MacVicar Day offers glimpse into future of MIT education

Each year, faculty and students gather to explore issues in undergraduate education at MIT and celebrate the faculty members named as MacVicar Fellows. This year’s MacVicar fellows are Professors Haynes Miller of mathematics, Ruth Perry of literature and David Pesetsky of linguistics.

“I am sure Margaret would be interested and excited about what is going on at MIT right now,” said current Dean for Undergraduate Education Robert Redwine.

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Muh winner opens a window on the mind

A little more than a year ago, the Task Force on the Undergraduate Educational Commons began a review of the General Institute Requirements (GIRs) and other aspects of the common undergraduate experience with a view to recommending changes to better serve MIT students.

Currently all undergraduates are required to take six science core subjects—two each in physics and calculus, one in chemistry and one in modern molecular biology. Providing students more choice in their undergraduate core requirements may be the key to expanding the scope of a four-year MIT education, according to a report from the Task Force on the Undergraduate Educational Commons made during MacVicar Day on Friday, March 4.

MacVicar Day celebrates the achievements of Professor Margaret MacVicar, the first dean for undergraduate education, who died in 1991.

Nobel Laureate Frank Wilczek sized up the universe for an audience of 1,200 at Kresge Auditorium on Monday, March 7, during his talk, “The Universe is a Strange Place,” to a capacity crowd gathered in Kresge Auditorium on Monday, March 7. Wearing a blazer over a black T-shirt purchased at a “head shop in Amsterdam,” Wilczek gave his speech, “The Universe Is a Strange Place,” to roughly 1,200 people. The lecture was also broadcast live on the Internet.

Wilczek, who shared the 2004 Nobel Prize in Physics with David J. Gross and H. David Politzer for the discovery of asymptotic freedom in the theory of the strong interaction, spoke for about 90 minutes, focusing the first hour of his lecture on what we do and do not understand about our universe.

“The picture modern physics provides is strange in many ways,” said Wilczek, who spent the first part of his hour discussing the 5 percent of the universe we do understand the matter comprising our bodies and other “ordinary matter” like stars and galaxies. The other 95 percent of the universe is a mystery, composed of 25 percent mysterious “dark matter,” which is only understood through its gravitational pull on ordinary matter, and 70 percent of “dark energy,” which exerts negative pressure.

Wilczek presented two questions: “What is the dark stuff?” and “How do you think about such a question?” The rest of his talk focused on the quest to understand these mysteries, a task Wilczek believes might be accomplished by “demanding more beautiful equations.”

With so much left to understand, Wilczek looks forward to the continued creativity and hard work of his fellow researchers. “The world is very
Power scavenger wins soldier prize

Eve Dowling
Institute for Soldier Nanotechnologies

Power, cooling and casualty evacuation were recurrent themes at the final judging of the third annual MIT Soldier Design Competition—a reflection of the harsh realities of modern conflict.

About 200 people gathered last Tuesday to watch 15 teams of students from MIT and the U.S. Military Academy at West Point demonstrate prototypes of practical, non-weapons devices to aid soldiers, as well as to police, firefighters and other emergency first responders. The competition is sponsored by MIT’s Institute for Soldier Nanotechnologies.

The five undergraduate cadets of team “Supercharged” from West Point won the Raytheon-sponsored first-place award of $5,000. The team designed a system for recovering the power remaining in depleted batteries. Pocket-sized, rugged and inexpensive, the device could reduce soldiers’ battery needs by 15 percent to 20 percent, providing significant relief in weight carried in the field, environmental impact and cost.

The Boeing second-place award of $3,000 went to the “Anchle” team, also from West Point. This computerized tracking system that provides soldiers with advance warning of incoming strikes through small radio pagers. Team “ATLAS” from MIT took the DARPA third-place award of $5,000 for its powered rope ascender.

One fourth-place award of $2,000 went to each of three teams: “Joe Putter” from the Boston area; “Grapefruit” from MIT took the Hudson River award for its battery scavenger and recharge system; and “Supercharged” won $1,000 for special achievement went to the “Cool Warrior” team for its cooling system for Interceptor boots.

“This competition is about putting new technology into soldiers hands,” said Professor Ned Thomas, director of the MIT Institute for Soldier Nanotechnologies. “These are real problems, addressing, and the Army is very interested in the innovations that are coming out of these student teams.”

The Army was so impressed with one of last year’s winning inventions—a system to digitize soldiers’ hands’ arm communications signals—they have funded the team with a small-business research grant to continue development.

The judges for the finals included uniformed and civilian representatives of the Army and Marine Corps, as well as representatives from MIT and industry. Benjamin Griffin, senior Army guest at the event, was very impressed with the students’ and cadets’ efforts on behalf of soldier protection, noting that fresh ideas can often bring solutions to old problems.

“These ideas have direct application to the challenges of today’s Army,” said Griffin, who commands the Army Materiel Command. “From where I sit, there is nothing more important than what you’re doing here tonight.”

Power scavenger wins soldier prize

Tuition and fees set for 2005-2006

MIT has set tuition and fees for the 2005-2006 academic year at $32,900, an increase of 4.9 percent over the previous year. The increase, which was announced at the March 4 meeting of the MIT Corporation.

“The tuition increase will enable MIT to maintain the high quality of its educational programs for all students,” said Dean for Undergraduate Education Robert P. Redeker, “It is especially important in light of this increase that we make sure not to have a negative impact on those who cannot afford to pay more. We will provide the additional financial aid to ensure that all of our undergraduates, regardless of their family resources, can afford an MIT education. MIT remains committed to its principles of need-blind admissions, need-based financial aid, and meeting the full demonstrated need of all undergraduates.”

Approximately 16 percent of MIT’s 9,800 undergraduates come from homes with incomes of less than $41,000. A majority percent of undergraduates receive some form of financial aid, including scholarships, loans, and jobs, from all sources. Fifty-eight percent of undergraduates receive need-based scholarship from MIT.

“An average aid package at MIT now provides $50,000 in financial aid to students in families of low income. We will blend MIT financial aid so that we provide students who were previously denied aid, perhaps because their family relied on a 529 Plan, an educationally advised use for the state’s capital gains program,” said Professor Hans Johnson, senior director of Undergraduate Financial Services.

Alumnus to bankroll winning idea

Patrick Doyle, assistant professor in the Department of Chemical Engineering, has been awarded the 2005 Doherty Professorship in Ocean Utilization from the MIT Sea Grant College Program. Every year, the program selects one or two new faculty members for a supplemental award of $25,000 per year for two years.

Doyle’s research focuses on understanding the dynamics of single polymers and biomolecules in fluid under forces and fields. His Doherty-funded work will focus on reducing the frictional drag on ships and underwater vehicles.

In the marine environment, suppressing turbulence is key to reducing drag. Controlling turbulence can also help limit the associated noise that may disturb the environment, affectsonar in a submarine, or inhibit the fine-scale maneuvering of a vessel.

While it is known that the addition of a small amount of polymer to a fluid can reduce turbulence, the precise mechanism of that phenomenon is poorly understood. By reliably measuring elongational viscosities and comparing those to molecular simulations, Doyle expects to increase that understanding and the ability to effectively reduce drag.

In 2004, the two-year Doherty was awarded to Anette Hosoi, an assistant professor in the Department of Mechanical Engineering. The Hosoi-funded research focuses on the experimental and numerical investigation of oceanic particle-laden flows. The findings should increase understanding of the potential risks in offshore construction, ocean exploration, and options for eliminating waste products.

The Doherty Fellowship, endowed by the Henry L. and Grace Doherty Charitable Foundation, encourages promising, non-tenured professors to undertake marine-related research that will further innovative uses of the ocean’s resources. The area of research may address any aspect of marine use and/or management, whether social, political, environmental, or technological.

PHOTO/ L. BARRY HETLER

Owen Fogarty (center), a member of a West Point team competing in the Soldier Design Competition, demonstrates his team’s hands-free, casualty-carriage system for Lt. Col. Owen Fogarty (center), a member of a West Point team competing in the Soldier Design Competition.
Robert Langer shares $1 million Dan David Prize

Elizabeth A. Thomson
News Office

Institute Professor Robert Langer is having quite a year, and it’s only the beginning of March.

MIT recently announced that Langer has been named an Institute Professor, the highest honor awarded by the MIT faculty and administration. Now he will share the $1 million Dan David Prize for his pioneering work in tissue engineering and biomaterials.

Langer, along with Professor George Whitesides of Harvard University and Professor C.N.R. Rao of the Jawaharlal Nehru Centre in Bangalore, India, won in the future category of the Dan David Prize, which this year is dedicated to the field of materials science.

Tel Aviv University annually awards three Dan David Prizes of $1 million each for achievements that have “outstanding scientific, technological, cultural or social impact on our world.” The laureates for a given year are chosen for three time dimensions—past, present and future.

Langer was honored for “having pioneered the development of tissue engineering and the creation of numerous novel biomaterials,” such as shape memory polymers and a smart surface that can reversibly switch properties.

Whitesides won for “having bridged the fields of chemistry, chemical engineering and biology to new heights through the development of novel functional materials and systems.” Rao won for his “sustained record of scientific accomplishments in solid state and materials chemistry.”

The Dan David Prize is unique in its flexible definition of dynamically changing fields of human knowledge and in its process of fostering the next generation of scholars. The laureates annually donate 20 scholarships of $15,000 each to outstanding doctoral students throughout the world in the chosen fields.

The three $1 million awards will be presented at a ceremony May 23 at Tel Aviv University. Winners are selected by independent review committees comprising members of the international academic and business communities.

The Dan David Prize was founded in 2001 by interfaith philanthropist Dan David. His goal, according to the foundation, “is to aid and foster those involved in developing and advancing world knowledge.”

Reid, artist organizers, more honored for MIT excellence

Denise Brehm
News Office

Showcasing the talents of others is a talent in itself, one that the winners of this year’s MIT Excellence Awards have in abundance. Karl Reid, executive director of Special Programs for the School of Engineering, and Debi Kedian of Campus Activities, Judy Leonard of IS&T, Anne Hudson of the Minority Introduction to Engineering, Entrepreneurship and Science program.

Karl Reid

The Artists Behind the Desk organizing committee (left to right), Debi Kedian of Campus Activities, Judy Leonard of IS&T, Anne Hudson of chemistry, Mary Gallagher of LFEI, and Mindy Baughman of DMSE, received an MIT Excellence Award March 2.

PHOTO / DONNA COVEDY

Karl Reid, executive director of Special Programs for the School of Engineering, was among 51 MIT employees honored March 2 for MIT Excellence Awards. Reid directs the Minority Introduction to Engineering, Entrepreneurship and Science program.

“Without the work of these five individuals, ABD may not exist and, if it did, most likely would not have the depth and breadth it does today. These five members have dedicated their efforts and volunteered uncounted personal hours for five consecutive years. Today, they continue in their original roles, persistently building, shaping, bending, filling in the holes and evolving with the Artists Behind the Desk program to support the arts at MIT,” wrote Gray.

At last week’s ceremony, Laura Avakian, vice president of Human Resources, encored,霍奇克 opened giving remarks, and Tom Magnanti, dean of engineering, gave the keynote speech.

“I never cease to be amazed by the simply superb quality of MIT students, the remarkable people who make the institute what it is in the teaching faculty and especially the staff,” said Magnanti. “MIT would be a mere shadow of itself without such dedicated and exceptional staff. Each one of our award recipients today has learned the secret of joy in work,” said Magnanti.

The band IJ May played Sideways (featuring artist Brian Magon of Audio Visual Services) performed during the buffet luncheon that followed in Kresge Auditorium. Four ABD visual artists exhibited their work in the lobby as well—Mindy Baughman, Betty Bolivar, Judith Daniels and Heather Kausman.

Two professors elected to NAE

Two MIT professors are among the 74 new members of the National Academy of Engineering.

Election to the NAE is among the highest professional distinctions an engineer can receive. Academy membership honors those who have made “important contributions to engineering theory and practice” and who have demonstrated accomplishment in “pioneering new fields of engineering, making major advancements in traditional fields of engineering, or developing/implementing innovative approaches to engineering education.”

MIT’s new members are:

Dimitris J. Bertsimas, the Boring Professor of Operations Research in the Sloan School of Management, “for contributions to optimization theory and stochastic systems and innovative applications in financial engineering and transportation.”

Shahira Goldwasser, the RSA Professor of Computer Science and Engineering, “for contributions to cryptography, number theory and complexity theory, and their applications to privacy and security.”

Emma Teng, associate professor of foreign languages and literature and Class of 1966 Career Development Chair, has received the 2005 Levitan Prize in the Humanities, announced Philip Khoury, dean of the School of Humanities, Arts, and Social Sciences.

Professor Teng received her Ph.D. in East Asian Languages and Civilizations from Harvard University in 1997, and joined the MIT faculty as an assistant professor in the Foreign Languages and Literatures Section in 1998.

The $25,000 prize was established through a gift from James A. Levitan, a 1945 MIT graduate in chemistry, an emeritus member of the MIT Corporation and co-founder at the law firm of Skadden, Arps, Slate, Meagher and Flom of New York City. The prize, first awarded in 1998, recognizes the significant and creative scholarship in the humanities by faculty members in the School of Humanities, Arts and Social Sciences.

Professor Teng will research her book, “The Chinese Eurasian: East-West Interrela-

Levitan Prize

Emma Teng receives the 2005 Levitan Prize in the Humanities, one of the many awards presented at the Artists Behind the Desk awards ceremony March 2.
Three named MacVicar Fellows

Three faculty members were recognized for their outstanding teaching abilities last Friday when they were named MacVicar Faculty Fellows: Haynes Miller of mathematics, Ruth Perry of literature, and David Pesetsky of Linguistics and Philosophy.

Faculty Fellows: Haynes Miller of mathematics, Ruth Perry of literature, and David Pesetsky of Linguistics and Philosophy.

The fellowships were established in 1992 to honor the life and contributions of Margaret MacVicar (S.B. 1964, Sc.D.), MIT’s first dean for undergraduate education and founder of UROP (the Undergraduate Research Opportunities Program). The program gives an annual scholar’s allowance to each Fellow to use for developing ways to enrich the undergraduate learning experience. Fellows serve 10-year terms.

“The March 4 ceremony at the Faculty Club was followed by a talk on “What Should We Achieve in an MIT Four-Year Education?” by Dean of Science Robert Silbey and Professor Charles Stewart of political science. Both Fellows serve on the Task Force on the Undergraduate Educational Commons.

Dean of Science Robert Silbey talked about possible changes to the undergraduate educational commons, as part of MacVicar Day.

HAYNES R. MILLER
Mathematics
• Professor, 1986 to present.

Colleague comments:
• “I see his office full, every day, of students who come to him for help. He has an open door in the best tradition of Margaret MacVicar.”
• “He is currently the de facto department leader in educational innovation.”

Student comments:
• “Not only did Professor Miller want us to appreciate math, but he sincerely wanted us to be able to understand it, as opposed to caring about whether we could simply solve equations.”
• “He would ask us hard questions and not accept the simple ‘I don’t know.’ Because he wasn’t afraid to do this, I, in turn, wasn’t afraid to think and figure out answers on my own.”
• “Work didn’t feel like work anymore; it felt like joy.”
• “Professor Miller leaves students expecting more, not only of their other professors, but also of themselves.”

RUTH PERRY
Literature
• B.A. cum laude from Cornell University in 1960; M.A. in physiological psychology from Cornell in 1965; M.A. in literature in 1970 and Ph.D. in literature in 1974, both from the University of California, Santa Cruz.
• Instructor, 1972-73; assistant professor, 1973-80; associate professor, 1980-82; director of Women’s Studies Program and senior lecturer in literature and women’s studies, 1982-87; director, WSP, 1991-93 and 1996-98; professor, 1987-present.

Colleague comments:
• “Her enthusiasm for bringing new subject material to students is contagious, and I count myself fortunate to have had her for a colleague and informal mentor since my arrival here as a junior faculty member.”
• “She is a superb discussion leader as well as an insistently critical and successful improver of student writing. She is a peerless mentor.”

Student comments:
• “Bath is the professor you hope you have at least once in your life.”
• “Professor Perry’s enthusiasm for her subject is inspiring and contagious; I loved every minute I spent in her classes.”
• “She listens with benevolence, with a mind open to the possibility of gaining new perspectives from her students.”

DAVID PESETSKY
Linguistics and Philosophy
• B.A. summa cum laude from Yale University in 1977; Ph.D. in 1983 from MIT.
• Associate professor, 1988-1994; professor, 1994-99; Ferrar P. Ward Professor of Modern Languages and Linguistics, 1999-present.

Colleague comments:
• “David can make the most complicated material easy to understand. I love listening to him and watching him teach, even if it is material that I have taught many times myself.”
• “Without exaggeration, he is the best teacher of linguistics I have encountered in my 25 years of teaching.”

Student comments:
• “He manages to teach not just the conclusions, but also the sort of thought processes and evidence necessary to reach those conclusions.”
• “David was one of the most enthusiastic teachers I had as an undergraduate, and his energetic teaching and his ability to radiate a tremendous sense of excitement at the discoveries of linguistics theory had significant effect on my interest.”
• “Most instructors are good at teaching either introductory-level courses or advanced classes, but not both. Professor Pesetsky is one of the rare people who are equally comfortable in both environments.”

MACVICAR

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Students are also required to satisfy a laboratory requirement, take two additional subjects in science, mathematics or technology, and take at least eight subjects in the humanities, arts and social sciences (HASS). In addition, a four-subject communication requirement will ensure students to understand specific subjects in HASS and in the major.

This is a rigorous undergraduate education," said the task force chair; Dean of the School of Science Robert Silbey.

During the course of its early deliberations, the task force identified a number of working principles about MIT’s educational philosophy in order to frame its review. The first principle, Silbey said, was that an MIT education should foster “a persistent passion for learning.” He said the task force addressed a lengthy list of subject areas suggested by members of the community for inclusion in the common experience.

“It is impossible to get everything we want to give to our students in four years,” said Silbey. “More things are essential to an MIT undergraduate education, but we are uneasy about adding more requirement.

Silbey said he wanted to use MacVicar Day to highlight emerging recommendations and to hear audience reactions. Other task force members on hand were Professors Dava Newman of aeronautics and astronautics, Heidi Nept of civil and environmental engineering and chair of the subcommittee on distribution and the GIRs, and Charles Stewart, head of political science and chair of the subcommittee on the HASS experience.

Silbey said that the subcommittee examining the core requirements in science and engineering have recommended that the current Institute Laboratory Requirement be replaced with a project-based experience. The subcommittee also provided a number of possible models that would expand the educational scope of the core science and engineering requirements.

One plan would offer more choices to undergraduates than are currently available, but many in the audience were concerned that the option to choose might encourage students to pass over subjects they are not interested in, thereby losing something fundamental to an MIT education.”

“We do have to prioritize,” said Silbey. “But not wholesale,” he said. “The complexity really underlines it.”

Currently, freshmen choose from among 75 HASS distribution subjects. One idea explored by Stewart’s subcommittee is to create a “faceted” first-year curriculum, allowing students to select from one of five themes – for instance, creativity or democracy. Over the course of the semester, students would explore that topic from a variety of disciplines within HASS with a group of up to 200 other freshmen in small classes studying common material.

Stewart also discussed another model in which students would select one discipline-oriented subject within the same theme as an option in their second year. For all other semesters, students would choose six or seven additional subjects, with a concentration.

By introducing students to the humanities, arts, and social sciences in a unified way, the subcommittee hopes to encourage students to continue discussions with their peers outside the classroom.

“We are distinct in requiring more than a science core,” said Stewart, adding that the requirement attracts students to MIT who have a broader set of interests. “[MIT students] lead. They don’t just sit in a classroom.”

Student members of the task force and the Student Advisory Committee will submit their report and recommendations to the task force in the next few weeks, Silbey said.

More information is available at http://web.mit.edu/committees/edcommons
Sleep aid gets a nod from MIT study

A new study by MIT scientists and colleagues confirms that melatonin is an effective sleep aid for older insomniacs and others. Minuse the hormone had led some to question its efficacy, but the latest work (published in the February issue of Sleep Medicine Reviews) could jump-start interest in the dietary supplement and help more people get a good night’s sleep.

In earlier research, scientists led by Professor Richard Wurtman, principal investigator for the current study, showed that only a small dose of melatonin (about 0.3 milligrams) is necessary for a restful effect. Taken in that quantity, it not only helps people fall asleep, but also makes it easier for them to return to sleep after waking up during the night—a problem for many older adults.

The researchers also found, however, that commercially available melatonin pills contain 10 times the effective amount. And at that dose, “after a few days of using melatonin, my clients would ask, ‘Why don’t I feel better?’” said Wurtman, director of MIT’s Clinical Research Center and the Cecil H. Green Distinguished Professor.

When the melatonin receptors in the brain are exposed to too much of the hormone, they become unresponsive. 

As a result of these inadvertent over-doses, “many people don’t think melatonin works at all,” said Wurtman, who is also affiliated with the Department of Brain and Cognitive Sciences. This belief, coupled with potentially serious side effects related to high doses such as hypothermia, has earned the hormone a bad reputation in some quarters—and something that’s “very hard to unlearn,” Wurtman said.

Wurtman, who said that he and his wife have been taking melatonin every night for about a year now, was surprised when he and his collaborators analyzed the data from the current study and had to conclude that melatonin is as effective as a dietary supplement as it is when administered by injection.

To determine conclusively whether melatonin works or not, the scientists in the current study analyzed 17 peer-reviewed scientific papers about the hormone. To be included in this study, or meta-analysis, the experiments reported in each paper had to satisfy specific criteria. For example, each had to be placebo-controlled and include objective measurements on at least six adult subjects. 

“A meta-analysis essentially tells ‘yes’ or ‘no’—that a treatment does or does not have a significant effect,” Wurtman said. “When a meta-analysis says ‘yes,’ there should no longer be any controversy about whether the treatment works.”

The melatonin meta-analysis delivered a definitive “yes.”

Wurtman notes that some of the 17 studies included in the analysis involved very high doses of the hormone over long periods, a “situation where we know it’s not going to work.” Yet the meta-analysis still showed that the hormone’s positive effects on sleep “are statistically significant.”

When Wurtman first discovered the efficacy of small doses of melatonin, he and MIT patented its use for dosages up to one milligram. Because the FDA defined the hormone as a dietary supplement, however, manufacturers were free to sell it in much higher dosages, “even though we knew they wouldn’t work,” Wurtman said.

As a result, until recently the hormone was commercially unavailable to the public in small doses. “People who knew that small doses were best often bought the high-dose pills, then divided them with a knife.” Wurtman said. “But that’s not very accurate.”

The company Nature’s Bounty has since licensed the work, and now the hormone is easily available in the effective dosages.

Wurtman’s colleagues in the meta-analysis work are Amnon Brzezinski of Hadassah-Hebrew University Medical Center in Israel; Mark G. Vangel, a visiting scientist at the Clinical Research Center; Gillian Norrie and Ian Ford of the University of Glasgow in Scotland; and Irina Zhdanova of the Boston University School of Medicine.

The work was supported by the National Institutes of Health, the Center for Brain Science and the Metabolism and Cognitive Sciences Charitable Trust, and the Women’s Health Center at Hebrew-Hebrew University Medical Center.

Nobel laureate Wolfgang Ketterle, one of the first observers of the Bose-Einstein condensate and creator of the first atom laser, will present the 33rd Killian Lecture next Tuesday, March 15, at 4:30 p.m. in the Kirsch Auditorium.

Ketterle, the John D. MacArthur Professor of Physics, was named the 2004-2005 recipient of the James R. Killian Jr. Faculty Achievement Award at a faculty meeting last May. Upon receiving the award, Ketterle said, “There are many ways to measure the worth of a lecture award. The Killian award means to be appreciated not just as a scientist, but as a colleague and member of the MIT community. I have always been proud to be at MIT, to be part of a wonderful community of excellent people.”

Ketterle will speak on “When Freezing Cold Is Not Cold Enough.” His talk will discuss new forms of matter existing only at extremely low temperatures that open a new door to the quantum world where particles behave as waves and “march in lockstep.” In 1995, Albert Einstein predict a new form of matter, the Bose-Einstein condensate, but it was realized only in 1995 in laboratories at Boulder and MIT. The lecture will link MIT’s decades-long tradition in this frontier with recent advances.

Ketterle was a co-recipient of the 2001 Nobel Prize in physics with MIT alumni Eric Cornell and Carl Wieman for their work with Bose-Einstein condensation in dilute gases of alkali atoms and for fundamental studies of the properties of the condensate.

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**BRAIN**

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imagery, the computer model of the mind and the causal power of mental states.”

Block easily demonstrated why his courses receive rave reviews as engaging, lively events. He presented visual images of experiments as well as diagrams of the underlying neural activity so those present could experience examples of the visual phenomena on which some of the latest research in his field is based.

Block’s Muh Award talk outlined current challenges in doing research about consciousness, asking, “Are the conscious states we can report the same as those we can’t?” There is evidence that there are conscious states to which our access is limited, even conscious states that are completely inaccessible. Of course they must in some way have a different neural basis from the conscious states that we can report, but the question is how we know that this difference in neural basis doesn’t make them unconscious?

Block credited work by Nancy Kanwisher, professor in brain and cognitive sciences, in advancing research in the neural basis of consciousness. Kanwisher, he noted, located the fusiform area on the bottom of the temporal lobe. When your perception is of a face, all the cells in this area are firing. But when the perception is of a place-like stimulus, e.g. a house, then the fusiform face area quiets down whereas cells in a different area are mostly firing. So it looks like these two areas might be part of the neural correlates of distinct specific conscious contents.

Block summarized recent experiments suggesting that some conscious phenomena might have a brain basis that is not available to “consumming systems in the brain such as reasoning, planning, memo and voluntary direction of action.”

“We often have the sense in our own experience of fair richer phenomenal contents than we can get a conceptual grasp on. If the results of research come out as I am suggesting, this will violate our introspective judgment,” he said.

Block received the Ph.D. degree in philosophy from Harvard University in 1971. He came to MIT as an assistant professor of philosophy (1971-77); worked as associate professor of philosophy (1977-82), professor of philosophy (1983-90) and served as chair of the philosophy section (1989-95). He has been a professor in the departments of philosophy and psychology and at the Center for Neuroscience at the MIT since 1996.

The Robert A. Muh Alumni Award was first announced in October 2000 at the 50th anniversary celebration of the School of Humanities, Arts, and Social Sciences.

Robert A. Muh Alumni Award winner Ned Block gives his talk, ‘What Is Consciousness in the Brain?’ at Bartos Theater on Wednesday, March 2, Block, who received his S.B. degree in physics and humanities in 1964, received the prestigious award for noteworthy achievements in the humanities, arts and social sciences. Now a professor at New York University, Block taught philosophy at MIT for 25 years.

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Faculty from Africa learn Sloan management lessons

KANAMORI

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film about a real-life high school basketball coach who bunched his entire team for poor academic performance opened in January. It has grossed $65 million at the box office thus far.

Kanamori, a Brookline native and member of the MIT basketball team, was perfect for the part of one of the play- ers. "Basketball is my true love," said Kanamori, whose audition was essentially a basketball game. A football coach-friend had organized a charity basketball game that had helped him calm his nerves. "It just felt like I was trying out again for one of the Brookline street leagues."

During more than three months of filming, Kanamori said he learned much from Jackson, who has starred in dozens of films, including "Pulp Fiction" and "A Time to Kill." Kanamori said he often pulled Jackson aside to talk about the craft, something Jackson encouraged. Kanamori was impressed by Jackson's stage presence and how the way Jackson handled emotional and inspirational scenes. "When he did his scenes, you could hear a pin drop on the set," Kanamori said.

During the film's production in 2004, Kanamori stopped thinking of the actor as Samuel L. Jackson, favorite director, and started to think of him as Sam, friend and mentor. "Sam was such a great guy," said Kanamori, who was sur- prised to find that Jackson was also impressed by him. "He was always asking me about MIT and making jokes about astrophysics," Kanamori said.

For a little more than three months, Kanamori was called to the set almost every day, making new friends and great contacts. Though the few lines he had were left on the cutting-room floor, Kanamori is in nearly every scene.

In September, Kanamori decided to return to MIT to finish his degree before returning to Los Angeles. An MIT basket- ball game kept him from attending the movie's premiere party, but some of his on-set friends did take time to call him during the premiere so he would not feel left out. "It was cool just to get the calls from them," he said.

Overall, Kanamori has been pleased with his Holly- wood experience. In addition to his acting credits, which include a role in a low-budget independent film, Kanamori was called to the set almost every day, making new friends and great contacts. Though the few lines he had were left on the cutting-room floor, Kanamori is in nearly every scene.

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ARTS NEWS

A musical flowering

Professor Tod Machover of the Program in Media Arts and Sciences, known for his innovations in composing and performing music, has designed an interactive music installation for the annual Marshall Fields Flower Show at the chain's flagship store in downtown Minneapolis. “Music in the Garden,” billed as an “inspired landscape of French post-impressionist art,” uses Hyperinstruments and automated pianos that switch sounds from Debussy, Satie and Scriabin to Machover at the touch of a finger. The project also uses what Machover calls “squeaky flowers that mix nature and electronica, magical indoor wind chimes that move and chime by blowing on a series of giant pinwheels, and a substantial original composition that emerges from the other overlapping experiences—all surrounded by extremely elaborate flowers and plants.”

“The South of France” environment was designed by landscape architect Julie Moir Messervy, who studied at MIT while at Wellesley and now runs design degrees in both architecture and city planning from MIT in 1976. She taught for a few years afterwards.

“Music in the Garden” is on view at Marshall Field’s (8th Floor Auditorium, 700 On The Mall, Minneapolis), from March 12-20.

Photography talks at the MFA

The MIT Women’s League presents two upcoming art talks at Boston’s Museum of Fine Arts by Ann Allen, a member of the Council for the Arts at MIT and widow of the late John Allen, former head of the Research Lab for Electronics.

On Thursday, March 11, Allen will discuss two photography exhibitions. One is by Czech photographer Josef Sudek, whose misty, magical images document a private world of great beauty in ordinary things, people and natural effects. The other is by Japanese photographer Hiroshi Sugimoto, whose arresting, minimalist images reflect his fascination with the paradox of photographing time.

On Friday, April 15, Allen's talk is on “Sets, Series and Suites: Contemporary Prints,” a show investigating theme and variation in 60 original print series and portfolios by contemporaries European and American artists.

The price for each talk is $10 for MFA members, $24 for non-members, $22 for seniors, $30 for students. Talk will be in advance of each event. Both talks are from 1-2 p.m. For more information, call 253-3656 or e-mail speake@mit.edu.

DeFrantz taps into Monk with high-tech storytelling

New music by Zippyors spans 1,000 years with voice, wind

“The Ornate Zither and the Nomad Flute” is the intriguing title of Professor Evan Ziporyn’s latest composition, which will receive its world premiere thanks to the MIT Wind Ensemble this Saturday, March 12, at 8 p.m. in Kresge Auditorium.

Commissioned by Richard D. Nordlof’s late wife. “My idea was to enhance theatrical storytelling and not simply as a sort of gimmick,” said DeFrantz.

“Monk’s Mood” explores Monk’s personal relationships with his wife, Nelle, and the Baroness Pannonica de Koenigswarter, who befriended Monk and other jazz musicians of the bebop era. DeFrantz’ choreography portrays Monk’s isolation, melancholy, creative genius and ultimately his madness.

“This piece also illustrates the potential of tap dance as a lyrical form of storytelling,” DeFrantz said. “I intend to explore narrative possibilities within tap, a dance form typically noted for its flashy tricks and rhythmic aspects.”

The 50-minute work employs high-tech set pieces designed by MIT and Stanford graduate students to trigger sound and video images during the performance. Foot buttons originally designed for the video game “Dance Dance Revolution” are built into wooden platforms on the stage. Throughout the piece, DeFrantz controls sound and imagery through his dancing.

“Monk’s Mood” arose from DeFrantz’s fascination with Monk’s unique way of hearing and playing. “Monk took a basic tonality, such as a chord progression, and made it strange,” he said. “When I dance the way that he played, it’s very simple tap steps become very, very strange. In a way, my steps are analogous to his piano keys; I’m trying to find his rhythms with my feet.”

The work is presented by Slippage, an interdisciplinary performance collective. Founded by DeFrantz in 2003, Slippage: Interventions in Performance, Culture and Technology explores connections between performance and emerging technology in the service of theatrical storytelling.

Performances are at 8 p.m. except for a 2 p.m. show on Sunday, March 13. Admission is free; donations are accepted.

A Vision of ‘Past Lives’

This detail from a handmade book by Ilavil Subbiah can been seen at the ‘Past Lives’ exhibit on view at MIT in Room E51-095 March 9-10. This series of books brings together images and text created through various techniques, including print-making, painting, collage and sewing, and tells the stories of families, friends and strangers—of lives lost, shared and found.