborg/ddf/.

For more information, visit web.mit.edu/commit-

Task force sends out medical survey

The Task Force on Medical Care for the MIT Community has released a web-based survey for all employees. Community members are asked to convey their thoughts on medical care and medical insurance.

Created last fall by then-President Charles M. Vest, the task force was asked to “review and articulate the appropriate goals for MIT’s programs to provide health care and health insurance to our undergraduates and graduate students, employees and retirees in terms of access to care, quality of care and the costs of providing care.” The task force has been reviewing and assessing how well current arrangements are achieving these goals.

Professor Paul L. Joskow, the Elizabeth and James French, E33 Productions, will produce the show. Chris Csikszentmihalyi, the Ben Ezra Professor of the Arts and the MIT Council of the Arts, will serve as master of ceremonies. Unveiled May 3, “The Kiss” is now on view in the stairwell off the Student Street in the Stata Center.

“This new mural really speaks to the combination of arts and technology,” said Michelle Oshima, director of student and artist-in-residence programs.

The artists, who refer to themselves collectively as “contributors,” describe “The Kiss” as a “self-portrait that demonstrates some of the subtleties of the Fotron2000, a photo booth housing a robotic portrait artist that paints with light.”

They explain their portrayal process this way: “The robot shoulder and elbow inside the booth holds LEDs in its ‘hand.’ The arm sits about three feet away from a Polaroid camera that was modified so its shutter can remain open for an arbitrary amount of time. When the robot ‘draws’ in the air in front of the camera, light traces are recorded on the long-exposure film. This gives a sense of motion reminiscent of classic time-lapse nighttime highway photography.”

The team created Fotron2000 because the robot provided them with “capabilities beyond our own, allowing us to create in ways not possible without technological assistance,” they said.

The 2004-2005 Student Mural Competition was sponsored by the MIT Office of the Arts. Judges were selected from each of the following departments: CSAIL, LIDS, linguistics and philosophy, and the Writing and Communications Center. There were 10 entrants this year.

The Polaroid photograph was created with the Fotron2000 in 2004.

SEAMLESS

Continued from Page 1

to attached mechanical cat toys.

Media Lab graduate student Christian Liu and Nick Snook of organ-
ized Seamless, a.k.a. Computational Couture, with help from the MIT Council of the Arts and the MIT Media Lab.

“The team is comprised of 18 designers who compete to create a collection and select a deadline. We also wanted to give students an opportunity to be creative, a place to showcase and experiment with their ideas,” Liu said.

The 18 designers were recruited through word of mouth and include students from, MIT, Harvard, Rhode Island School of Design in Providence and Parsons School of Design in New York City. The entire effort was “completely grass roots,” said Liu.

Liu and Koudi view the Seamless show as a comment on personal chic as well as social space, Liu said. In contrast to the Media Lab’s 1997 Wearables fashion show, which was “all about augmentation of the self, this collection is more socially based, and the styles have more social impli-
cations,” Liu said.

“Some fashions are designed to help people to examine the discon-
nect that many feel in the electronically augmented society,” Knouf said.

Clothing will be shown on runway models. Some Seamless proj-
ects will be displayed as artwork. Chris Csikszentmihalyi, the Pro-
secue Career Development Professor of the Research in Education at the Media Lab, will serve as master of ceremonies.

Law Blackmore, DJ, MIT Dance Mix Coalition, will provide the even-
ing’s mash-up music, and Alex French, Eliot Productions, will pro-
vide lighting. Models are from John Casablancas and Adriana Puscelli and friends.
New technique may speed DNA analysis

Lauren Clark
School of Engineering

Just as the printing press revolutionized the creation of reading matter, a “nano-printing” technique developed at MIT could enable the mass production of nano-devices currently built one at a time.

The most immediate candidate for this innovation is the DNA microarray, a nano-device used to diagnose and understand genetic illnesses such as Alzheimer’s, viral illnesses such as AIDS, and certain types of cancer. The ability to mass produce these complex devices would enable DNA analysis as common and inexpensive as blood testing — and thus greatly accelerate efforts to discover the origins of disease.

The demand for ever-shrinking devices of ever-increasing complexity in information technology has spurred several research efforts toward high-throughput nano-printing techniques. Professor Francesco Stellacci and graduate student Arum Amy Yu, both in the Department of Materials Science and Engineering, have developed a printing method that is unmatched in both information content per printing cycle and resolution. They achieved the latter using what Yu calls “nature’s most efficient printing technique: the DNA/RNA information transfer.”

In the new printing method, called Supramolecular Nano-Stamping (SuNS), single strands of DNA essentially self-assemble upon a surface to duplicate a nano-scale pattern made of their complementary DNA strands. The duplicates are identical to the master and can thus be used as masters themselves. This increases print output exponentially while enabling the reproduction of very complex nano-scale patterns.

One such pattern is found on a DNA microarray, a silicon or glass chip printed with up to 500,000 tiny dots. Each dot comprises multiple DNA molecules of known sequence, i.e. a piece of an individual’s genetic code. Scientists use DNA microarrays to discover and analyze a person’s DNA or messenger-RNA genetic code. This allows for, say, the early diagnosis of liver cancer, or the prediction of the chances that a couple will produce a child with a genetic disease.

Frequent, widespread use of these devices is hindered by the fact that producing them is a painstaking process that involves at least 400 printing steps and costs approximately $500 per microarray.

MIT’s nano-printing method requires only three steps and could reduce the cost of each microarray to under $50. “This would completely revolutionize diagnostics,” said Stellacci. With the ability to mass produce these devices and thus make DNA analysis routine, “we could know years in advance of cancer, hepatitis, or Alzheimer’s.”

Another benefit would be large-scale diagnostics that could provide useful information about disease. Take diabetes. “We don’t know if it’s genetic. The only way to find out is to test a lot of people,” said Stellacci. “The more we test with microarrays, the more we know about illnesses, and the more we can detect them.”

SuNS has applications beyond DNA microarrays. Materials both organic and inorganic (metal nanoparticles, for example) can be made to assemble along a pattern composed of DNA strands. This makes SuNS a versatile technology that could be used to produce other complex nano-devices currently manufactured slowly and expensive: micro- and nano-fluidic channels, single-electron transistors, optical biosensors and metallic wires, to name a few.

Stellacci recently received renewed funding from the Deshpande Center for Technological Innovation to continue work on SuNS. The work is also funded by the National Science Foundation.

Finding beauty in the roundworm

Richard Saltus
HHMI Bulletin

Can the insides of a tiny blind worm that lives in rotting vegetation and carries bacteria be beautiful?

In the hands of Erika Hartwieg, who “paints” with an electron microscope on black-and-white film, the anatomy of the roundworm does indeed yield a finely detailed artwork with an appeal beyond the purely scientific: Hang one of her photographs on a wall, and it could pass for abstract art.

Hartwieg prepares and studies unimaginably thin DNA molecules called “genomes” in C. elegans, the workhorse worm of geneticists, in the laboratory of Professor H. Robert Horvitz at MIT. Horvitz, an HHMI investigator, received the Nobel Prize in physiology or medicine in 2002 for discovering genes in C. elegans that control apoptosis — naturally occurring, or programmed, cell death.

“Erika is indispensable,” says Horvitz. “Few people in the world can match her ability at serial-section electron microscopy to prepare sections for making a series of thin cross-sections, each of which must be kept intact and unwrinkled to form an unbroken chain of slices.”

When Hartwieg photographs these worm sections with the electron microscope (EM), they appear as highly magnified oval-shaped objects with cells and organelles, membranes and cytoskeleton, voids and channels and fibers. The textures range from lumpy to finely stippled, the tones from darkest black to the most feather of grays.

For the past 14 years, she has been the electron microscopist in the Horvitz lab. After winning a $10,000 fellowship in biological research, she “fell into electron microscopy in the 1990s when it was the new thing,” says Hartwieg. In today’s biology lab, the EM seems almost beside newer glamour technologies — gene microarrays and high-throughput sequencing machines — but electron microscopy is still a key player in research that probes the fundamentals of animal development and behavior.

For example, a mutation may result in a worm that can’t wiggle in its usual S-shaped pattern. Searching for the responsible anatomical defect within the nerve and muscle cells requires powerful magnification. Hartwieg can locate a particular cell of interest, enabling the scientists to precisely characterize the mutation-caused abnormality.

Hartwieg says the process of the specimen’s preparation takes four or five days, working on five worms at a time. The average adult worm is 1 millimeter long, and lining up five of them in parallel within a drop of quick-jelling agar “is the most difficult step of all,” she says.

After infusing the agar with a plastic resin to create a hard block, Hartwieg uses a microtome to cut a portion of each worm into cross-sections, which she likens to “a piece of salami.” But these worm cold cuts are sliced by the microtome’s diamond knife to a thickness of only 50 nanometers, as much as 2,000 times thinner than the width of a human hair.

Hartwieg uses a small tool tipped with an eyelash (of her own) to hold the ribbons of sections steady on a water surface for placement in a tiny copper grid. Then she washes the grid in successive three types of stains, each containing different heavy metals that interact directly with the beam of electrons in the EM, resulting in scattering of the electrons with different energies, which form the image on the fluorescent screen.

Hartwieg also makes longitudinal slices. The finished photographs can be assembled in a mosaic to create a table-top-sized portrait of, say, the worm’s nose.

Reprinted with permission. A longer version of this article first appeared in the Winter 2005 issue of the Howard Hughes Medical Institute Bulletin.

ROBOTS

Continued from Page 1

value rose with the bins’ “floor” in the grid, and also if a block’s single “X” or “O” marked was in a row or column. Clear four-story bins at either side of the grid—worth 50 points each—hurried major forklift decisions. The top five winners of Tic-Tech-Toe will go to the International Design Contest (IDC), held this year in Japan. The IDC is like 2,007, only the teams are composed of students from different countries, which means drawings and physics, rather than words, are used to communicate machine design.
James A. Levitan, Life Member Emeritus of the MIT Corporation, died on May 18 at 80.

James A. Levitan, senior a graduate student who studies transpor to downtown.”

Waliszewski received her B.S. from the University of California, Berkeley, in industrial engineering and operations research. She spent five months in Singapore teaching English, and spent another 10 months in China. She has also taught at the University of California at San Francisco and the University of Massachusetts, Amherst.

Daniel Stein, a senior in East Asian Studies from Harvard University, has been named as a Churchill Scholar. His research focuses on the intersection of international trade and politics, with a particular emphasis on the influence of the Chinese government on the global economy.

Ten students from MIT were awarded the Churchill Scholarship, which funds a year of study at a university in the United Kingdom. The program is open to undergraduate and graduate students who have completed at least one year of study at MIT and have a minimum GPA of 3.5.

Members of the MIT community may submit one classified ad each issue. Ads can be resubmitted in the same form at no cost. Placing an ad does not guarantee space. All classifieds are subject to approval by the Classifieds, Rm 112-400. Deadline is noon Wednesday the week before publication.

FOR SALE

Panasonic color TV, old school, VCR plus modulator, remote control, 25-inch screen, good condition. $50. Tombola, needs repair, 24.5 inches wide, 30 inches tall, needs to be picked up. $25. For sale at Classifieds.

VESICLES

1977 Porsche 911 Carrera 3.0. Rare, Euro spaces, 5-speed transmission. Recent paint. $45,000.

1998 BMW 328i, 4-door sedan, 84,000 miles. Good condition, no mechanical problems. $2,000.

Colleague senior seeking part-time babysit- The Churchill Scholarships were started in 1959 to honor the memory of former British Prime Minister Winston Churchill. The award brings exceptional young American students to his native country for a year of study at a university in the United Kingdom. The program is open to undergraduate and graduate students who have completed at least one year of study at MIT and have a minimum GPA of 3.5.

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Farbood also won the Bohuslav Martinusen harpsichord competition, held in Prague. The prize was presented in a ceremony by artist-in-residence Alit, co-founder of Gamelan Çudamani, and music director of Gamelan Çudamani, Dewa Ketut Alit as well as new American instrumental soloists (guitar, cello, bass, percussion, keyboard) and dancers, will perform at the annual monthlong festival of music, dance, theater and other cultural activities. "I've always had in my mind to bring Galak Tika to Bali," said the group's director, Evan Ziporyn, who founded Galak Tika in 1993 and was once a member of Gamelan Sekar Jaya, the first American group to perform at the Bali Arts Festival 20 years ago.

The trip will be funded in part by a grant from the Council for the Arts at MIT, Dean of Student Life Larry Benedict and Health Sciences and Technology, who has connected with the things he learned from the people and culture there. "They'll get to see how serious people out of their community are about Balinese spirit," said Tang. "It's a deep appreciation and knowledge of it." 

For Blair Schoene, a graduate student in MIT's Gamelan Galak Tika, which has received our role as humans on this planet." Schoene says he is impressed by the band Cherry S/T, which contributed "Gringsing," the latest composition by Nyoman Catra, and Dewa Ketut Alit as well as new American instrumental soloists (guitar, cello, bass, percussion, keyboard) and dancers, will perform at the annual monthlong festival of music, dance, theater and other cultural activities.

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For Blair Schoene, a graduate student in MIT's Gamelan Galak Tika, which has received our role as humans on this planet." Schoene says he is impressed by the band Cherry S/T, which contributed "Gringsing," the latest composition by Nyoman Catra, and Dewa Ketut Alit as well as new American instrumental soloists (guitar, cello, bass, percussion, keyboard) and dancers, will perform at the annual monthlong festival of music, dance, theater and other cultural activities.

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Landscape sculptor Richard Serra found himself at odds with his patron, his material, his environment and the harsh realities of physics when creating ‘Tuhiarangi Contour,’ in New Zealand, above. The List Visual Arts Center will present a documentary film this evening on the creative process behind the sculpture. ‘Seeing the Landscape: Richard Serra: Tuhiarangi Contour,’ will be screened at 7 p.m. in Bartos Theater.

Go Online! For complete events listings, see the MIT Events Calendar at: http://events.mit.edu.


RECOMB 2005

Multidisciplinary conference on the latest research in bioinformatics, computational biology. Last day.

COMPUTATIONAL COUTURE

Large-scale multimedia runway show of innovative clothing designed by students and alumni of MIT, Harvard and RISD, 452-3308.

CELEBRATION OF INDIAN MUSIC

Presented by MIT Heritage of South Asia. Performances on May 21 and 22. $20, MIT students free. 258-7971.

MIT EVENT HIGHLIGHTS May 23–27

MONDAY May 23

“The Traveling Magazine Table” Collection of magazines published by nonprofit and alternative spaces, groups and artists’ collectives. Noon-6 p.m. Room 152-290, 452-2484.

A Visit to the Galapagos

Exhibits built by students in 1,016, 10 a.m.-4 p.m. Lobby 13, 253-4074.


KOIZUMI BANK

Kozuki is a modern Japanese martial art that teaches coordination of mind and body. Beginners welcome. 7:15-9 p.m. DuPont (W2) Wrestling Room. 253-0721.

TUESDAY May 24

“Sturtevant: The Brutal Truth” Paris-based American artist known for his replication of famous works, Noon-6 p.m. List Visual Arts Center. 253-4680.

Screening of Robert Breer’s animated films Three playful and humorous cartoons explore the simple delights of life. 24 hrs. Media Test Wail, Whitaker Building 56. 253-4403.

Astrobiology Colloquium 4 p.m. Room 37-252.

Tuesday Night Sports With the Red Sox 21+. Proper ID required. 7 p.m. Thirsty Ear Pub, Ashdown House.

WEDNESDAY May 25

“COLLISION-Groundbourne Art and Technology with a dox of interactive video-based displays.” $5, free with an MIT ID. 10 a.m.-5 p.m. List Visual Arts Center. 253-4680.

Sturtevant: The Brutal Truth

List curator Bill Armitage discusses this Paris-based American artist known for her replications of famous works, Noon. List Visual Arts Center.

Fridays

ROMANCE & REALITY IN THE CLIPPER ERA

Hart & Napoli Solicitors curatorial assistant Jenny O’Neill discusses the reality behind the romance of the clipper ship era. Free with museum admission. 2 p.m. MIT Museum. 253-5297.

FRIDAY May 27

Ready, set, read

The MIT Center for Advanced Visual Studies is hosting a ‘read-in’ from 6:30 to 9 p.m. on Thursday, May 19, to encourage people to enjoy the ‘Traveling Magazine Table,’ a collection of independent publications, before the material moves on. ‘There’s stuff here you won’t find anywhere else,’ said Larissa Harris, associate director of CAVS. ‘Cutting-edge artists from Lithuania, Finland, Venezuela, you name it, have contributed to the collection. Bring your dictionary and come on over.’ Meg Rotzel and Joe Zane, above, look over some of the offerings.

PHOTO: LARISSA HARRIS