

## IN BRIEF

## FACULTY MEETING

A regular meeting of the faculty will be held Wednesday, December 16, at 3:15pm in Huntington Hall (Rm 10-250). Agenda items include:

- A vote on the motion to amend the Rules and Regulations of the Faculty to establish the degrees of Master of Engineering and Engineer in Computer Science by Dean Moses.
- Results of the 1991-92 Harassment Survey by Associate Provost Keyser.
- Comments on Federal Guidelines governing Indirect Costs and RA/TA Tuition by President Vest.

## BELL RINGING

The Community Relations staff and friends will be ringing their bells for the Salvation Army Thursday, Dec. 10, at 77 Massachusetts Avenue. Last year they raised more than \$900, and they hope to increase the amount this year.

## MORE HOLIDAY

MIT will observe a special holiday closing beginning at noon, Thursday, Dec. 24, to allow employees travel time for the holidays. A special holiday closing is not a recognized Institute holiday and holiday pay practices do not apply.

## MESSIAH SING

The annual Messiah Sing will be held Friday, Dec. 11, at 3:30pm in the Mezzanine Lounge of the Student Center. Scores will be available but singers are asked to bring their own if possible. Refreshments will be served. The sing is sponsored by the Lutheran-Episcopal Ministry at MIT.

## POTTERY SALE

The Student Art Association's popular semiannual pottery sale opens in Lobby 10 today (Wednesday, Dec. 9), from 9am-4:30pm, and continues Thursday, Dec. 10, same hours.

## PARKING RATE CHANGE

The Parking and Traffic Division of the Campus Police has announced a change in rates for the public parking lot at 139 Massachusetts Avenue. The new rate is \$2/hour or any portion thereof. The all-day rate (8am-5pm) is \$7, with no refunds for early departure.

## TRAINING HELP

The MIT Biohazard Assessment Office reminds the community that OSHA's Bloodborne Pathogen Standard requires training for all persons with occupational exposure to human blood, body fluids and tissues. Call Betsy Gilman, x3-1740, for more information or to schedule a training session.

## AT HST

## PhD Program Begins In Speech, Hearing

The Harvard-MIT Division of Health Sciences and Technology has started a unique doctoral program aimed at producing broad-based researchers interested in the science and engineering of speech and hearing.

Eight first-year students are currently studying in the program, which is supported by a \$4.5 million grant from the National Institutes of Health. Eventually a "steady-state" enrollment of approximately 50 students is anticipated. The program has an affirmative action orientation and actively seeks minority and disadvantaged students.

The program is a vehicle for focusing the interdisciplinary scientific and engineering expertise in speech and

hearing at four internationally respected organizations: MIT, Harvard Medical School, the Massachusetts Eye & Ear Infirmary and the Massachusetts General Hospital. There are 60 faculty members, about half from MIT and half from Harvard. In addition, students may work with other investigators if approved by their academic advisors and committees.

The new effort is headed by Nelson Yuan-Sheng Kiang, a specialist on the neurophysiology of hearing. Dr. Kiang is the Eaton-Peabody Professor of Communication Sciences in the Harvard-MIT Division of Health Sciences and Technology. He is also a

(continued on page 6)

## OFF TO ENGLAND

## Rhodes and Marshall Scholars Are Named

■ By Charles H. Ball  
News Office

Three MIT students have won coveted scholarships for study in England.

● Mark E. Lundstrom of Palo Alto, CA, a graduate student in management, is one of 32 men and women nationwide named this week to receive Rhodes scholarships for study at Oxford University. Some 1,275 applicants from 350 colleges and universities in the United States sought the scholarships.

● Ian M. Blasch of Lilburn, GA, a senior majoring in mechanical engineering, and Seema Jayachandran of Salinas, CA, a senior majoring in elec-

trical engineering, are among 36 US students chosen to receive British Marshall Scholarships for up to three years of all-expenses-paid study at any British university. About 800 students applied for the scholarships.

Mr. Lundstrom, who received the SB in aeronautics and astronautics in 1991, expects to receive the SM from the Leaders for Manufacturing Program at the Sloan School of Management in June. This semester he is on an internship assignment at The Boeing Corporation, and is also actively involved as a senior partner in a new high-tech machine tool and medical products manufacturing business.

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## CONTROVERSIAL SHOW

## Corporal Politics Opens At List Arts Center

■ By Mary Haller  
Office of the Arts

Corporal Politics, the exhibition which found itself at the center of controversy last spring between the National Endowment for the Arts and local and national arts communities, opens this week at the List Visual Arts Center. The exhibition runs from December 12-February 14, 1993, in all three of the Center's galleries on the

first floor of the Wiesner Building (E15). A public reception will be held on Friday, Dec. 11, 5-7pm.

The installation of "Corporal Politics" comes exactly seven months after acting NEA chairman Anne-Imelda Radice turned down funding for the LVAC exhibition and for a proposed exhibition at Virginia Commonwealth University, indicating that she was "troubled" by their (alleged) sexual

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## JANUARY 15

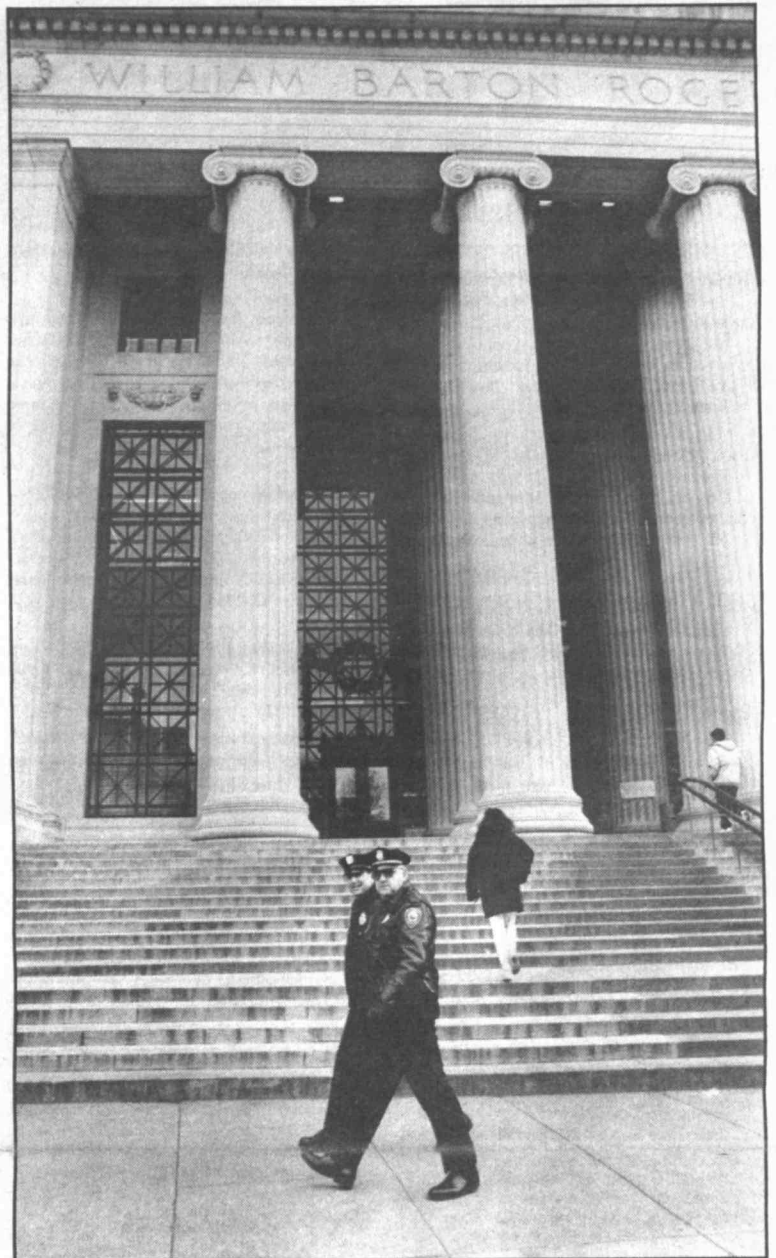
## W.H. Gray to Speak at King Day Celebration

William H. Gray III, president and chief executive officer of the United Negro College Fund and a former congressional leader and college teacher, will be the speaker next month at MIT's 19th annual celebration of the birthday of the Rev. Martin Luther King Jr.

Mr. Gray, former US House of Representatives minority whip and a Baptist minister, will deliver the keynote address at 12:30pm Friday, Jan. 15, in

Kresge Auditorium.

His remarks will follow the traditional silent march by members of the MIT community from Lobby 7 across Massachusetts Avenue to Kresge in honor of the civil rights leader who was assassinated in 1968. The march, as is customary at MIT observances, will be led by President Charles M. Vest and Mrs. Vest, the keynote speaker, and the chair of MIT's Planning Committee for the Martin Luther King Jr. memo-



**TEAM APPROACH**—Cambridge Patrolman Mark Mahoney, nearest camera, and Campus Patrol Officer Paul J. Baratta set out on the first patrol under a new Team Policing Program in which city and campus police will focus on the campus perimeter. Photo by Donna Coveney

## CRIME FIGHTING

## Team Policing Begins On MIT Campus

■ By Robert C. Di Iorio  
News Office

MIT Campus Police and the Cambridge Police Department are joining forces in a new program aimed at reducing crime on the perimeter of the campus.

The new Team Policing Program made its debut Monday, December 7, when Campus Patrol Officer Paul J. Baratta and Cambridge Patrolman Mark Mahoney set out from Building W31, where Campus Police headquarters is located, for a foot patrol along Massachusetts Avenue and Memorial Drive.

Campus Police Chief Anne P. Glavin proposed the joint operation to

her colleague, Cambridge Police Commissioner Perry Anderson, about a month ago.

"This program is aimed at the increase of serious crime we have experienced recently on the perimeter of the campus," Chief Glavin said. "It is our hope that the high visibility of a walking patrol will have an impact."

Recent random incidents at the edges of the campus include the murder of a student on Memorial Drive last September 18, the assault and attempted robbery of another student near Albany Street and Massachusetts Avenue the same weekend, and an incident last month in which a female student fought

(continued on page 9)

rial activities, Assistant Professor Leo Osgood. The march will begin shortly after noon.

Mr. Gray, who has headed the United Negro College Fund since September 1991, comes from a family with a tradition of leadership in education. His father, the late Dr. William H. Gray Jr., was president of two black colleges, Florida A&M University and Florida Memorial College. His mother was a college dean. His grandfather was and

his sister is a college professor.

Mr. Gray also hails from a family of ministers as well as educators. He has been pastor of the 5,000-member Bright Hope Baptist Church in Philadelphia for more than 20 years, as were his father and grandfather before him. He has been in the ministry since 1964, when he became pastor of his first church, Union Baptist Church of Montclair, N.J.

(continued on page 6)











FLYING ACE

# Record-Setting Pilot Tries Hornet

■ By Charles H. Ball  
News Office

Not many realize, perhaps, that MIT employs aircraft pilots.

And fewer know, certainly, that one of them is a renowned aviatrix, an outdated word to some but one she still uses on her resumé.

She's Anne Bridge Baddour, who 15 years ago became the first woman pilot to fly research missions for MIT's Lincoln Laboratory Flight Test Facility at Hanscom Field in Bedford, Mass.

Ms. Baddour, wife of Dr. Raymond F. Baddour, emeritus Lamont du Pont Professor of Chemical Engineering, has been flying for nearly 40 years—she soloed and got her first license in 1953

and today holds an airline transport pilot's license. Furthermore, she is still adding to her laurels and experiences.

● Item: The New England Section of the International Organization of Women's Pilots—The Ninety-Nines, Inc.—recently named her the outstanding woman pilot of 1992 in recognition of her contribution to aviation.

● Item: The US Navy last month invited her for an orientation flight in its most technologically advanced combat aircraft, the strike-fighter F/A 18 Hornet, at a squadron based in Jacksonville, FL.

Even for a veteran pilot like herself, the experience in the Hornet was memorable. She had many opportunities to take the controls during the flight and

found the plane "incredibly responsive" to even a featherweight touch on the control stick. In fact, she said, the jet seemed almost to anticipate what she wanted it to do. Her summary: "Heaven in a Hornet."

At the Lincoln Flight Test Facility, Ms. Baddour flies a variety of single- and twin-engine civilian aircraft carrying new technology in communications, radar, navigation, lasers, etc. It was Lincoln Laboratory, under a contract from the Federal Aviation Administration, that developed the collision-avoidance system now being installed in the nation's airliners.

Ms. Baddour owns her own plane, a single-engine Beechcraft Sierra, which she and her husband use both for business and pleasure trips.

She is the mother of three children, all married and all of whom have flown with her many times. Her four grandchildren also can count on special fun with their grandmother.

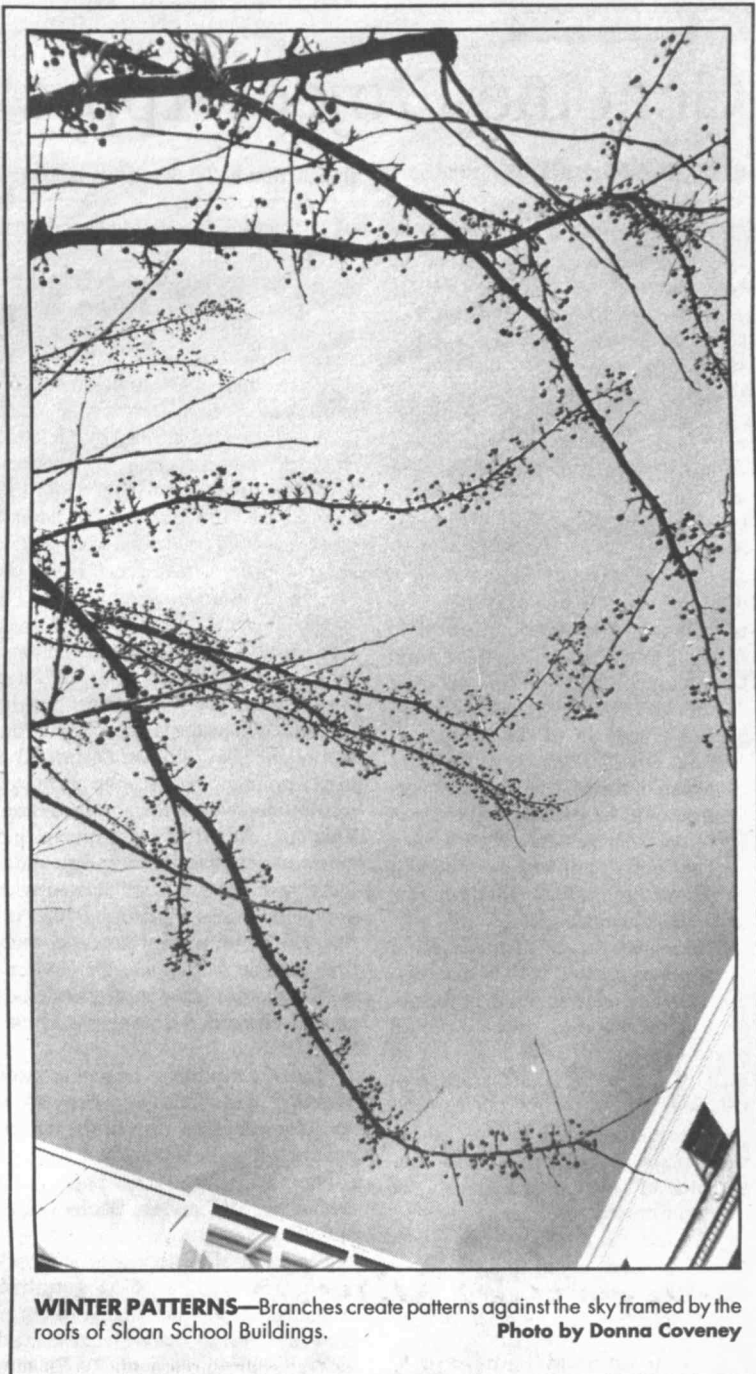
Ms. Baddour's accomplishments include 27 national and international world speed records, set with other women pilots on flights from Hanscom to Switzerland, Italy and elsewhere. She also has entered and won several air races throughout the nation. She has held advisory positions with the FAA (in 1990 the New England Regional FAA director gave her a special award in recognition of "outstanding aviation achievements"), has been a director of the Aero Club of New England since 1977, and was a member of the Massachusetts Aeronautics Commission from 1979 to 1985.

What does the future hold?

Some research flying, some pleasure travel and —oh, yes—probably a try for still more world records on an international flight.



**EJECTION SEAT**—Anne Bridge Baddour is instructed in the operation of an ejection seat before her orientation flight in the Navy's newest strike-fighter, the Hornet, at the Naval Air Station in Jacksonville, FL. Photo by Priscilla A. Kirsh



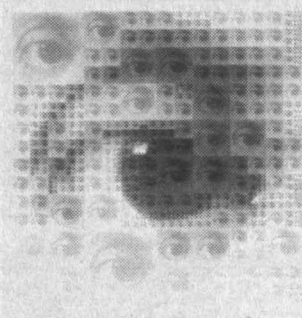
**WINTER PATTERNS**—Branches create patterns against the sky framed by the roofs of Sloan School Buildings. Photo by Donna Coveney

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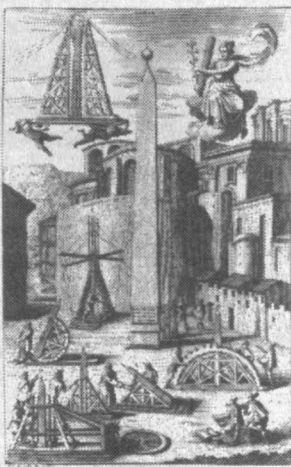
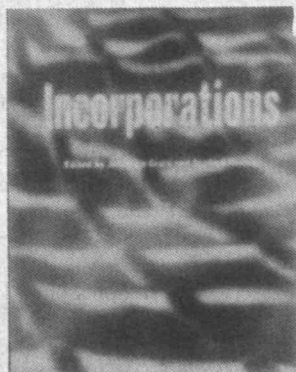
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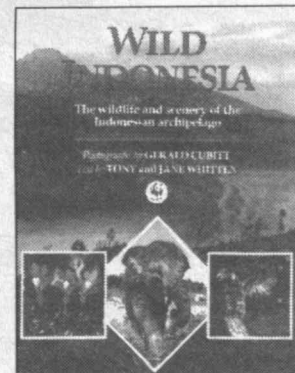
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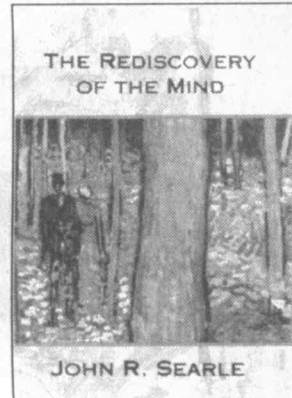
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Tony and Jane Whitten  
photographs by Gerald Cubitt  
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## AT WHITEHEAD

## Genome Project Approved for Renewal and Expansion

■ By Eve Nichols

Whitehead Institute

The National Center for Human Genome Research (NCHGR) of the National Institutes of Health has approved a renewal and expansion in scope of the Center for Genome Research at the Whitehead Institute for Biomedical Research and MIT.

The new Whitehead/MIT Center will consist of a consortium involving scientists from five institutions: the Whitehead Institute, MIT, Princeton University, the Jackson Laboratory in Bar Harbor, Maine, and the Centre d'Etude de Polymorphisme Humaine (CEPH) in Paris, France. Local participants include Drs. Eric Lander, David Page, Rudolf Jaenisch, and Paul Matsudaira of the Whitehead Institute and the MIT Biology Department; Dr. Nathan Goodman of the Whitehead Institute; Drs. Nic Dracopoli and David Housman of the MIT Biology Department; and Dr. James Orlin of the Sloan School of Management.

The Center's primary objective will be to construct basic maps of the mouse and human genomes.

The maps will help scientists search for genes associated with human disease. Greater understanding of the genetic errors that cause disease should pave the way for new strategies in diagnosis, therapy, and disease prevention.

The dual emphasis on the mouse and human genomes reflects the importance of developing a framework for experimental research in genetics, Dr. Lander says. Most problems in human genetics come to an impasse when they reach the experimental phase. Scientists cannot perform controlled mating experiments in human beings or alter a specific gene to define

its function in the whole organism.

One solution to this problem is to develop genetic models in experimental animals. The mouse offers many advantages for this work because scientists have identified thousands of mutants with specific genetic defects and developed scores of inbred strains with abnormal physiologic characteristics. In most cases, however, the genes involved are known only by their effects on body structure or function. Efforts to apply knowledge from the mouse system to the study of human disease depend on the ability to isolate and clone the actual genes based on their location in the genome.

The Genome Center's activities will consist of three research projects and six core facilities. Drs. Lander and Page are the principal investigators for the first research project, Mouse Genomic Mapping. They will work toward a high resolution genetic map and a low resolution physical map of the mouse. This map should speed efforts to find genes responsible for single-gene defects, to clone genes associated with polygenic diseases (disorders that reflect the combined influence of multiple genetic factors and the environment), and to trace the progression of genetic changes during tumor formation.

The second project, Human Genomic Mapping, will aim to construct a low resolution physical map of the human genome. It will be directed by Drs. Lander, Page, and Dracopoli of the Whitehead/MIT, and Dr. Daniel Cohen of CEPH.

Dr. Jaenisch, whose laboratory recently achieved the first germline transmission of yeast artificial chromosomes, YACs, will direct the third project, Introduction of YACs into

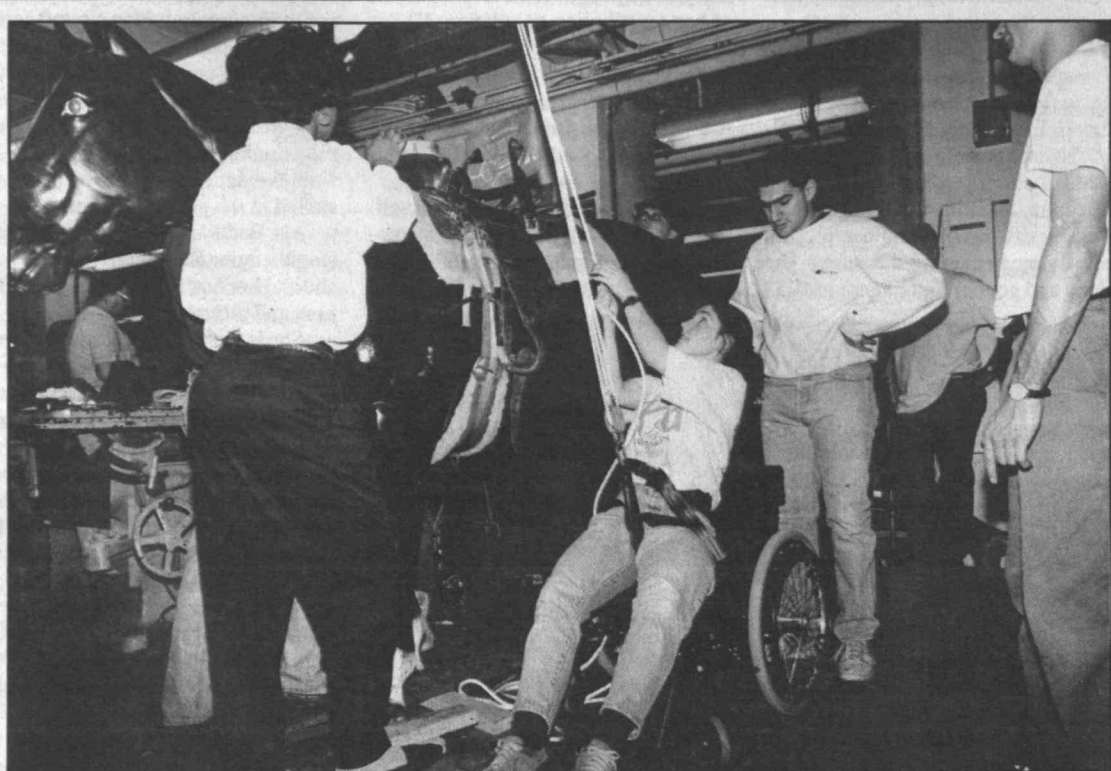
the Mouse Germline.

Among the six core facilities are an Informatics Core and an Instrumentation Core. The Informatics Core will oversee the Center's many computer needs. It will involve Dr. Goodman, a noted expert on database design, Dr.

Orlin, an expert on computer algorithms, and Dr. Joseph Nadeau of the Jackson Laboratory, an expert in mouse genetics who maintains a major computer database for the mouse genetics community.

The Instrumentation Core will be

responsible for identifying targets for automation, and designing and implementing new instrumentation systems (contracting with outside engineering firms or labs to build devices). This Core will be directed by Drs. Lander, Matsudaira, and Cohen.



**HORSE HOIST**—Kathleen A. Bergeron, one of the mechanical engineering seniors in Dr. Michael J. Rosen's Design Projects class, demonstrates a hoist designed by students to enable a person with paraplegia to mount a horse. Students were divided into teams and assigned the task of developing new technology to permit people with spinal cord injuries to take part in equestrian activities. Ms. Bergeron was in a team assigned the task of developing the so-called "super-saddle." Instructors for that team were Professors Carl R. Peterson and Harry West. The devices were demonstrated both in the Mechanical Engineering Shop and later at a horse farm in Boxford. The life-sized plastic horse was loaned to the project by operators of a Pennsylvania horse farm.

Photo by Donna Coveney

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# Sports at MIT

## ALL STARS

All-star teams from the Constitution Athletic Conference (CAC) and the Eastern Collegiate Football Conference (ECFC) have been announced and MIT athletes figure prominently on both squads. In the CAC juniors Attila Lengyel, a forward from Bolton, CT, and midfielder Jason Grapski from Fairfield, CT, were first team selections. Grapski was also a team captain. The ECFC named senior wide receiver Rod Trantum of Chatsworth, GA, sophomore offensive tackle Corey Foster from Bloomfield Hills, MI, and junior linebacker Nolan Duffin of Burke, VA, to the first team. Second team ECFC selections were junior offensive tackle Jeremy Pitcock of Lawrenceburg, IN, and defensive back Calvin Newman, a freshman from Los Angeles, CA. Justin Glotfelty, a senior linebacker, was an honorable mention choice. Trantum was also recently named a second team Eastern College Athletic Conference (ECAC) New England Division III All-Star.

## ALL-DISTRICT TEAMS

Three MIT fall-sport athletes have been named to the GTE College Sports Information Directors of America (CoSIDA) Academic All-District First-Teams. Football players Rod Trantum, a senior wide receiver from Chatsworth, GA, and junior linebacker Matt Robinson of Olympia Fields, IL, were named to that squad, while volleyball player Colleen Johnson was named to the Volleyball All-District Team. Johnson is a senior from Billings, MT. Trantum led the balloting for the football squad. The team was selected by the vote of sports information directors from institutions located throughout the New England States, New York, and the five eastern Canadian provinces.

## WRESTLING

The MIT wrestling team recently kicked off its season by having two third-place finishers in the Hawk Wrestling Tournament held at Roger Williams College. Junior Rafi Levin of Tel Aviv, Israel, placed third in the 177 lbs. weight class, losing to the eventual champion from the US Coast Guard Academy. At 126 lbs., Drew Rideout, a sophomore from Wellesley Hills, MA, also copped a third place. More than 20 wrestlers competed in each weight class.

## HOCKEY

The MIT men's ice hockey team completed the pre-Thanksgiving portion of its schedule with a perfect 5-0 record including a 5-4 victory over WPI in which the Beavers had a depleted squad of only nine players. The five wins to begin the season mark the best start in the history of the program.

## FIELD HOCKEY

Five MIT field hockey players recently participated in the Northeast District Field Hockey Tournament held in New Canaan, CT. First-year students Ann Torres of Baltimore, MD, Surekha Vajjhala of Columbia, MD, and Pattie Hahn of Williamsville, NY; and sophomores Meera Saini from Needham, MA, and Cathy Mangione of Sturbridge, MA, competed on the All-College teams.

## BASKETBALL

MIT men's basketball center Keith Whalen, a freshman from Londonderry, NH, was named the Eastern College Athletic Conference New England Division III Rookie of the Week. Whalen averaged 20.7 points and 6.3 rebounds in a week where the Engineers took two of three games. The 6'7" Whalen shot .545 from the field (24-44) and .824 from the free throw line (14-17). Whalen also added four assists, five steals and two blocks for the week.

## CROSS COUNTRY

The MIT cross country teams have named their most valuable players. Junior Agnieszka Reiss from Lexington, MA, was the selection for the women's team and sophomore Ethan Carin of Windham, ME, received the honor for the men's squad. Reiss was also named captain for 1993 and the captain of the men's team will be David Moyle. Moyle, who will be a senior in 1993, is a native of Voorhees, NJ.

Roger Crosley



**REFLECTIONS**—Students shmoozing outside the student center are reflected in windows on the first floor. Photo by Donna Coveney

## Rhodes, Marshall Scholars Named

(continued from page 1)

He plans to study political science at Oxford to complement his technical and managerial studies and return to the United States to focus on issues of international competitiveness.

In his personal statement accompanying his application, he said that "to succeed, government and industry should adopt a collective rallying cry for the US economy: competitiveness." He added, "Future wars will not be fought with nuclear weapons, F16s and smart bombs, but with lathes, robots and the skills of the American employee."

As an undergraduate, Mr. Lundstrom was captain of the MIT ski team, founder of a program for handicapped skiers, founder of a student exchange program with Russia, president of the SAE fraternity and president of the MIT Chapter of the American Institute of Aeronautics and Astronautics. He is also a private pilot.

Mr. Blasch, also a pilot and skier with an interest in helping the handicapped to ski, is a member of the Air Force ROTC program and expects to receive his commission in June. He is one of only two ROTC scholars to also have been awarded a scholarship to the Air Force's Flight Training School and he recently was named the top cadet pilot in the northeast by the Air Force.

He plans to study advanced mechanical engineering at the Imperial College of Science, Technology and Medicine in London. His ambition is to become a test pilot and astronaut, help to design and build the US space station and someday be part of an expedition to Mars.

"I want to use my talents to explore a frontier like Lewis and Clark, Columbus, or Magellan," he said. "My heroes have been the men and women who have challenged fate and made the unknown known. Like the soldier Odysseus, I want to travel through the unknown trusting in my knowledge and ingenuity to guide me safely."

Mr. Blasch has traveled extensively as an exchange student, including a year spent on the Isle of Wight in England. He was exposed to the idea of thermal power systems in space while working for EG&G at the Idaho National Engineering Laboratory, where he assisted on a nuclear power propulsion system for sending a manned mission to Mars.

His twin brother, Kyle, also is an MIT senior.

Ms. Jayachandran, who has a perfect 5.0 grade point average, is also a tennis star (she has been a member of the MIT varsity team for four years and won an Intercollegiate Tennis Academic All-American Award) and a Burchard Scholar, the MIT prize awarded for excellence in the humanities. She also has been a member of MIT's Committee on the Undergraduate Program, which reviews and dis-

cusses educational policy as it affects undergraduate programs.

Although her concentration has been engineering, she plans to study physics and philosophy at Oxford, eventually obtain a doctorate in physics and pursue a career in academia or government, perhaps in the area of science policy.

"I prefer physics to engineering in large part because I seek a discipline that answers or uncovers questions about fundamental truths," she wrote in her application. "My interest in physics unfolded as I became intrigued by questions that lie in both spheres of science and philosophy. What existed

before the Big Bang? How does one reconcile deterministic laws of physics with free will? The study of physics invites contemplation, and the study of philosophy complements it well."

Her commitment to intellectual pursuits has been matched by a deep engagement in politics not only to support her candidates of choice but to have impact on public policies she is concerned about, such as education and civil rights.

She worked as a hardware engineer at Apple Computer in the summer of 1991 and earlier wrote software for a naval research laboratory.

## Congressional Fellowships Available

Attention, PhD physicists interested in science policy issues. The American Institute of Physics (AIP) and the American Physical Society (APS) have set a deadline of February 1 in their search for Congressional Science Fellows for 1993-1994.

The Congressional Science Fellowship programs enable PhD scientists in physics or a closely related field to spend a year as special legislative assistants in the office of a member of Congress or on a committee staff. The fellows assist Congress by providing expertise in the analysis of science-based policy issues, while at the same time gaining insight into the legislative process. Since 1988, AIP has been one of nearly 20 professional societies sponsoring fellows under a program orga-

nized by the American Association for the Advancement of Science (AAAS). APS has sponsored fellows since 1973.

AAAS reports that 120-150 congressional offices each year express interest in the program. About one-third of participants in the fellowship program accept permanent positions with Congress or in government agencies, where they continue to provide scientific insight. Another one-third return to their previous jobs in industry or academia.

Those who wish more information may contact: The APS/AIP Congressional Fellowships, 529 14th Street, NW, Suite 1050, Washington, DC 20045. The AIP phone number is (202) 332-9662; the APS number is (202) 662-8700.

## Edgerton Award Nominees Wanted

Nominations are invited from all members of the community for the 1992-93 Harold E. Edgerton Award.

The Edgerton Award was established in 1982 to recognize outstanding achievement in research, teaching and service by a junior faculty member. The award is named for the late Institute Professor Harold E. (Doc) Edgerton in recognition of the support he gave to younger faculty members

over his long career. The award carries an honorarium of \$5,000.

Nominations should include a letter describing the candidate's contributions and a current resume and should be sent to Professor Warren Seering, who chairs the selection committee, Rm 3-461C, by Tuesday, Dec. 15. Other members of the committee are Professors John Joannopoulos, Frederick J. McGarry, and Julio J. Rotemberg.

## EINO O GRONROOS

Eino O. Gronroos, 67, of Canton, a retired staff member at Lincoln Laboratory, died of cancer on October 27. Mr. Gronroos worked at Lincoln from 1960 until his retirement in 1985, after which he was a consultant.

He leaves his wife, Louise M. Gronroos, a daughter, Lisa Giuliano of Leominster, and a son, J. Eric Gronroos of Canton.

## DAVID H. GRIFFIN

David H. Griffin, 69, of Midlothian, VA, a retired technical staff member at the Plasma Fusion Center, died on No-

vember 12. Mr. Griffin had worked at MIT from 1981 until his retirement in 1988.

He is survived by his wife, Mary, three sons, Paul, David J. and Darrell P. Griffin, and seven grandchildren.

## UNICEF Cards

UNICEF cards, calendars and gift books are available at the MIT Press Bookstore, 292 Main Street, and at the XPress Sale Book Annex, 55 Hayward Street, through January 15. All proceeds go to the United Nations Children's Emergency Fund.

## Team Policing Begins

(continued from page 1)

off a man who tried to drag her into Killian Court as she walked along Memorial Drive.

At the outset, Chief Glavin said, a police team will walk a selected area of the campus perimeter for an hour on several days a week at various times during the morning and evening. In a few weeks, the chief said, the Team Patrol will be examined with an eye toward an extension to late evening hours.

After the September 18 murder of Yngve Raustein, MIT undertook a broad review of campus safety precautions and security procedures. The Team Policing Program is an outgrowth of that review, Chief Glavin said.

Meanwhile, MIT is working with the Metropolitan District Commission to improve lighting along Memorial Drive and work is under way to install seven additional emergency phones on campus along Memorial Drive.

## Safe Ride Expands

Safe Ride's expanded fleet will take to the roads on Monday, December 21, Campus Police Chief Anne P. Glavin has announced.

Newly hired drivers for the two additional vans are currently being trained, she said. One of the new vans has been delivered and the second one is expected in a day or two, Chief Glavin said.

MIT doubled the fleet from two

to four vehicles to enhance campus safety. The announcement came after a review of campus safety considerations and security procedures undertaken following the September 18 murder of an MIT student on Memorial Drive near the library.

Chief Glavin said the addition of the two vans is expected to cut the Safe Ride waiting time to approximately 15 minutes.





## TELECOMMUNICATIONS

# From Senegal to MIT Via Gypsy Cab

■ By Charles H. Ball  
News Office

Students take all manner of routes to get to MIT. And Oumar Ndiaye rode at least part of the way—figuratively speaking, at least—in a gypsy cab.

The story of Ndiaye's rather remarkable journey from a West African town to graduate studies at MIT—via Lehman College in the north Bronx section of New York City—was recorded in his college newspaper and also in the New York Daily News.

Among the matters that attracted journalistic attention is that Ndiaye, whose home had no telephone, is now studying for a master's degree, and perhaps a doctorate after that, in the field of telecommunications.

Ndiaye grew up and attended school through junior high in Kolda, a community of about 5,000 people in Senegal.

As reported in his college newspaper, he was raised "in a metal-roofed, brick house with his 40-member family. Practicing Moslems, the family included his father, owner of two trucks, his mother, who sells vegetables, his father's other three wives, Oumar's 19 brothers and sisters and his aunts and uncles."

Ndiaye went to Dakar, the Senegalese capital, to attend high school. He lived there with his oldest brother, who has an engineering degree and is the only other family member to have gone to college.

Then he traveled to New York City to live with a cousin and take English courses at Hunter College, arriving with \$150 in his pocket. In 1989 he enrolled in Lehman through a special program, completing college in three years and receiving a degree in computer science with honors last June. He hadn't known what college he would attend in the United States, but Lehman was conve-

nient, he said.

The transition from West Africa to the United States involved a considerable amount of cultural shock, not the least of which was the violence that occurs in American cities.

"Life was very calm in Senegal compared to the Bronx," he said. His first day in New York, he said, he saw a television report of the killing of a police officer. "To be killed by bullets was just a movie thing to me," he said, "not real life."

Ndiaye was aware that driving a gypsy cab in the city would expose him to danger, but he needed the money to complete his undergraduate schooling.

"I was willing to risk my life because I wanted to get somewhere," he told his college newspaper.

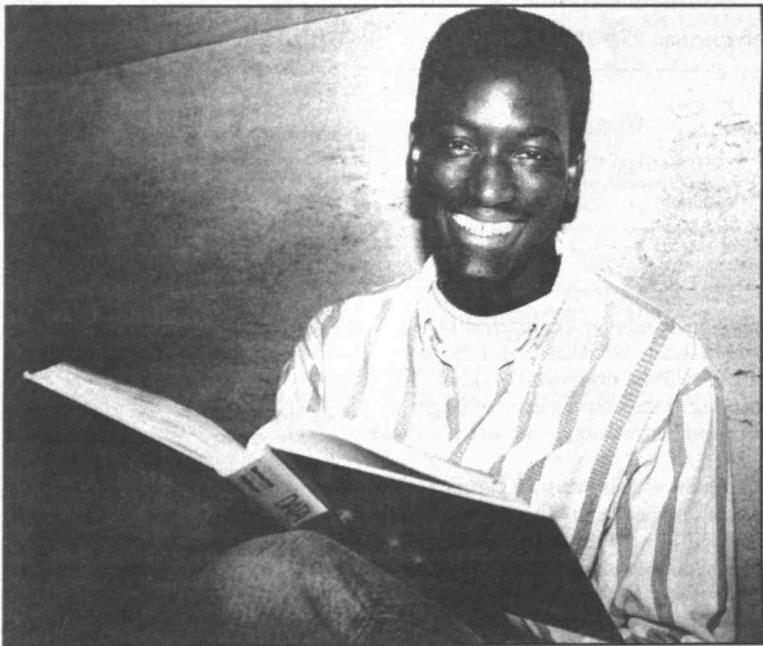
The account said he drove 45 hours or more from Friday through Sunday and attended classes from Monday through Thursday, often staying on campus from 9am until 10pm. Studying between classes and cab rides, he earned an A average and departmental honors.

Ndiaye applied to MIT after reading about it as an undergraduate and arrived here in September with a one-year departmental fellowship that covers his first year's tuition and living expenses. He plans to work as a graduate teaching assistant or research assistant after it runs out and get his SM degree from the Department of Electrical Engineering and Computer Science in about 18 months. Doctoral work could follow that.

A resident of Ashdown House, he said he finds graduate work challenging, but "doable."

His concentration will prepare him for his "ultimate goal," he said, which is to help build national computer and telephone networks in Senegal.

Presumably when that day comes, he'll have a telephone.



Oumar Ndiaye

Photo by Donna Coveney

## Science Nominations Wanted

A new School of Science Teaching Prize for Graduate Education has been established to complement the existing prize for undergraduate education, Professor Robert J. Birgeneau, dean of the School, has announced. Nominations for both prizes are now being solicited.

The undergraduate prize recognizes excellence in teaching undergraduate subjects. The nomination committee welcomes nominations for outstanding teaching not only in the subjects with large enrollments—usually those that satisfy the General Institute Re-

quirements in science—but also in the upper level science subjects that are less heavily enrolled.

For the new graduate prize, preference will be given to nominees who teach mainstream subjects in which the fundamental principles of the relevant field are presented. Such courses typically provide the basis for advanced education and research and prepare the students for a professional career.

Nominations for both awards can be made by faculty and students to any member of the selection committee by March 31. Each nomination should be accompanied by a letter of support; additional letters of support are also welcome. The members of the committee are: Professor George W. Clark, Rm 37-611; Professor John B. Southard, Rm 54-1026, and Professor Gene M. Brown, chairman, Rm 16-512C.

### It's a Fact

MIT began the nation's first formal course of instruction on the internal combustion engine in 1909.



**SHOOTING HOOPS**—While the Celtics founder, MIT students from course 8.01 (Physics 1) take their own approach to bagging points (extra credit for the course) and applying physics principles in The Great Shoot-the-Hoop Contest held recently. The contest drew about 300 students, and set them the task of building a device that could launch a small ball through a hoop and into a basket. Each entrant was given a kit containing wood, rubber bands, paper clips, a balloon and other sundry items. Here freshman Hsiang Chuu sends his ball flying through the hoop and into the basket. He went on to win first place for greatest distance successfully launched, which was 37 feet.

Photo by Donna Coveney

### 'PROBABLY NUCLEAR'

## Cold Fusion Discussed at Friday Talk

■ By Elizabeth A. Thomson  
News Office

Although a Japanese scientist's tabletop demonstration of "cold fusion" did not work at a talk here last Friday, the MIT professors who hosted her said that they believe the "cold fusion" phenomenon is real and is probably nuclear.

Professor Emeritus Louis D. Smullin and Associate Professor Peter L. Hagelstein, both of electrical engineering and computer science, introduced Dr. Reiko Notoya of Hokkaido National University in Japan before her talk titled "Excess Heat Production in Electrolysis of Potassium Carbonate Solution with Nickel Electrodes."

In their introductions both professors addressed what might be going on to produce the excess heat many researchers have reported from "cold fusion" cells. "I think that the evidence is growing that there is a nuclear something going on," Professor Smullin said. "That it is nuclear fusion I think is an abandoned theory, but it may still be nuclear."

Professor Hagelstein noted that there is a question as to whether the phenomenon is nuclear or chemical. "If it's chemical it's some very interesting chemistry," he said. "I think we can safely conclude that either it's nuclear or it's a mistake. I'm completely convinced that it's nuclear."

Dr. Notoya brought along a tabletop demonstration of a device she said has generated three to four times more heat energy than was initially put into it. Although the device did not work at Friday's talk, it did work at the Third Annual International Conference on Cold Fusion in Nagoya, Japan, in October. Professor Hagelstein, who was on the international advisory committee for the conference, observed the device while he was there and was so impressed that he invited Dr. Notoya to MIT.

In addressing the importance of Dr. Notoya's device, Professor Hagelstein told the audience of some

100 people that "Everyone's said, 'If you've got a [cold fusion] cell that's working, why don't you put it up here for us to see?'" He noted that he himself has told scientists who have reported excess heat that "we have space in our lab, and would love to set up one of your demos to 'kick the tires'" and otherwise explore how it works. None have accepted his invitation.

"And then [at Nagoya] there in the hall was a working cold-fusion cell," Professor Hagelstein said. "There was a 15-degree C temperature difference [between the cell and the control] and [the device] just sat there and it ran."

Professor Hagelstein said that Dr. Notoya's device is also important because it runs using regular, or light, water. Most cold fusion experiments to date have used heavy water, where the hydrogen is replaced by an isotope called deuterium.

"Most people in the [cold fusion] field don't believe in light water," Professor Hagelstein said. "Even Fleischmann [of Pons and Fleischmann, the two scientists who announced in 1989 that they had produced nuclear fusion at room temperature] didn't believe in light water." (Professor Hagelstein related a conversation he had with Dr. Fleischmann where the latter scientist said: "Look, it's light water. It couldn't possibly work." Professor Hagelstein

thought the conversation "interesting," given that Dr. Fleischmann was reacting with the same attitude that others had had with him in 1989.)

Now, however, "there are a few light-water experiments going on with positive results," Professor Hagelstein said. "If they're right this is really interesting because light water is cheap, and the experiments seem to turn on faster."

With respect to Dr. Notoya's device and the fact that it didn't work on Friday, Professor Hagelstein reminded the audience that "Dr. Notoya has an excellent, excellent reputation, and comes from a good [university]." In addition, he said, "how many people would have the confidence to come here with only a day and a half to get the [device] up and running?..."

"Having only a day and a half is stacking the decks against you. Next time we invite her back we should give her three days and pizza."

Although the demonstration didn't work—Professor Hagelstein said this was probably due to a problem with the nickel cathode—he concluded: "I personally thank Dr. Notoya for taking up the challenge."

Dr. Notoya's talk itself and the question-and-answer session that followed were difficult to follow because of a language barrier, although Professor Hagelstein did his best as an intermediary.

### Notoya to Give New Cold Fusion Demonstration

Dr. Reiko Notoya will return to MIT tonight (Wednesday, Dec. 9) from Japan to set up a new demonstration of cold fusion. The demonstration she gave last week did not work.

After returning to Japan following her talk last Friday at MIT Dr. Notoya found that the cathode she brought here last week as part of her demonstration was contaminated. According to Professor Emeritus Louis D. Smullin of electrical engineering and computer

science, Dr. Notoya called him this Monday and told him that "she went home, set up an experiment with a new cathode, and it worked well."

As a result, Dr. Notoya will set up a new demonstration at MIT this week. However, because the demonstration must be conducted in a clean room to prevent contamination, it will not be open to the general public. "We're only going to show it to a selected group of MIT faculty and scientists—both believers and non-believers," Professor Smullin said.