

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.

(continued on page 9)

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

(continued on page 6)

JANUARY 15

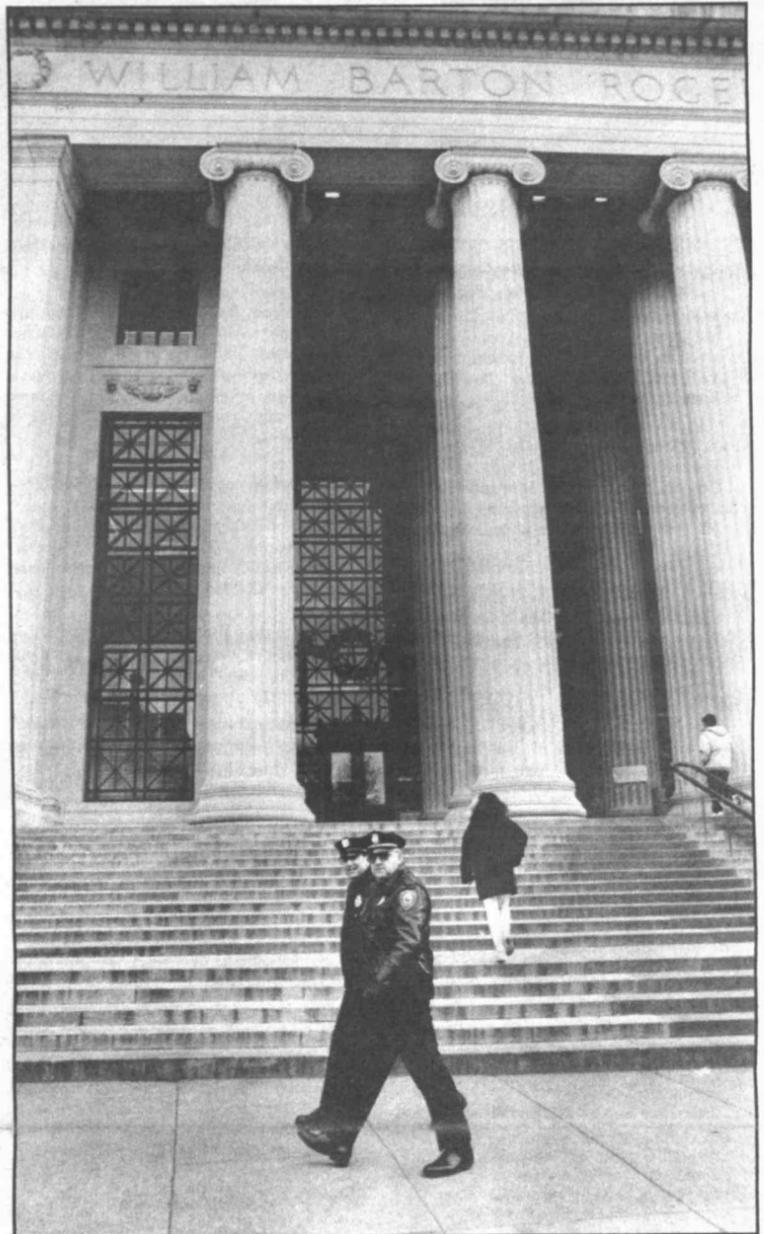
W.H. Gray to Speak at King Day Celebration

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)

Student Notices

* -Open to public
 ** -Open to MIT community only
 *** -Open to members only

ANNOUNCEMENTS

MIT TeX User Group**—Dec 17: Next meeting of the MIT TeX User Group, which exists to support TeX in all its variants. Come by to ask questions, gain information, or find out where to look. For more information contact Robert x3-1797, Rm 2-332, or <robertb@math.mit.edu>.

Minority Community Calendar**—Events of interest to the minority community. Also check the Arts Page. For more information on any event, contact Ayida Mthembu x3-4861. Dec 19: Writers of Color Workshop, 3-5pm, East Campus, Wolcott #205.

A Safe Ride**—Call 253-2997 for a free ride within MIT boundaries. Service operates Sun-Wed 6pm-3am; Thurs-Sat 6pm-4am. Guide to shuttle stops available.

Free Museum of Science Admission for MIT Students—With MIT student ID, provided by Mass Beta chapter of Tau Beta Pi, the National Engineering Honor Society. Reduced admission to special exhibits.

MIT Student Furniture Exchange**—Is closed until Jan 14 when it will re-open with new hours, Tues/Wed/Thu, 10am-4pm, and a new location, Bldg WW15, 350 Brookline St.

Language Conversation Exchange**—Internationals and Americans are invited to participate in this program which matches persons interested in practicing a language and getting to know someone from another country. Presently, there is a need for English partners to fill continued requests of internationals wanting to practice and improve their English. Native French, Spanish and Italian speakers also needed for English speakers wanting to practice these languages. Sponsored by the Wives' Group, call x3-1614 for more information.

Arts Hotline—Recorded information on all art events at MIT may be obtained by dialing x3-ARTS. Material is updated every Monday morning.

RELIGIOUS ACTIVITIES

The Chapel is open for private meditation 7am-11pm daily.

Baptist Student Fellowship at MIT**—Meet for supper on Tuesdays at 5:15pm at 312 Memorial Drive, then move to the chapel across the street for worship at 6pm. Call x3-2328 for more information.

Morning Bible Studies**—Fri, 7:30-8:30am, L-217. Ed Bayliss, x3456 Linc.

Tech Catholic Community**—Student Programs, weekly masses Tues & Thurs 5:05pm, Friday 12:05pm, Saturday 5pm, Sunday 10am & 5pm. Call x3-2981.

Graduate Christian Fellowship**—We invite you to join us. Open to believers and seekers, GCF is a group of graduate students, faculty,

and staff who desire to know God better and reflect the love and presence of Jesus Christ. Weekly meetings in Student Center, DR 1&2, Thursdays at 6pm. We also have Bible studies and a Faith & Technology Roundtable. Info: Andrew Parris x3-2319.

Christian Science Organization**—Meets Thursdays at 7:30pm in the Chapel. We'll share thoughts about God, hear testimonies of Christian healing and read from the Bible. All are welcome! Call x3-8797 or <lnorford@eagle.mit.edu> for further information.

MIT Hillel**—Dec 9, 16, 23: Israeli Folk Dancing 7:30pm, Lobby 13 Dec 9, Sala de Puerto Rico Dec 16, 23). Dec 11: Conservative & Orthodox Shabbat Svcs, 5:30pm, Rm 50-010; Shabbat Dinner, 6:30pm, Walker Blue Rm; Grad Student Shabbat Dinner, 7pm, Ashdown Din Rm; Dessert Reception, sponsored by Hillel Board, 9:30pm, Bexley Suite 201. Dec 12: Orthodox Svcs, 9am, Rm 50-010. Dec 24: Israeli Folk Dance Marathon, 6pm-6am, Walker Hall. Call x3-folk for more info. More info: x3-2982.

MIT Korean Baptist Student Koinonia (KBSK)**—Friday Night Bible Study and Fellowship 7-8:30pm, Private Dining Room #3, 3rd floor of Student Center. Everyone is welcome, refreshments provided. For more information contact Chris Pak x3-9342 or 876-8594.

Lutheran-Episcopal Ministry at MIT**—Wednesday worship, 5:10pm, MIT Chapel, followed by supper and conversation across the street at 312 Memorial Drive. Contact Rev. Susan P. Thomas x3-2325 or Rev. Scott Paradise x3-2983.

Lincoln Laboratory Noon Bible Studies*—Tues & Thurs, Kiln Brook III, Rm 239. Annie Lescard, x2899 Linc.

MIT Muslim Students Association**—5 daily prayers in the prayer room, Ashdown House (Bldg W-1) west bsmt. Friday congregation: 1:10-1:45pm in Ashdown House (Bldg W-1) west bsmt. Info: x8-9755.

MIT Orthodox Christian Fellowship**—Meets every Wednesday at 5:30pm, except Dec 16, 23, 30 & Jan 6, in Private Dining Rm #1 in the Student Ctr for dinner/fellowship/discussion followed by Vespers (evening prayer) in the MIT Chapel. Open to Eastern Orthodox Christians and those interested in learning about traditional Christian Faith. Info: Mike Decerbo, Dorm x5-7569.

MIT Vedanta Society*—Meditation and discourse on the Bhagavad Gita with Swami Sarvagatananda, MIT Religious Counselor and Head, Ramakrishna Vedanta Society of Boston, every Friday at 5:15pm in the MIT Chapel.

OPPORTUNITIES

Department of Defense National Defense Science and Engineering Graduate Program Fellowships for 1993-94. DOD plans to offer approximately 90 new 3-year graduate fellowships in April 1993. These fellowships will be awarded for study and research leading to doctoral degrees in mathematical, physical, biological, ocean and engineering sciences. Fellows do not incur any military or other service obligation. Fellowships are intended for students at or near the beginning of their graduate study in science or engineering. Stipends for the 3 years are \$15,000, \$16,000 and \$17,000 plus tuition and fees. More information and application material is available from the Dean of the Graduate School Office, Rm 3-138. Application deadline: **Jan 20, 1993.**

Office of Naval Research Graduate Fellowships for 1993-94. ONR plans to offer approximately 50 new 3-yr fellowships to recent outstanding graduates to support study and research leading to doctoral degrees in specified disciplines, i.e., electrical engineering, physics, mathematics, chemistry, computer science, materials science, aerospace/mechanical engineering, biological/biomed-

cal sciences, cognitive and neural sciences, naval architecture and ocean engineering, Secretary of the Navy Fellowships in Oceanography. Eligibility limited to those who have not attended graduate school in science or engineering since receiving their baccalaureate degrees. Stipends for the 3 years are \$15,000, \$16,000, and \$17,000 plus tuition and fees. More information and application material is available from the Dean of the Graduate School Office, Rm 3-138. Application deadline: **Jan 20, 1993.**

BF Goodrich Collegiate Inventors Program for 1993. Open to any student enrolled full-time in a college or university in the U.S. Categories: (1) Utility: invention of a new and useful process, machine, manufacture or composition of matter, or product; (2) Design: New, original and ornamental design for an article of manufacture; (3) Plant: Development of a new and distinct breed or variety. Program winners each receive \$5000 cash prize, advisors receive \$2500 cash prize. Entry forms available in the Technology Licensing Office in Rm E32-300, contact person: Dave Krone.

INTERNATIONAL

MIT Language Conversation Exchange**—This service assists members of the MIT community to practice a language with a native speaker and get to know someone from another country. Call x3-1614 for more information.

MIT-Japan Program. A unique opportunity for MIT science, technology and management students to spend a year in Japan working at a major Japanese company or laboratory. Training, placement, travel and living expenses are covered by the Program. Call Patricia Gercik x3-3142, Rm E38-754.

STUDENT JOBS

There are more job listings available at the Student Employment Office, Rm 5-119. The Student Employment Office has many "one time only" jobs. Many students find these jobs a good way to earn money fast.

Off Campus, Non-Technical, IAP. Readers are needed to record Physiology text books onto cassette tapes for visually impaired students. Must be taking or have taken Human Physiology. Pay: \$8/hr. Contact: Cristina Oleson, (508) 792-0531.

Off Campus, Non-Technical. Clerk/stockperson needed at the Boston Children's Museum. Call for more information. 7 hrs/wk. \$6.75/hr. Contact: Lenny Gottlieb, 426-6500 ext. 388.

On Campus, Non-Technical. Driver needed by a mildly disabled brain tumor patient. Must be a reliable and experienced driver. A car is not necessary. Salary: negotiable. Contact: Samantha Scolameiro, 923-3578.

Off Campus, Non-Technical, One-Time. Students needed to participate in a market research interview on Dec. 9th. Hours: 45 minutes total. \$30. Contact: Todd Holbrook, (617)246-0250.

VOLUNTEERS

The MIT Public Service Center has compiled the following volunteer opportunities.

Cambridge Cares About AIDS. CCAA, part of the Cambridge AIDS Task Force, provides services to those living with HIV and prevention education to the community. They need volunteers for their Meal Delivery Program and their Drop-In Child Care Program. They would also welcome donations to help fund their meal delivery program's efforts next year. Tax deductible donations may be sent to Cambridge Cares About AIDS, 678 Mass. Ave., Cambridge, MA 02139. Volunteer Contact: Caroline Ross, Volunteer Developer, 661-3040, Tuesday-Friday.

The Crispus Attucks Children's Center. The Center, which provides day care and after school care for 245 children from Roxbury, North Dorchester, and Mattapan, is seeking contributions for the children's Christmas Party. Games, books, dolls, toys, clothing, and infant items are needed for children from 3 months to 11 years old, especially for girls. Also, non-perishable foods to send home with the children's families would be appreciated. Please bring donations to the MIT Public Service Center, Rm 3-123, weekday afternoons between noon and 4pm before Dec 16th.

Toys For Tots. The Marine Corps Reserve Toys for Tots program helps bring toys at Christmas to children whose families otherwise might be unable to provide gifts. Last year, there were gifts to over 70,000 children in this area. Students can help by volunteering time to sort toys, or student groups can sponsor a fundraiser such as a dance or party. Contact: Lt. Joseph Mahoney at (617) 786-2562/2575.

UROF

The UROF Office invites MIT and Wellesley students to join with faculty members to pursue research projects of mutual appeal. For detailed information on procedures, please read the participation section of the UROF 1992-93 Directory, available in the Aca-

Outreach Directory Issued

Tinkering: Design for High School Girls, and Introduction to Manufacturing are two of 105 educational outreach programs at MIT described in a booklet compiled by the Council on Primary and Secondary Education.

Programs in the booklet, released last week, are organized according to type of activity, including tours of MIT facilities (e.g., the Biotechnology Process Engineering Center), visits to schools (e.g., Earth, Atmospheric and Planetary Outreach), workshops (e.g. Algebra Day Camp), and job opportunities (e.g., Teach for America).

According to Linda Breisch, communications coordinator for the Council, "most of the programs are open to the general public, though many have targeted audiences such as parents, minorities, and women."

If you would like to receive a copy of MIT's Educational Outreach Programs 1992-93, call or write the Council at x3-7607, Rm 8-201.

FX Seeks Donations

The Furniture Exchange is seeking donations of furnishings and housewares for its grand re-opening January 14 in its new location at WW15, 350 Brookline Street near the BU Bridge. Please call 253-4293 if you have usable furniture that you can donate. Such donations are tax-deductible for their fair market value.

demis Affairs Offices, 7-104 and 20B-140.

Spring Guidelines and information are now available. Spring and IAP/Spring proposals for direct UROF funding will be accepted on a rolling basis starting January 15, 1993. Please watch for pertinent information on the UROF bulletin boards in the infinite corridor near 3-103, in the UROF office, 20B-140 and in Tech Talk.

Faculty supervisors wishing to have projects listed may send brief descriptions to 20B-140, call x3-7306, or email to <urof@athena>.

Pre-UROF—A Guided Tour. If you want to begin a UROF but aren't ready to make a formal commitment, or lack the background to work in a highly technical area, you are invited to join UROF's Mentor Program and work during January with an experienced UROPer in an area of your choice. Although as a pre-UROPer you will not receive pay from UROF during IAP, you will be guaranteed funding support if or when you are invited to join the project, or be given priority for UROF funding if you join another UROF project in the spring following your IAP experience. Pre-UROPer must register with the UROF office before the end of the fall term. People and choices will be matched up, and you will be notified of the result before the beginning of IAP. More information is available in the UROF Office. Contact: <UROF@athena>, or call x3-7306, C. Poux or N. McGavern.

Teaching Experience as a UROF Mentor. UROF's Mentor Program will link up pre-UROPer (students who want to begin UROPs but aren't ready to make a formal commitment, or lack the background to work in a highly technical area) with UROPer who have considerable UROF experience, and will formally serve as mentors, for the month of January. You will work at your ongoing UROF project, and with permission of your UROF faculty supervisor, initiate a beginner into the workings of your laboratory. You will be expected to supervise and teach your assigned pre-UROPer carefully and thoroughly, and will receive a \$100 honorarium from UROF at the end of IAP. Mentor volunteers must register with the UROF office before the end of the fall term, and, if you are successfully matched up with a pre-UROPer, you must attend one of our orientation meetings the first week in January. More information is available in the UROF office. Orientation meetings: January 5, January 6, 11am, 20B-140. Contact <UROF@athena>, or call x3-7306, C. Poux or N. McGavern.

Polymers/Composites Lab. Student needed for data acquisition and processing as well as scanning electron microscopy related to testing of high performance fibers. Faculty supervisor: Frederick McGarry, Rm 8-209, x3-7172. For more information contact Maureen Fahey, x3-1914.

The Continuum Electromechanics Laboratory. Opportunity available for an undergraduate student to assist in a bioengineering project involving enzymatic degradation of cartilage. The project touches on a wide range of topics including characterization of tissue mechanical and electromechanical behavior, biochemistry and physical chemistry. The primary responsibility is the position would be to assess changes in functional material properties due to the degradative action of a physiologically relevant enzyme thought to play a role in arthritis. Additional responsibilities may include characterizing tissue composition using various biochemical assays. Experience with mechanical testing is a definite plus, but not required. Ideally, the position would continue into the summer or into the following year. The scope of the project is appropriate for a thesis. Faculty supervisor: Alan Grodzinsky, Rm 38-377, x3-4969. For more information please contact: Larry Bonassar <bonassar@athena>, Rm 38-377, x3-5892.

Operations Research Center and the Energy Laboratory. UROF available for student with motivation and strong programming skills who enjoys the challenges of real world modeling. We are building a life-cycle analysis model of paper and pulp for the federal government and the paper industry. "Life Cycle" means we look at economics, energy, pollutants, co-products, disposal issues, etc. over the whole life cycle of the product. We are

looking for a student to help us finish the model and write a user-friendly Macintosh front end for it. This project is an exciting mix of engineering, policy, economics and coding. Responsibility involves helping us implement our model: choosing strategies, data-structures, presentational methods, and even packages. Faculty supervisors: Dick Larson, Rm E40-149A, x3-3604 and Liz Drake, Rm E40-453, x3-5325. For more information contact: Alan Kaufman <apk@athena>, Rm E40-149, x3-6185.

Biomedical Imaging. UROF available for student with strong background in computer programming and electronics. Laser-induced fluorescence is being used in a project to guide surgical removal of skin cancer. Project involves modifying existing application software or writing new software to control a CCD camera and an illumination laser as well as testing of the control system. The project is at the Wellman Laboratories of Photomedicine, Massachusetts General Hospital. Faculty supervisor: Thomas Deutsch, 726-6167.

UROF available for student with strong interest and some background in cell culture to grow human keratinocytes in culture and participate in optical measurements of the formation of a fluorescent molecule when cells are incubated with a precursor drug. Optical techniques based on laser-induced fluorescence will be used for monitoring. Some background in physics and optics would be helpful. The project is at the Wellman Laboratories of Photomedicine, Massachusetts General Hospital. Faculty supervisor: Thomas Deutch, 726-6167.

Manufacturing Systems Research Opportunity. Develop advanced manufacturing systems software with a dedicated research team. Strong C programming skills required. Faculty supervisor: George Chryssolouris, Rm 35-134, x8-5620. For more information contact: Moshin Lee, x3-1811.

MIT TECH TALK

(USPS 002157)

December 9, 1992
 Volume 37 Number 16

Publisher

KENNETH D. CAMPBELL

Editor

JOANNE MILLER

Assistant Editor

ELIZABETH THOMSON

Photojournalist

DONNA COVENEY

Production

GENEVIEVE PARENT LOATI

OF MIT GRAPHIC ARTS

News Office

Director: Kenneth D. Campbell; Associate Director: Robert C. DiIorio; Senior Assistant Director: Charles H. Ball; Assistant Directors: Donna Coveney, Joanne Miller; Assistant Editor: Elizabeth A. Thomson; Administrative Assistant: Myles Crowley; Senior Staff Assistant: Lisa Damtoft; Receptionist: Chandra Wilds.

Tech Talk is published weekly except for most Monday holiday weeks by the News Office, Massachusetts Institute of Technology, 77 Massachusetts Avenue, Cambridge, Massachusetts 02139-4307.

Postmaster: Send address changes to Tech Talk, Room 5-111, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139-4307.

Tech Talk is distributed free to faculty and staff offices and residence halls. It is also available free in the News Office and the Information Center.

Mail subscriptions are \$18 per year, non-refundable. Checks should be made payable to MIT and mailed to Business Manager, Room 5-111, MIT, Cambridge, MA 02139-4307.

Second class postage paid at Boston, MA.

Permission is granted to excerpt or reprint any material originated in Tech Talk. Selected articles that originated here are also available in TechInfo.



Printed on Recycled Paper

Crimewatch

The following incidents were reported to the MIT Campus Police Department between November 25 - December 3:

Nov 25: Bldg 5, radio stolen, value \$45. Flim-flam, Mass. Ave., suspects approached a victim, showing a briefcase full of money and attempted to convince victim to split money three ways. Victim suggested that they turn money over to police, suspects said no and fled area.

Nov 27: West Garage, '82 Buick attempted larceny.

Nov 28: Student Center, escapee from state hospital found sleeping, returned to hospital; Ashdown, domestic abuse.

Nov 30: Bldg 4, two separate reports of suspicious activity.

Dec 1: Bldg 20, travelers checks and other items amounting to \$630 stolen; Tang Hall, harassing phone calls; Walker, malicious destruction of property; Bldg 54, EMT's responded to find a person confined to a wheelchair abandoned, transported for medical attention.

Dec 2: Student Center reading room, coat stolen \$80; Bldg 33, attempted larceny of coat and wallet; Bldg E51, assist person who has a restraining order in affect and observed defendant in area.

LEADERSHIP NOTED

Jane Betts Is Promoted In Athletics Department

■ By Roger F. Crosley
Director of Sports Information and Communication

The promotion of Professor Jane Betts from associate to senior associate athletic director has been announced by Dr. Richard A. Hill, MIT athletic director and head of the Department of Athletics, Physical Education and Recreation.



Betts

Dr. Hill said that in her new position Professor Betts will be responsible for overseeing the day-to-day operation of the department, including strategic planning, projects and other assignments in support of student interests and community needs.

In making the announcement Dr. Hill said, "The department is fortunate to have a person with Jane's leadership qualities and experiences in such an important post. I am very enthusiastic about working with and through Jane to strongly position the department for the varied challenges of the decade and the 21st century."

Professor Betts, 51, an associate professor, is in her 17th year as a member of the teaching faculty and administration. She came to the Institute in 1976 following 11 years at Valparaiso University where she coached women's gymnastics and tennis and taught physical education classes.

Professor Betts assumed the role of women's gymnastics coach and director of women's athletics when she arrived at MIT. In 1978 she became assistant athletic director in charge of facility operation and women's sports.

A promotion to associate director of athletics for finance and administration followed in 1987.

During her ascent through the administrative ranks at MIT, Professor Betts became one of the most widely recognized proponents of women's athletics in the country. She has been president of the Massachusetts Association of Intercollegiate Athletics for Women (MAIAW), the Eastern Association of Intercollegiate Athletics for Women (EIAIW), and was co-founder and the first president of the New England Women's 8 Conference.

In addition she has been a national vice-president for Division III of the AIAW, co-director of the AIAW national rowing championship, and has served on the board of directors of the Collegiate Council for Women Athletics Administrators. She is currently a member of the NCAA Gymnastics Committee, and most recently was named a member of the NCAA President's Commission Liaison Committee. She has delivered papers and speeches on both women's athletics and athletic money management at numerous meetings and conventions including two separate National Collegiate Directors of Athletics conventions. She has also served on advisory committees at Oberlin College, Hampden-Sydney College and Wellesley College.

Professor Betts has also been very prominent in the administration of the Eastern College Athletic Conference (ECAC). She has served on the ECAC Council, and been a member of both the Katherine Ley Award Committee and the Distinguished Achievement Award Committee.

Among her honors are the Franklin College Alumni Athletic Achievement Award, the MAIAW Merit Award and the Katherine Ley Award.



NEW CHAIR HOLDERS—Linn W. Hobbs, center, and David H. Marks, right, have been named the initial holders of two professorships endowed with resources stemming from MIT's involvement in founding American Superconductor Corporation. At right, former MIT professor Gregory J. Yurek, American Superconductor's president and chief executive officer.

Photo by Donna Coveney

HOBBS, MARKS NAMED

Elliott, Crafts Chairs Established

Two new professorships—one honoring the late John F. Elliott's contributions to metallurgical science and engineering, the other a memorial to MIT's turn-of-the-century president James Mason Crafts—have been established by MIT.

Provost Mark S. Wrighton, at a December 1 luncheon, announced the establishment of the chairs and the names of the professors who will be the initial holders for five-year terms.

Linn W. Hobbs has been named the first holder of the John F. Elliott Professorship.

David H. Marks has been named the first holder of the James Mason Crafts Professorship.

The professorships have been endowed with resources stemming from MIT's involvement in founding American Superconductor Corporation, Professor Wrighton said.

Among those attending the luncheon were Frances Elliott, widow of Professor Elliott.

For more than 40 years, Professor Elliott, who died April 15, 1991, at the age of 70, was a leader in chemical-process metallurgy and in the specific field of steelmaking. Industries in many

countries benefited from his research and his influence in this field has been multiplied by the work of his many students.

Professor Hobbs' research is in the area of ceramics and electron microscopy. He is widely recognized as a leading expert on the deleterious effects of electron microscopy on specimens being examined. He uses electron microscopy in his research on nuclear materials and high-temperature corrosion as well as in ceramics.

He was a National Merit Scholar at Northwestern University where he received the BS in materials science (1966) and a Marshall Scholar at Oxford University where he received the PhD in metallurgy and science of materials (1972). Professor Hobbs joined the MIT faculty in 1981.

Professor Crafts, a native of Boston, was an internationally respected scholar who made important contributions in the field of chemical research. He joined the MIT faculty in 1870, but four years later returned to Paris where he had spent many years in research. A few years later he and a colleague discovered what came to be known as the Friedel-Crafts reaction involving alu-

minum chloride. He returned to MIT in 1891.

Dr. Marks, the new James Mason Crafts Professor, is director of PEEER, Programs for Environmental Engineering Education and Research, in the School of Engineering. His main area of interest is in how large-scale infrastructure systems are organized and managed with special concern for the anticipation and mitigation of environmental and economic impacts. Much of this work is based on large-scale computer-based simulation and optimization modeling to help illuminate conflicts between the competing objectives of interest groups and governments.

Professor Marks, who holds the BS in civil engineering (1962) and the MS in environmental engineering (1964), both from Cornell University, and the PhD in environmental engineering (1969) from Johns Hopkins University, joined MIT in 1969. From 1985 to the summer of 1992 he was head of the Department of Civil Engineering, now Civil and Environmental Engineering.

Representing American Superconductor at the luncheon was one of its founders, Gregory Yurek, a former MIT professor.

OPEN TO ALL

Colloquia Begin on Designing the Future

To help define a vision of civil and environmental engineering for the 21st century, MIT is sponsoring a series of six colloquia to be addressed by prominent visionaries in the field.

The first of these colloquia will be held today (Wednesday, Dec. 9) from 3:30-5pm in Rm 9-150 on "The Potential for Computer-Based Technologies in Civil Engineering." The guest speaker is Professor Steven J. Fenves, the Sun Company University Professor at Carnegie-Mellon University and a member of the National Academy of Engineering.

"This integrating colloquium series for the whole department should be of great interest to our current and potential future undergraduates, to our graduate students and, of course, to our faculty," Professor Rafael L. Bras, the head of the Department of Civil and Environmental Engineering, said.

"With much of the world now turning its attention and resources to the civil sector, and with all branches of engineering now caught in the conflict between technology and the environment, the colloquia should be helpful in understanding the broad and important role played by civil and environmental engineers in modern society. Many challenging areas of growth in

research and practice will develop to address societal needs and, above all, the exciting employment and leadership opportunities for civil and environmental engineers in the 21st century," Professor Bras said.

The remaining five colloquia will be held Wednesdays during the spring term according to the following schedule:

February 10, "Environments for Virtual Design," Professor William J. Mitchell, dean of the School of Architecture and Planning at MIT and a professor of architecture and media arts and sciences.

February 24, "Engineering Research to Protect the Environment," Dr. Paul Busch, president and CEO of Malcolm Pirnie Inc., White Plains, NY.

March 17, "Intelligent Structures for Civil Infrastructure Systems," Professor Craig A. Rogers, director of the Center for Intelligent Materials and a professor of mechanical engineering at Virginia Polytechnic Institute and State University.

April 14, "Policy Perspectives on Transportation for the 21st Century," Professor Alan Altschuler, director of the Taubman Center for State and Local Government at Harvard University and a professor of urban policy and planning at its JFK School of Government.

May 5, "Emergence of Environmental Geotechnology," Professor Norbert R. Morgenstern, University Professor of Civil Engineering at the University of Alberta.

All the colloquia will be held from 3:30-5pm in Rm 9-150 and are open to the public.

Awards & Honors

■ **Dr. Tomaso A. Poggio**, Uncas and Helen Whitaker Professor of Vision Sciences and Biophysics and co-director of the Center for Biological Information Processing, is the co-recipient of the 1992 Max Planck Research Award given by the Alexander von Humboldt Foundation and Max Planck Society, both of Germany.

Professor Poggio shares the prize, worth approximately \$130,000, with a research colleague, Professor Manfred Fahle of the Universitäts-Augenklinik Tübingen, Germany. They were chosen for their research accomplishments in the fields of vision, brain science and learning.

■ **Dr. Alexander Rich**, William Thompson Sedgwick Professor of Biophysics, has received an honorary Doctor of Philosophy degree from the Weizmann Institute of Science in Israel at a special session of the Institute's board of governors.

He joins a distinguished list of past MIT recipients of honorary degrees from the Institute. They include Jerome B. Wiesner, Victor Weisskopf, Frank Press and Steven Weinberg.

Dr. Rich was cited for "his exceptional contribution to the understanding of the molecular structure of nucleic acids and proteins, in particular...his pioneering work on the elucidation of the mechanism of protein synthesis, the function of polysomes, the three-dimensional structure of transfer RNA and the

left form of the DNA double helix."

He also was honored for "his enlightened leadership in formulating science public policy and furthering international scientific cooperation" and for "his outstanding commitment to the Weizmann Institute." He has been affiliated with the Institute for more than 30 years and has been a member of the board of governors since 1976.

Professor Rich, an MD, is a world authority on the molecular structure of nucleic acids and the role they play in biological systems. He has served on numerous research and public service committees. He has been a member of the National Science Board, a director of the National Research Council and a participant in the planning for several of NASA's space programs.

■ Among those honored by the Cambridge School Volunteers this year is **John B. Hammond III**, associate director of admissions. For the past four years Mr. Hammond has been mentor to a boy at the Maynard School who was identified as an "at risk" student. Through tutoring and friendship, Mr. Hammond's mentee is now a successful fifth grader with a high average and academic promise. Mr. Hammond was one of six volunteers honored.

■ **Dr. John D. C. Little**, Institute Professor and Professor of Management Science in the Sloan School, received an honorary degree at the 175th anniversary celebration of the University of Liege in Belgium.

Dr. Little is well-known for "Little's Law" in queuing, which relates the average number in queue to the average time spent in queue; for pioneering work in traffic signal optimization; and especially for his extensive research in marketing, where he is considered a founding father of the field now called marketing science.

■ **Dr. Edward N. Lorenz**, professor emeritus of meteorology, is the first recipient of the American Geophysical Union's Roger Revelle Medal.

Dr. Lorenz was cited for "his work on the predictability of macroscopic systems" and, more specifically, for his work "on the general circulation of the atmosphere." He is often credited as the discoverer of chaos, or more precisely, chaotic behavior in the mathematical modeling of weather systems. The study of this has changed the way scientists look at nonlinear systems.

Professor **Kerry A. Emanuel**, director of the Center for Meteorology and Physical Oceanography, will present the citation to Dr. Lorenz.

■ **George F. Prendergast**, coordinator of the Office of Sponsored Programs, has been elected treasurer of the National Council of University Research Administrators.

Mr. Prendergast has served the organization both nationally and regionally. It serves more than 2,600 research administrators both inside and outside the United States.

It's a Fact

The world's largest open collection of science fiction books and magazines is located in the Student Center, Room 473.

Classified Ads

Tech Talk ads are intended for personal and private transactions between members of the MIT community and are not available for commercial use. The Tech Talk staff reserves the right to edit ads and to reject those it deems inappropriate.

INSTRUCTIONS: Ads are limited to one (of about 30 words) per issue and may not be repeated in successive issues. All must be accompanied by full name and extension. Persons who have no extensions or who wish to list only their home telephones, must come in person to Rm 5-111 to present Institute identification. Ads using extensions may be sent via Institute mail. Ads are not accepted over the telephone. Faxes are not accepted.

All extensions listed below are campus numbers unless otherwise specified, i.e., Dorm, Lincoln, Draper, etc.

MIT-owned equipment may be disposed of through the Property Office.

Deadline is noon Friday before publication.

FOR SALE

Laptop computer, NEC multi-speed, 607K RAM, 9.5 MHz, CGA LCD screen, 2.3.5" 720K disk drives, MS DOS 3.2 & pop-up programs, \$300. Keith x3-5731.

Floor loom, 4-pedal, 4-harness, weaves up to 36" wide, also warping board, wool, \$350, negot. Call 489-0644.

Panasonic 25" color TV, cabinet style, looks & works like new, exc bargain. Call dorm x5-9390.

Downhill & x-c skis, poles & boots, \$25-\$75, 2 w/ matching chests of drawers, \$35 & \$65; white corner desk & chr, \$35; stereo cab w/glass doors, \$35; 2 leather chrs, \$175 ea. Call x3-6081.

2 twin beds & mattresses, \$55 ea; armchrs, \$15 & \$65; 2 bedside tables, \$25/ea; loveseat, \$45; 2 desk chrs, \$15 & \$35; file cabs, \$35 & \$55; computer desk, \$65. Call x3-3175 or 332-8251.

2 stepladders, 4' & 6', 4 Harvard bed frames, 2 stereo speakers, 3 French doors, 1 pressure cooker unused. Call 739-2089.

Software for sale: Borland Paradox 4.0, \$300; Turbo Pascal for Windows 1.5, \$75. Both new & unopened. Call 617-825-0931.

Women's mountain bike, nvr used, Sterling Disc 100, \$200 firm. Call x3-0629.

Wing chair, off-white & blue, \$75. Call x3-2504.

Ping pong table, brand new, never used, requires assembling, \$25. Call Kay x3-3055.

Simmons Executor Q-sz box spring w/steel frame, never used, \$150. Call x3-7480.

Videotape your personal greetings for the holidays at the Language Learning and Resource Center; translation available into PAL or SECAM, Dec 9, 10, 13, fees \$15-\$35, must reserve x3-9779.

Sony CD player for stereo system, brand new, still in box, cost \$129, will sell for \$75. Barry 783-1931 or 508-870-0006.

Holmes radiating heater, multi-power w/anti-freeze thermostatic sys, only used 1 winter, bought for \$48, will sell for \$30. May x3-6862.

Hewlett-Packard, HP-42S RPN scientific calculator, new cond, \$40. Call 776-6384.

Ford Fairmont, '80, 66K, \$400; Mac Plus w/o HD, \$150; Sony TV, \$150; 3-sp bike, \$30; carseat, \$15; a/c, \$100; golf set, \$20; cmprtrmon, mnchrw/CGA sim, \$30. Negot. Jim x3-3898 or 577-1155.

Sony CD boombox w/cass, AM/FM, like new, \$80 or bst; Beyer vocal mic (new \$155), \$75. Molly x3-7441.

Full range Electronic Instrument tuner, \$30; metronome, \$25; electric guitar & soft case, \$200. Guy Oliveira, Draper x8-4217 or 324-4146.

ANIMALS

2 abandoned cats, friendly, 1M & 1F, approx 1/2 yrs old, nd gd homes. Andrea x3-5831.

VEHICLES

1982 Chrysler New Yorker Park Ave., runs gd, AM/FM, pw, must see, \$500. Tommy 387-5044 aftr 6pm.

1984 Ford Thunderbird V6, white, 68K, gd cond, v reliable, \$2100. Dominique x3-0071 or x5-9834.

1986 Winnebago 26' Class C motorhome, only 28K miles, Michelin trs, many extras, well cared for & v clean, askg \$15,900. Call x3-2593 or 963-0304.

1986 Nissan 300ZX turbo, looks & runs almost like new, 1 careful ownr, loaded: T-tops, leather seats, phone, etc., pewter gray, must sell soon, askg \$6200. Adriana x8-8532 or 245-5000.

1987 VW GTI, black, 5-sp, 77K, a/c, alarm, pull-out Blaupunkt stereo, new tires & rims, mint cond, moving, \$4800 or bst. John, Draper x8-4409 or 776-6384.

1988 VW Fox, spt package, 5-sp, 4 drs, alloy wheels, AM/FM, 41K, esc cond, orig ownr, \$3700. Shahin x3-5519 or 524-3466.

HOUSING

Allston: right across the river, lrg 2BR in Vict home, quiet, secure 2nd-fl apt, prkg avail, 10 min from MIT, on bus line, \$850/mo. Rita x3-3931 or 254-0290.

Arlington Ctr: Air-cond htd 1BR, completely furn condo, all utils, linen, prkg, security, vw of Boston skyline & Spy Pond, avail 1/1, \$925/mo. Bill x3-6249 or 769-4882 eves.

Bermuda: luxurious 2BR cottage at St. George's Club, St. George, pools, tennis, oceanside golf, accomodates 6, last wk in March. Ken, Linc x5702 or 603-432-4516.

Malden: 5-rm apt, lg spac K, LR, porch, deck, remod bath, laundry, refrig, quiet, pking, nr T, avail now. Call 324-7687 lv msg.

Newton Corner: 2BR, 5th fl, mod condo, a/c, outdr pool, saunas, balc, indr garage, on T & express bus, conv to Hvd Sq/MIT buses, ht/hw incl, avail immed, \$995/mo. Call 617-923-1333 bef 10pm.

New York City: Enjoy the holidays in NYC, lovely Upper East Side apt, lrg 1BR apt in safe, quiet nbrhd, conv loc, non-smkrs only, ref & dep req, time & price flex. Nancy 212-744-6997.

Somerville: completely furn studio on Red Line at Davis Sq, short lease okay, 4 months minimum, avail Dec 15 or Jan 1, \$850 incl utils, laundry, cable, prkg. Call 625-8847.

Prime office space, ideal for pvt business person or writer, next to MIT & T, open vw of river & trees, p.c.'s, phones, fax, to share w/consultant/MIT staff person, priv, \$195/mo. Call 864-5555.

WANTED

Macintosh System 7 software programs and/or games. Tony x3-3922.

Rent-control 1BR apt wanted. Need to break your lease? Maybe I can help. Linda x8-7040.

Legos, construx building toys, Nintendo tapes. John x3-0831 or 508-683-0825.

Tape wanted that I could copy of PBS show on de Gaulle and France that aired Mon., Nov 30. Elizabeth x8-5402.

Housesitter wanted for period of Jan 7-27, care of 2 cats & plants, quiet house nr bus to Hvd Sq, no smokers. Alfred 646-8618 or lv mssg.

Used, basic optical microscope wanted. Willa Michener, x5-6205.

Experienced upholsterer needed to make slipcovers for 6' sofa, salary negotiable. Call 876-0302 aftr 11:30am.

ROOMMATES

Arlington: 2 rms avail immediately: mom/child seek to shr lrg apt, w/d, prkg, nr transp. 3 options: 2 rms \$433+; 1 rm \$350+; or 1 rm \$150+ & 15 hrs/wk childcare. Call x3-4063 or 648-5134.

Cambridge: skg 1 quiet roommate to shr apt, right across from Galleria, BR & priv bathrm, 24-hr sec, avail now. Call 621-3984.

Davis Sq: sublet share of apt for Jan, Feb, Mar & perhaps Apr, nr Red Line T, rent negot. Leslie x3-2690 or 625-7207.

CARPOOL

Carpool Andover (Route 125) to MIT. Leave Andover 7:30am, leave MIT around 5pm. John x3-0831 or Micky x3-8478.

LOST AND FOUND

Found: Huffy bike. To claim call w/description. Call 625-8847.

MISCELLANEOUS

Editing, word processing, IBM-PC WP-5.1, 15 yrs exp w/preparation of theses and papers. Marie x3-3490 or 547-1311.

Housecleaning services at your convenience. If you don't have time in your busy day for housecleaning, I can do it for you. Good references. Stephanie 617-776-6247.

PROMOTION

Griffin to Direct Magnet Laboratory

Professor Robert G. Griffin, a physical chemist widely respected for his work in solid-state nuclear magnetic resonance (NMR), has been appointed director of the Francis Bitter National Magnet Laboratory (NML) where he has been a staff member since 1972 and associate director since 1989.



Griffin

The appointment was announced by Professor J. David Litster, MIT's vice president and dean for research.

As associate director of the NML, Professor Griffin, a member of the Department of Chemistry, has had special responsibility for the laboratory's activities in NMR.

Professor Griffin holds a BS in chemistry (1964) from the University of Arkansas and a PhD in physical chemistry (1969) from Washington University-St. Louis. He did his postdoctoral research in physical chemistry at MIT with Professor John S. Waugh. After completing his postdoctoral training in 1972 he assumed a staff position at the Magnet Lab. In 1984 he was promoted to senior research scientist, a position he held at the time of his appointment to the faculty in 1989.

Professor Griffin has published

more than 175 articles concerned with magnetic resonance methodology and applications of magnetic resonance to studies of the structure and function of a variety of chemical, physical and biological systems. He has served numerous advisory and review panels for the National Science Foundation and the National Institutes of Health. The quality and productivity of his research effort was recognized in 1990 with a National Institutes of Health Merit Award. Earlier this year he was chosen to be the R.W. Vaughn Lecturer by the Rocky Mountain Spectroscopy Society.

Professor Griffin, 50, a native of Little Rock, Ark., succeeds Professor Litster as director of the Magnet Laboratory.

TAKING LICENSE

Preston, Nelson Are Promoted

John T. Preston, director of MIT's Technology Licensing Office (TLO) since 1986, has been named director of technology development, a new position in the office of the vice president for research.



Preston

Lita L. Nelson, associate TLO director since 1986, has been named director.

The promotions, effective December 1, were announced by Professor J. David Litster, vice president and dean for research. "In 1986, MIT made a fundamental change in the mechanism by which it moves its technology to society through the marketplace," Professor Litster said. "The name of the office was changed—from the Patent, Copyright and Licensing Office to the Technology Licensing Office—to reflect a new focus on function, rather than on the instruments

used in carrying out that function.

"The TLO has enjoyed great success. MIT, over the last several years, has consistently led the nation's uni-

versities in the number of technologies patented and the number of licenses issued. We do this to transfer intellectual property to American companies, rather than to make money. However, last year the TLO provided enough resources to the Institute to establish three endowed professorships," Professor Litster said.

This administrative change, Professor Litster said, reflects the evolution of the operations of the TLO. While maintaining his interest in the function of the TLO, Mr. Preston devotes major efforts to seeking appropriate commercial outlets for innovations flowing from the work of MIT researchers.

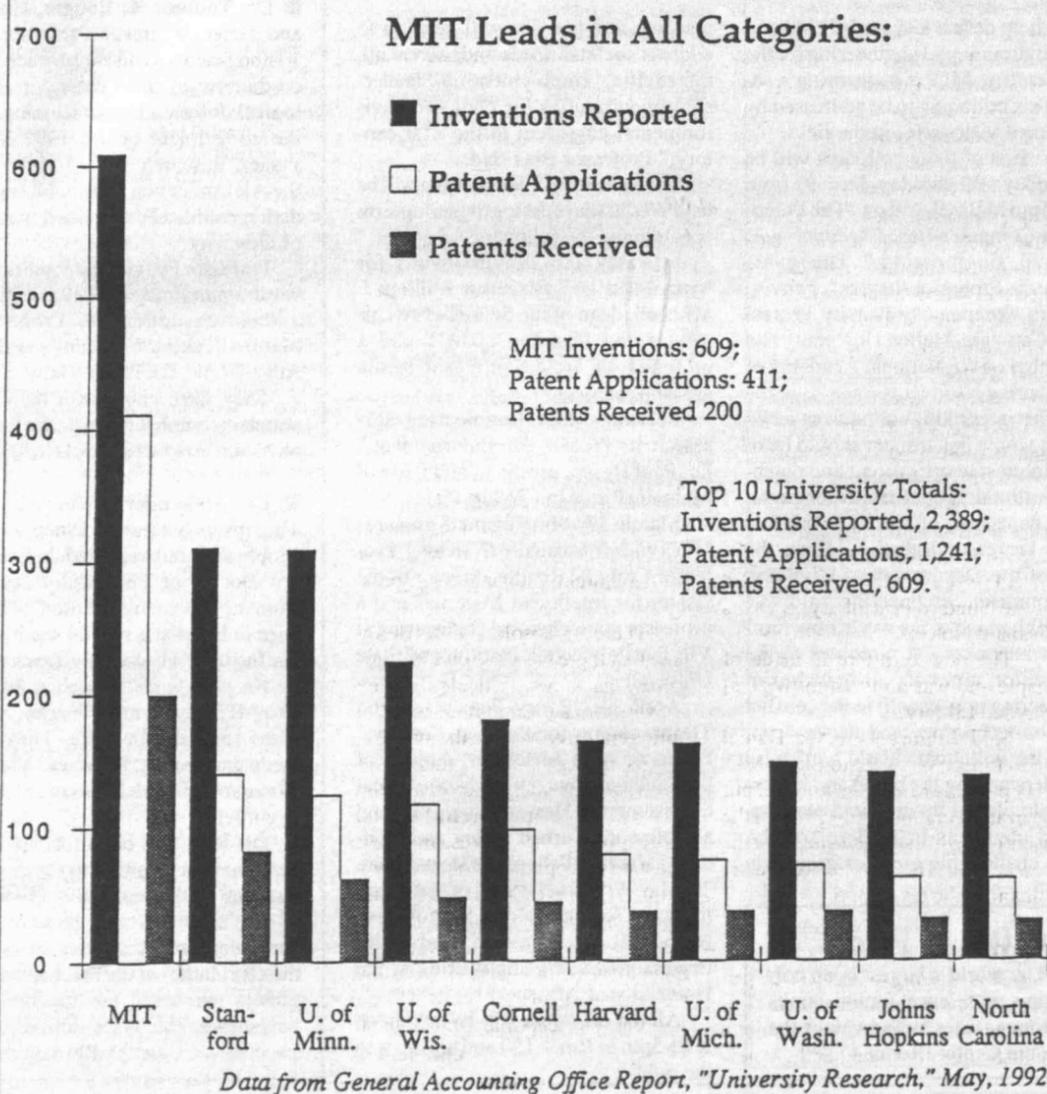
Ms. Nelsen, accordingly, will have responsibility for the day-to-day operations of the office, which has a staff of 20, and will continue to focus on license agreements and start-up efforts.

Mr. Preston holds the BS in physics from the University of Wisconsin (1972) and a master of management degree from Northwestern University (1976).

Ms. Nelsen holds the SB (1964) and SM (1966) in chemical engineering from MIT and the Sloan Fellows SM (1979) from the Sloan School.

Both Mr. Preston and Ms. Nelsen have significant experience with industry and product development. He was an MIT Industrial Liaison Officer from 1977 to 1983 when he left MIT to co-found Visual Communications Network, Inc., which pioneered personal computer graphics software. She was president from 1984-86 of University Seminar Center of Boston, developer of professional development seminars, and before that was vice president-operations at Applied Biotechnology, Inc.

The 10 Most Inventive Universities, 1989 & 1990



Here & There

■ His new textbook about the connections between science and the humanities, *Great Ideas in Physics* (McGraw-Hill, Inc.), has gained Dr. **Alan P. Lightman**, professor of science and writing, national attention in such publications as *Newsweek* and the *Chronicle of Higher Education*.

The latter describes the book as tailored for the non-scientist, interspersing "basic principles of physics with excerpts from the works of Adams and Hume as well as Immanuel Kant, Edgar Allen Poe, and Vladimir Nabokov." The *Chronicle* notes that the book is among the first to adopt some of the recommendations made by educators seeking to make introductory science courses more interesting and effective.

Dr. Lightman, head of the Program in Writing and Humanistic Studies, received a doctorate in physics from the California Institute of Technology in 1974. Among other books, he has written two graduate-level physics texts and two collections of essays on the human side of science.

"The humanities is the way you make the science stick," Dr. Lightman told the *Chronicle*. "When a new subject is put on your plate and you have no way of relating to it, there's much less chance you'll get interested and learn it than if it comes with connections to things you already know and love."

As described by the *Chronicle*, his book concentrates on four major areas: the conservation of energy, the second law of thermodynamics, the relativity of time, and the wave-particle duality of light.

Explains the author:

"They're all landmark ideas in physics. In the scientific domain these are like the paintings of Rembrandt and the plays of Shakespeare..."

"A lot of courses for non-scientists try to give...a taste of everything. If you give students a little bit of a lot of ideas, 10 years later they don't remember anything. My book focuses on giving them a small number of big ideas—and not just hitting them with facts."

■ Speaking of books, **Constance A. Bean's** most recent, *Women Murdered by the Men They Loved*, was published recently by Haworth Press. Ms. Bean was coordinator of health education for the Medical Department from 1978 to 1990.

■ As the **MIT Libraries** go modern with a computer-based catalog, they have been making friends in surrounding communities by donating their old wooden card-catalog containers to area libraries that are not yet automated.

Recipients to date are the Gordon Conwell Seminary, Carver Public Library, Merrimac Public Library, Bacon Library in Natick, Meekins Library in Williamsburg, Winthrop Public Library, Boston Fine Arts Museum, Nahant Public Library and Cape Ann Historical Society.

A typical reaction was reported in the *Sunday Post* of Lynn, in its "Nahant Notes:"

"The new furniture is made of maple and was a gift from [MIT's] Hayden Library.

"Said Library Director Daniel deStefano: 'We want to thank MIT very publicly to let them know of our deep appreciation. I hope that all the users of the library come in to see the new catalog. This new catalog greatly enhances the decor of the lobby...'"

QUOTES:

"This is going to become the primary channel through which children acquire knowledge. It is not a realistic question whether these new

media will be there [in the homes and schools of the future]. They will be there. The question is how we will use them." —Dr. **Seymour A. Papert**, professor of education and media technology and LEGO Professor of Learning Research, on the new "edutainment" products that represent a fusing of education and entertainment through electronic technology, in *The Boston Globe*.

"It's a way to get people [that] management wants to get." —Dr. **Gary T. Marx**, professor of sociology, on the reported practice by some businesses of using sick-leave investigations to drive off unwanted workers, in *The New York Times*.

"If you can build a new technology, you must do it. If you can get a fax machine, you must. Then you carry it to the next step. If you can get an instantaneous reply, you must. It's a matter of people keeping in mind that they're people, not machines, and they shouldn't try to act like machines." —Dr. **Thomas B. Sheridan**, professor of engineering and applied psychology, on how technology creates ever-busier lives, in *Boston Magazine*.

"This is the killer technology for the regulated local loop. If long-distance companies can compete for local access, why can't local telephone companies compete for long-distance access?" —**W. Russell Neuman**, research affiliate at the Media Lab and Edward R. Morrow Professor of International Communications at Tufts University's Fletcher School, on the proposed AT&T-McCaw cellular telephone alliance and its effect on telecommunications competitiveness, in *The New York Times*.

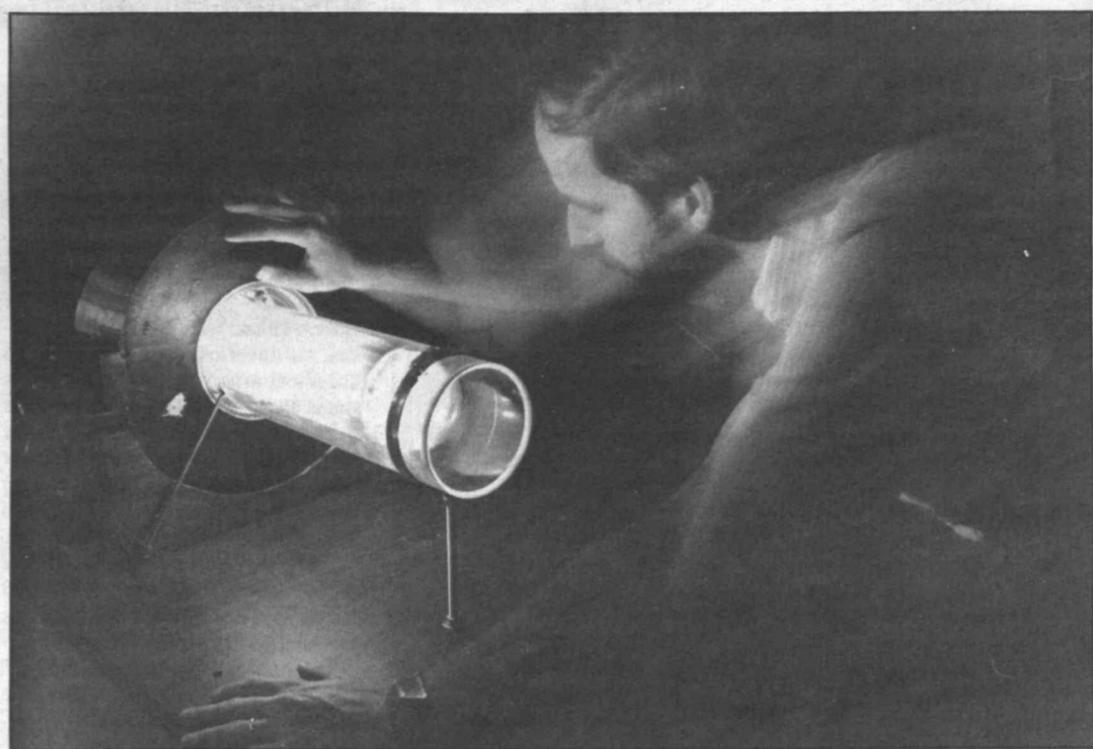
"I think Clinton has the right idea for the long run. It's almost a tautology to say the answer to the long-run economic problem is investment. What is not tautology is to say that the answer to the long-run problem is investment in many more forms than we usually think about." —Dr. **Robert M. Solow**, Institute Professor and professor of economics, on President-elect Bill Clinton's economic plan, in *The Wall Street Journal*.

"Everyone knows that useful economic discussion doesn't take place in fancy conferences. It's much better when you bring down sets of people in less formal situations for give-and-take sessions." —Dr. **Paul R. Krugman**, professor of economics, on why President-elect Clinton preferred informal meetings to an economic "summit," in the *Boston Herald*.

"These are all measures the drug companies love. Not that they are bad, but certainly they are what the pharmaceutical companies have sought for a long time." —Dr. **Peter Temin**, professor of economics, on regulatory relief granted to drug companies by the White House Council on Competitiveness, in an interview for the *Knight-Ridder Newspapers*.

"There is absolutely no doubt now that there is a gene on Chromosome 9 that plays a critical role in the activation of a melanoma. It isn't the only gene involved in the disease, but its role is clearly crucial and that's an extremely important discovery." —Dr. **Nicholas C. Dracopoli**, principal research scientist in the Department of Biology's Human Genome Center, on the discovery by scientists at MIT and the University of Utah of the approximate location of a gene responsible for making members of certain families highly susceptible to melanoma.

Charlie Ball



PLASMA DEMO—Graduate student Mitch Crosswait of nuclear engineering used this "plasma demo" to show how magnets can be used to confine plasmas (high-temperature mixtures of charged particles critical to nuclear fusion) at the Plasma Fusion Center's annual High School Outreach Day last Friday. A total of 60 students and 30 teachers from all over Massachusetts attended the event, which featured a variety of other demonstrations, talks and tours. These included a trip to the Plasma Lab and a talk on cleaning the environment with plasmas.

Photo by Paul Rivenberg

ALUMNUS RETURNS

Astronaut Talks About Space Program

■ By **Elizabeth A. Thomson**
News Office

At a recent talk titled "Thoughts on the Space Program" astronaut William M. Shepherd stressed the importance of manned space missions, described what it's like to be in space, and answered a variety of questions from his audience including several on how one becomes an astronaut.

Mr. Shepherd, who is a captain in the United States Navy, received two degrees from MIT in 1978 (the SM in mechanical engineering and the OE, or ocean engineering, in ocean engineering). He has spent more than 400 hours in space, and has flown on three shuttle missions—most recently the one on Columbia a little over a month ago.

During his talk Captain Shepherd discussed the importance of the space shuttle and of manned space missions in general. For example, he noted that the shuttle is used to "observe and study the earth—its geology, its weather, its oceans—and is also a tool to send probes to distant planets [and] create new materials, medicines and processes." In addition, he said, it "could help provide for a lunar base, and perhaps a voyage to Mars and beyond."

Captain Shepherd gave specific examples of shuttle experiments while narrating a movie of his latest mission aboard Columbia. For example, he said, during that flight the astronauts sent up a satellite to measure continental drift. The data from the satellite "could perhaps help us learn more about plate tectonics, which could [in turn] give better models to predict earthquakes."

Later, however, one member of the audience asked Captain Shepherd how he felt about taking the risks involved with certain procedures that could be completed with unmanned boosters. Captain Shepherd responded: "[As astronauts] we've made a commitment to operating in space, and although I don't want to be on a mission that doesn't come back, part of being in this enterprise is [doing things analogous to] carrying the mail and doing the windows."

Also during the movie Captain Shepherd talked about what it's like to be in space. For example, he said that "being in space is just like being in a pool without any water," and noted that, for him, one of the best parts of being on the shuttle is simply "looking out the window." (The movie showed the view from the shuttle of the western US to Florida, and the greens and blues

of the Bahamas.)

On the subject of manned missions in general, Captain Shepherd said that NASA's present objective is "to take man first to permanent orbital bases then, in measured steps, to Mars."

Manned voyages, he said, "are essential to understanding the solar system and also for stimulating our economy and industrial competitiveness." He noted that when President Kennedy announced the goal of getting a man to the moon, "much of the technology needed to [do so] didn't yet exist."

Captain Shepherd concluded: "I...feel that Apollo to the moon was a crucible of our national commitment, [and] exploration is a forge of our technology."

During a question-and-answer session Captain Shepherd addressed how one becomes an astronaut. He noted that "being a generalist is a strong background for anybody who wants to do this," and said that the current demand for strong engineers "will be even greater in the future." (He noted that right now materials science is a hot area.)

He also stressed that more women should apply to become astronauts. "It's a great opportunity for women, but [right now] few are beating down our door from the engineering areas," he said.

One student asked him to address how competitive it is to be selected for

the astronaut program. Captain Shepherd replied that when he first applied in 1980, 5,000 other people did too. Of those 19 were chosen. "I got interviewed and thought I'd done well, but I didn't make it," Captain Shepherd remembered. The next time he applied there were 4,000 other applicants, 17 of whom were chosen. This time he made the cut.

"Being an astronaut is a great goal to shoot for," Captain Shepherd said, but he stressed that there are many other jobs related to the space program. For example, he said, "we have 12,000 people working in Houston on engineering, flight dynamics, flight control, [and more]."

As might be expected, the Challenger tragedy was also raised. "Challenger has often been used as an example of unethical behavior by engineers. Could you comment on that?" one audience member asked. Captain Shepherd responded, first, that he has never met anyone in the space program with malicious intents, but said that "I think there can be a technical complacency and arrogance that can lead to serious problems, and we had some of that in the Challenger era."

He concluded: "the bottom line is that there is no reasonable way to ever take the risk out of what we're doing."

Captain Shepherd's talk was sponsored by the Department of Mechanical Engineering through its Distinguished Alumni/ae Lecture Series.

IN MATHEMATICS

Collins Fund Established

A Midwest investor who had a lifelong interest in mathematics and a high regard for MIT has established through a trust the Robert E. Collins Mathematics Professorship Fund in the Department of Mathematics.

The purpose of the fund is to provide faculty support in the department for a professor whose work reflects creative and innovative thinking and, eventually, to establish a chair.

"We are most appreciative of the late Mr. Collins' thoughtful and substantial gift to mathematics and to MIT," said Professor David J. Benney, head of the department. "His support is especially welcome given the current climate in which traditional sources of support are revising

their priorities."

Mr. Collins, who died September 5, 1991, was not an alumnus of MIT and did not attend any other college or university. He was a very successful investor and his long interest in mathematics led him to an appreciation of the work in that field at MIT.

The department, widely considered to be among the top two or three best in the country, has 74 faculty members who teach and do research in both theoretical (pure) and applied mathematics.

The international award in mathematics (a Nobel Prize is not given in this discipline) is the Fields Medal. Only 24 have been awarded in the last 45 years and two of these have gone to members of the MIT mathematics faculty.



AT THE LIST—Photographer Benson Wen, '93, took this shot of *Mes Voeux* (My Vows) being installed. The work, which is part of the exhibit *Corporal Politics*, was completed in 1990 by Annette Messenger.

Corporal Politics Opens

(continued from page 1)
content. The LVAC exhibition, which examines the use and prevalence of the body fragment in contemporary art, had already been recommended for a grant of \$10,000 by the NEA's Special Exhibition panel (a "peer-review" panel of national arts experts) and an NEA advisory board.

Curated by Helaine Posner of the LVAC, "Corporal Politics" features the work of internationally known contemporary artists Louise Bourgeois, Robert Gober, Lilla LoCurto, William Outcault, Annette Messenger, Rona Pondick, Kiki Smith, and David Wojnarowicz. Ms. Posner was inspired to create the exhibition by what she calls "the striking preponderance of the body fragment as a highly charged metaphor for psychological, social, political and physical assaults on the individual."

In "Corporal Politics," she says, the artists' renditions of isolated body parts and limbs, internal organs and bodily fluids "emphasize the vulnerability of our bodies and serve as the site for the investigation of some of our most urgent contemporary concerns including sexism, sexual identity, reproductive rights, homophobia, social inequity, brutality, disease and death." Works include Robert Gober's half-male, half-female torso made of beeswax and human hair, Kiki Smith's 230 six- to eight-inch representations of sperm cast in lead crystal, and Rona Pondick's "Milk," a creation of multiple breast-forms from "baby bottles."

Ms. Radice's rejection of the LVAC's grant application on May 12, 1992, set off a storm of local and national protest from arts organizations, individuals, and NEA panels themselves, and attracted national media attention. Boston's Beacon Press refused a \$39,000 NEA grant in protest of the decision; the Boston-based rock group Aerosmith contributed \$10,000 to the LVAC to replace the vetoed NEA funds; and New York playwright Jon Robin Baitz donated the equivalent of half his \$15,000 NEA award to the LVAC. One NEA peer-review panel suspended its proceedings in protest of Ms. Radice's move, while another resigned after requesting, unsuccessfully, that she explain her decision.

Protesters of Ms. Radice's decision accused her of undermining the peer-review process, violating the NEA's own ruling against content restriction, and bowing to political pressure from the Bush administration. Associate Provost for the Arts Ellen Harris and President Charles Vest spoke out against Ms. Radice's action, with Dr. Vest calling for "the free investigation of ideas, coupled with merit review by panels of experts" in "maintaining the intellectual and artistic quality and integrity of work supported by agencies such as the NEA."

This summer, the List Visual Arts Center joined Virginia Commonwealth University's Anderson Gallery and the Arts Action Coalition in petitioning the National Council for the Arts to consider the impact of Ms. Radice's actions on the peer-review system, to reconsider her rejections of the MIT and VCU grant applications and offer a full explanation of her grounds for rejection, and to discuss the merits of a formal appeals process for unsuccessful applications. The grant rejections were not reversed, but a motion to create a review process committee was passed. Following the recent presidential election, Ms. Radice announced that she would resign her position at the end of January, 1993.

Accompanying "Corporal Politics" is a fully illustrated catalogue published jointly by the LVAC and Beacon Press. Available at the LVAC and local bookstores, the catalogue contains an introduction by poet Donald Hall (a member of the National Council on the Arts) addressing the NEA controversy, with essays by Ms. Posner and cultural historian Thomas Laqueur.

Ms. Posner, who came to MIT in the spring of 1991, said that when she began to develop the idea for the exhibition that summer, she would never have predicted the flurry of controversy and press attention that has come in recent months. LVAC Director Katy Kline adds, "We've received terrific support from MIT and from many artists and art-lovers around the country. We're glad that the works in "Corporal Politics" which were frequently sensationalized by the press, sight unseen, will finally have a chance to speak for themselves."

PHOTOGRAPHY PROJECT

First List Arts Fellowship Awarded

Malay Kundu, a junior majoring in electrical engineering, has been awarded the first List Foundation Fellowship in the Arts to support a photography project entitled "India: Visions of the Unseen." Mr. Kundu, a resident of Burton House from South Bend, Indiana, will travel to Calcutta during IAP to document aspects of life in the city's slums and several remote villages. His work will culminate in an exhibition at MIT addressing what Mr. Kundu calls "the indigenous strengths and values which allow the people of Calcutta to transcend the barriers of oppression."

"Much of the work done in India by the photographers of the western world has looked upon her people solely as the victims of terrible poverty, overpopulation, and political corruption," says Mr. Kundu, who has visited the country several times. "I have discovered, however, that even as victims the people maintain strength and vitality both within themselves and in their relationships to each other." He emphasizes that the intention of his project is "not to hide poverty, but rather to explore the ways in which people are still able to transcend the

conditions which bind them."

Mr. Kundu says he received special inspiration for the project from his volunteer work last summer with five- to seven-year-old children in Calcutta and surrounding villages. Working through one of the city's missions as their first "outside" volunteer, Mr. Kundu sparked their interest in science by teaching them simple scientific concepts in the form of "magic" tricks, and taught them the Bengali alphabet. "I became very well acquainted with the children and some of the parents," he said, "and saw many things to be discovered in these people that I feel the rest of the world has ignored."

Mr. Kundu studied photography last year with visiting professor Baldwin Lee, and has photographed for *Technique*. He also received an Honorable Mention in the 1992 Edgerton/Mili photo contest. "Malay impressed the panelists with his skill as a photographer, empathy with his subjects, and personal commitment to his vision," said Maureen Costello, who has overseen the development of the fellowship program in her position as Director of Special Programs in the Office of the

Arts. "I am delighted that he is the first recipient of this significant award, and look forward to the contribution that his project will make to the MIT community." Installation of the exhibition is scheduled for May of 1993.

Established with support from the Albert A. List Foundation, the List Fellowship was created "to encourage a broad range of artistic endeavor and to further cultural investigation, affirmation and understanding through the arts by supporting students of color in their exploration of traditional and non-traditional art forms." The fellowship awards up to \$5,000 annually to one MIT undergraduate and/or graduate student to support the year-long pursuit of a project in the performing, visual, or literary arts. A mentorship program for students to work with established artists of color is also being created.



Kundu

PhD Program Begins at HST

(continued from page 1)
professor of physiology in the Harvard Medical School's Department of Otolaryngology. He directs the Eaton-Peabody Laboratory of Auditory Physiology at the Massachusetts Eye and Ear Infirmary and is a neurophysiologist at the Massachusetts General Hospital.

There are more than 250 graduate programs in the United States related to speech and hearing, but almost all of them are geared to training paraprofessionals, such as audiologists or speech pathologists, Dr. Kiang points out in explaining the need for the new MIT-Harvard program. "There are no programs, except our new one, geared specifically to train scientists and engineers to do the basic research from which will flow the work of the practitioners" he says.

"Boston and Cambridge have the largest concentration in the nation of scientists studying hearing and speech, and most of them came into the field adventitiously through their research interests. That is, they didn't start their careers with this field in mind, but were led to it as their work unfolded."

The new program's goal is to create

a core of researchers specifically and systemically trained in the speech and hearing science. As graduates of the program move into research positions in academia, medicine, industry or government, they will attract colleagues and students to the growing ranks of scientists and engineers focusing on these particular problems.

The program is currently seeking an associate professor in speech and hearing sciences and will soon place ads in college newspapers to recruit new students. Students will receive full tuition and a stipend for four years under the NIH grant and through private donors. After the fourth year, students will be supported by the research laboratories in which they will be doing their thesis work.

The curriculum calls for students to be introduced at the outset to a variety of research laboratories that take different approaches to studying speech and hearing sciences. Eventually each student will select a research advisor and a project that will form the basis of a PhD thesis. Among the disciplines represented by the faculty are electrical engineering, computer science, anatomy, physiology, cellular and de-

velopmental biology, neurosciences, neurochemistry, cognitive sciences, linguistics, genetics, otolaryngology, pathology, and neurology.

Among the subjects specially developed for the program are:

1) Research Methodologies in Speech and Hearing. 2) Acoustics of Speech and Hearing. 3) Anatomy of Speech and Hearing. 4) Signals and Imaging. 5) Physiology of the Ear. 6) Speech Production and Linguistics. 7) Auditory Perception. 8) Central Auditory Processing. 9) Clinical Aspects of Speech and Hearing.

Students are required to pass a general examination covering the material in these courses and to qualify as well in some other discipline such as physics, electrical engineering, genetics, chemistry of medicine.

The application deadline is January 15 although late applications will be accepted up until the admissions committee meets in February. For more information, contact: Keiko Oh, Harvard-MIT Division of Health Sciences and Technology, x3-1445 or Professor Kiang, Eaton-Peabody Laboratory, Massachusetts Eye & Ear Infirmary, 573-3745.

W.H. Gray to Speak at King Day

(continued from page 1)

Mr. Gray has been a faculty member and professor of history and religion at St. Peter's College, Jersey City State College, Montclair State College, Eastern Baptist Theological Seminary and Temple University.

He was elected to the House of Representatives from Philadelphia in 1978 and became the first black member of Congress to hold a position in the House leadership. He played a key role in implementing economic sanctions against South Africa as the author of the 1985 and 1986 sanction bills. As Budget Committee chairman for four years, Mr. Gray was the point person in budget negotiations between Congress and the Reagan Administration.

At the United Negro College Fund, America's oldest and most successful black fund-raising organization, Mr. Gray is overseeing a \$250 million capital campaign.

Mr. Gray holds a BA from Franklin and Marshall College (1963), a master's in divinity (1966) from Drew Theological Seminary and a master's in theology (1970) from Princeton Theological Seminary.

A native of Baton Rouge, LA., he lives in Reston, VA., with his wife and their three sons.

The Martin Luther King Jr. weekend at MIT will feature a free concert in Kresge Auditorium at 7 p.m. Saturday night by the nationally-known jazz vocalist Semanya McCord, who also sang here at the 1992 MLK celebration. Ms. McCord, formerly of Somerville and now of New Bedford, titles her show, "Journey Into a Dream—A Musical Tribute to Martin Luther King Jr."

Another aspect of the teaching of Rev. King will be featured at the MIT Community Fellows Program's annual Martin Luther King Jr. weekend Youth Conference. It is expected to attract about 300 young people from the Greater Boston area for workshops, a showing of a documentary film on Malcolm X, and live entertainment. Detailed information is available by calling the Community Fellows Program at 253-3216.

Melvin H. King, adjunct professor and director of the MIT Community Fellows Program, said the theme of the conference is "Revolution: The Untold Story" of Rev. King. Registration will begin at 2pm Friday, Jan. 15, at the Stratton Student Center. It will start at 2:30 with a workshop for educators, organizers and youth program staff entitled, "Programs and Leadership for Youth Empowerment." The new president of Bunker Hill Community Col-

lege, C. Scully Stikes, will participate in the panel discussion.

The Friday evening session will feature a film and discussion, and live entertainment beginning at 8:30pm. On Saturday morning, the session will begin at 10:45 and feature the showing of a documentary on Malcolm X, which was made before the current film directed by Spike Lee.

Two Saturday noon-time workshops will discuss "Labels and Stereotypes" and "Redefining Violence: Who is your real enemy?" Afternoon workshops will be held on "Breaking the Cycle of Prejudice," "Black History—One Month Is Not Enough," and "Relationships." The conference will conclude with a panel discussion at 4pm on "Youth Taking Our Power."

Labor Interviews

The United States Department of Labor is currently on campus conducting a routine equal opportunity/affirmative action compliance review. Any employee who wishes a confidential interview with them may call the Regional Office Bulletin Board at (617) 565-2155 and leave a message during normal business hours (8:30am-5pm), to schedule an appointment.

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.

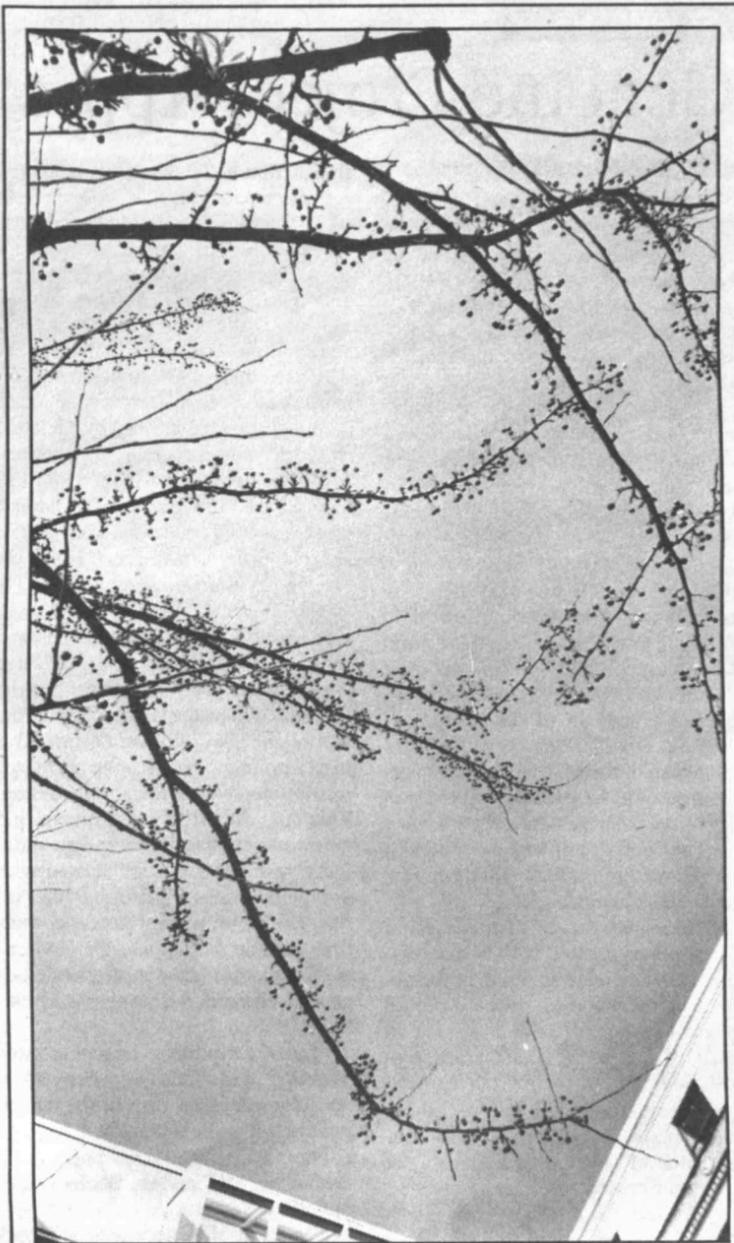
Ms. Baddour's accomplishments include 27 national and international world speed records, set with other women pilots on flights from Hanscom to Switzerland, Italy and elsewhere. She also has entered and won several air races throughout the nation. She has held advisory positions with the FAA (in 1990 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**



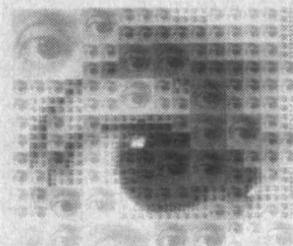
WINTER PATTERNS—Branches create patterns against the sky framed by the roofs of Sloan School Buildings. **Photo by Donna Coveney**

GREAT GIFT IDEAS FROM THE MIT PRESS

HUGE HOLIDAY SAVINGS

Seasons' Readings

- * **20% OFF** new MIT Press publications with this ad (does not apply to sale books, one time per customer, expires 1/9/93)
- * Extra bargains in hurt books
- * Unadvertised specials on gift books
- * Reminders from other presses at great prices



THE RECONFIGURED EYE

Visual Truth in the Post-Photographic Era
William J. Mitchell
Mitchell comments on the accepted ways of making distinctions between visual fact and fiction, and shows why photo-journalists and others who rely on the acceptance of photographs as objective records are justly nervous.
275 pp. 55 b & w illus., 30 color illus., 25 line illus., \$39.95

SHIRT

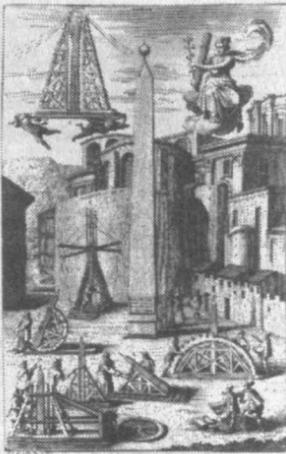
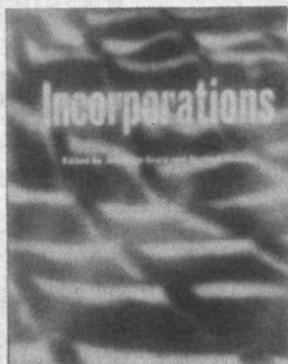
The reconfigured eye from the cover of the book (above) is screened beautifully in full color on a heavy-weight 100% cotton tee, short & long sleeve.
L & XL only. Tee \$12.95, Long Sleeve \$16.95. (half off with purchase of the book). An MIT Press Bookstore exclusive.

ZONE 6: INCORPORATIONS

edited by Jonathan Crary and Sanford Kwinter
This volume of Zone presents a diverse group of reflections and interventions on the inter-related problems of machine and organism within the context of twentieth-century modernity.
600 pp., 200 illus., \$34.95 original paperback.

Still available
ZONE 3 | 4 | 5 FRAGMENTS FOR A HISTORY OF THE HUMAN BODY

"A book of wonders..."
—City Limits
3 vols. profusely illus., \$32.95 ea, paper
Zone Books are distributed by The MIT Press.

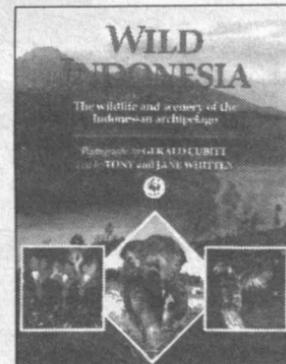


ENGINEERING AND THE MIND'S EYE

Eugene S. Ferguson
"...overflowing with ideas and insights. It is a book that will reward many rereadings."
—Henry Petroski, Duke Univ.
Ferguson takes a probing look at the process of engineering design. Despite modern technical advances, good engineering is still as much a matter of intuition as of equations and computation.
256 pp., 106 illus., \$24.95

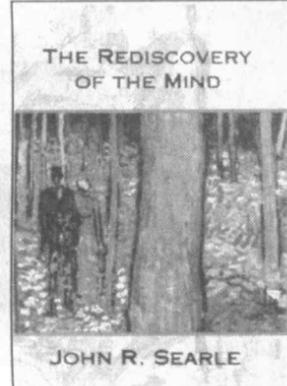
WILD INDONESIA

The Wildlife and Scenery of the Indonesian Archipelago
Tony and Jane Whitten
photographs by Gerald Cubitt
The Indonesian Archipelago consists of over 13,000 islands forming a grand link between Asia and Australia. This single country contains a wondrous diversity of natural features — vast rainforests and swamps, huge arid savannas, the largest collection of active volcanoes on earth, coral reefs, and even glaciers — and a rich variety of plant and animal life, including many species found nowhere else.
208 pp., 400 color illus., maps \$39.95 also in the same series, Wild India and Wild Malaysia \$39.95 each.



PIETÀ

George Klein
"George Klein's voice is sensitive, poetic, simple in a deep way. It is, ultimately, the warm voice of a man who is forever intrigued by life, who loves to decipher what he sees but who equally loves the undecipherable."
— Amos Oz
In Pietà, George Klein's latest collection of essays, this distinguished biologist, writer, Holocaust survivor, and humanist discusses subjects ranging from the misuses of science to the vital importance of art, music, and literature to surviving catastrophes like the Holocaust and AIDS.
304 pp., \$24.95



THE REDISCOVERY OF THE MIND

John R. Searle
"This book challenges the deepest assumptions of the 'cognitive science' movement. If Searle is right, we will have to revise our whole way of studying the mind. Even if he isn't, this is sure to be among the most controversial philosophical publications of the decade."
— Emie LePore, Rutgers University
A Bradford Book 304 pp., \$22.50

BUY UNICEF HOLIDAY CARDS, 1993 CALENDARS & CHILDREN'S BOOKS!
All proceeds benefit the United Nations Children's Emergency Fund

The MIT Press Bookstore
Kendall Square 292 Main Street Cambridge MA 02142 617.253.5249 Hours: M-F 9-7, Sat 10-6, Sun 12-6

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

Bargain Basement Prices

MIT Press

THE MIT PRESS

BOOK SALE ANNEX

A temporary store featuring a *fantastic* selection of *unbelievably low priced books* from The MIT Press, Harvard University Press, and other publishers.

55 Hayward Street Kendall Square Cambridge

(around the corner from The MIT Press Bookstore, across from the main Au Bon Pain's side exit)

OPEN 10-6 Mon-Sat 253.4707

WITH THIS AD, GET AN ADDITIONAL
20% OFF books price-tagged with October dates
10% OFF books price-tagged with November dates

Here's a sampling of hurt, out of print, and overstock MIT Press books on sale at prices too low to advertise

Kurzweil/*The Age of Artificial Intelligence*
Klotz/*A History of Postmodern Architecture*
Benedikt/*Cyberspace*
Krugman/*The Age of Diminished Expectations*
Leebaert/*Technology 2001*
Crimp/*AIDS: Cultural Analysis, Cultural Activism*
Raymond/*The New Hacker's Dictionary*
Zapf/*Manuale Typographicum*
Gerstner/*Forms of Color*
Boyd/*The Philosophy of Science*
Francis/*The Meaning of Gardens*
Ogilvie/*Women in Science*
Rumelhart & McClelland/*Parallel Distributed Processing*
Chomsky & Halle/*The Sound Pattern of English*
Ferguson/*Out There: Marginalization & Contemporary Culture*
Baynes/*After Philosophy*
ZONE 4: *Fragments for a History of the Human Body v 1*
Rosenfeld/*Neurocomputing*
Osherson/*An Invitation to Cognitive Science 3 vols.*
Forester/*Computers in the Human Context*
Haugeland/*Artificial Intelligence: The Very Idea*
Aalto/*Sketches*
Crafton/*Before Mickey*
LA County Museum/*The Dada & Surrealist Word Image*
Flink/*The Automobile Age*
Banham/*Scenes in America Deserta*
Laurentiev/*Varvara Stepanova*
Wallis/*Blasted Allegories: Artists Writings*
and hundreds more titles at amazing prices!

(a selection of these books is also available at the MIT Press Bookstore)

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

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.



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.

Institute Calendar

*-Open to public
**-Open to MIT community only
***-Open to members only

December 9 - January 10

■ SPECIAL INTEREST

Ceramics Sale*—Dec 9-10: Sponsored by the Student Art Association, Lobby 10, 9am-4:30pm.

Annual MIT Community Messiah Sing**—Dec 11: Scores will be available, but if possible, bring your own score. Refreshments will be served. Takes place at 3:30pm, Student Center Mezzanine Lounge. Sponsored by the Lutheran-Episcopal Ministry at MIT. Call x3-0108.

Explorations in Theoretical Physics**—Dec 11: Lectures in Honor of Francis E. Low, sponsored by the Laboratory for Nuclear Science, Bartos Theater. 1pm: "The Ultimate Free Lunch: Has the Universe Evolved From Nothing?" by Alan Guth. 1:30pm: "Getting to Know Your Constituents," Robert L. Jaffe. 2pm: "Strong Interactions," Kenneth Johnson. 2:30pm: Reception in the Atrium. 3:30pm: "Anomalies of Scale Symmetry," Roman Jackiw. 4pm: "Topological Excitation," Jeffrey Goldstone. 4:30pm: "String Theory: A New Perspective on Particle Physics," Barton Zwiebach.

■ SEMINARS & LECTURES

WEDNESDAY, DECEMBER 9

The Semi-Classical Theory of the Baker's Map**—Prof. Marcos Saraceno, TANDAR Laboratory, Buenos Aires. Quantum Chaos Seminar sponsored by the LNS, 10am, CTP Seminar Rm, Bldg 6, 3rd fl.

Quantum Well Laser Modulation Dynamics**—Kam Lau, Univ. of California, Berkeley. EECS/RLE Seminar Series on Optics and Quantum Electronics, 11am-12pm, Rm 34-401B.

Magnetic Monopoles in String Theory**—Dr. J.P. Gauntlett, Univ. of Chicago. Special Seminar presented by the LNS, 11am, CTP Seminar Rm, Bldg 6, 3rd fl.

Steam Condensation in the Presence of Noncondensables under Natural and Forced Convection Conditions**—Hisham Hasanain, MIT. NED Reactor Physics and Engineering Seminar, 2-4pm, Rm 24-115. Nuclear Engineering Department Doctoral Seminar.

Task and Contingency Planning under Uncertainty**—Vulkan Kubali, MIT. NED Reactor Physics and Engineering Seminar, 2-4pm, Rm 24-115. Nuclear Engineering Department Doctoral Seminar.

Fermion Creation by Gauge Fields with Non-Integer Change of Winding Number**—Dr. Valentin V. Khoze, MIT. Post-Modern Seminar sponsored by the LNS, 3pm, CTP Seminar Rm, Bldg 6, 3rd fl.

Computer-Based Technologies for Civil Engineering**—Steven J. Fenves, Carnegie Mellon Univ. Part of the "Designing the Future" Colloquium Series sponsored by the Dept. of Civil and Environmental Engineering, 3:30-5pm, Rm 9-150.

Thermal Conduction in Microelectronic Circuits**—Ken Goodson, Graduate Research Asst. Thermal Science Seminar, Dept. of Mechanical Engineering, 4pm, Rm 5-234. Refreshments, 3:45pm.

Quantum Mechanics and Group Character Formulas**—Prof. Orlando Alvarez, Berkeley & MIT. Joint Theoretical Physics Seminar sponsored by the LNS, 4:30pm, CTP Seminar Rm, Bldg 6, 3rd fl.

Tay or Dispersion in Anaesthetics: A Limitation in Information Transfer*—Prof. J.C.R. Turner, Univ. of Exeter. Macrotransport Seminar, 4:30pm, Rm 66-168.

Enterprise Forum*—Case Presentation: ASTeX, 6pm, Rm 10-250. Registration 5:30pm. Spotlight Series: "Consider the Human Factor," with Richard H. Beinecke, Brandeis Univ.; Virginia H. Spencer, Chipcom Corp., 7:30pm, Rm 10-250.

THURSDAY, DECEMBER 10

The Challenge of Changing the ATC Development Process*—Mr. Joseph M. Del Balzo,

System Operations, FAA. Flight Transportation Laboratory, 2-3:30pm, Rm 9-150.

Current Frontiers—A Personal Perspective**—Christopher Bretherton, Univ. of Washington. The last of seven Houghton Lectures on Marine Boundary Layer Clouds and Climate, sponsored by the Center for Meteorology and Physical Oceanography, 3pm, Rm54-427.

Artists' Colors and Newton's Colors**—Alan Shapiro, Univ. of Minnesota. Sponsored by the Dibner Institute for the History of Science and Technology, 3:30pm, Bldg E56, 38 Memorial Drive, Conference Room.

Automobiles and Air Pollution**—Prof. John B. Heywood, MIT. Sloan Automotive/Reacting Gas Dynamics Laboratory, 4-5pm, Rm 31-161.

Competition in the Communications Industry: Where the Financial Community is Placing its Bets*—Ronald Altman, Furman Selz; Joel Gross, Donaldson Lufkin & Jenrette; Jack Grubman, Paine Webber; Greg Sawers, Sanford Bernstein. Moderator: David Marsh, MIT. Communications Forum, 4-6pm, Bartos Theater.

FRIDAY, DECEMBER 11

Tropomyosin: Actin Binding Sites and Exon-Specific Functions in a Coiled Coil**—Sarah Hitchcock-DeGregori, Robert Wood Johnson Medical School. Dept. of Biology Cell and Molecular Biology Seminar, 12pm, Whitehead Auditorium.

Prototyping as a Medium for Coordination*—Michael Schrage. Friday Lunch Seminar Series, sponsored by the Center for Coordination Science, 12:10pm, Rm E40-170.

Explorations in Theoretical Physics**—See Special Interest, above.

Microwave Reflectometry and Laser Interferometry of Core-Fluctuations in Tokamak Plasmas*—Dr. R. Nazikian, Princeton Plasma Physics Laboratory. Plasma Fusion Center Seminar Series, 4pm, Rm NW17-218.

TUESDAY, DECEMBER 15

New Developments in Eye Laser Surgery and Diagnostics**—Carmen Puliafito, Tufts Univ. School of Medicine. Seminar on Modern Optics and Spectroscopy, sponsored by the George R. Harrison Spectroscopy Laboratory, Research Laboratory of Electronics, Schools of Science and Engineering, Plasma Fusion Center and Industrial Liaison Program, 11am-12pm, Rm 37-252. Refreshments following.

Precise Navigation and Control of Underwater Vehicles in the Deep Ocean**—Dana Yoerger, Woods Hole. Autonomous Underwater Vehicles Seminar Series, 12pm, Rm E38-300. Sponsored by MIT Sea Grant, Draper Labs, and the Dept. of Ocean Engineering.

WordPerfect User Group**—Coordinated by Information Systems, 12-1pm, Rm 12-142. Topic: Shareware for WordPerfect. For more info, please contact: Gail Garfield Neuman, Rm 11-221, x3-0878.

WEDNESDAY, DECEMBER 16

Microsoft Word (for the Macintosh) User Group**—Coordinated by Information Systems, 12-1pm, Rm 12-142. Topic: Refresher on Styles. For more info, please contact: Phyllis Crierie, Rm 11-306, 253-0736.

Applications of an Atmospheric Electrical Balloon Sounding Program Toward Study of Global Change**—Ralph Markson, MIT. Quasi-Biweekly Seminar Series sponsored by the Center for Meteorology and Physical Oceanography, 4pm, Rm 54-915.

FRIDAY, DECEMBER 18

Transcription of Human c-myc is Associated with Z-DNA Formation in Three Discrete Regions of the Gene**—Stefan Wolf, MIT. Dept. of Biology Cell and Molecular Biology Seminar, 12pm, Whitehead Auditorium.

■ COMMUNITY INTEREST

Alcoholics Anonymous (AA)**—Meetings every Tues, 12-1pm; Thurs, 12-1pm, Rm E23-364. For info call Alice, x3-4911.

AI-Anon**—Meetings every Fri, noon-1pm, Health Education Conference Rm E23-297; every Tues, noon-1pm, Rm 1-246; and every Mon, 12-1pm, Lincoln Lab Bldg 1218, Family Support Ctr. The only requirement for membership is that there be a problem of alcoholism in a relative or friend. Call Alice, x3-4911.

Alcohol Support Group**—Meetings every Wednesday, 7:30-9am, sponsored by MIT Social Work Service. For info call Alice, x3-4911.

Cancer Support Group**—Meetings every Thursday, 12-2pm, Bldg E51. For those with acute and chronic forms of cancer. Sponsored by the MIT Medical Dept. For information about weekly luncheon meeting, call Dawn Metcalf, Social Work Service, x3-4911.

Co-Dependents Anonymous (CoDA)*—Meetings every Thurs, 6:30-8pm, Rm 66-156. Info: Alice, x3-4911.

Drop-In Playgroup**—Ongoing, daily, Mon-Fri, 9:30-11:30am, Westgate Function Room. Sponsored by the MIT Child Care Office.

Figure Skating and Ice Dance**—Low-cost group lessons for students and other adult

members of the MIT community. Bring figure skates and warm clothing to the rink at 9am Saturdays (freestyle); for ice dance refer to the rink schedule board for time of Sat. dance session. Info: Sally 437-3317, 8-10:30am, 12:30-4pm.

MIT Gay, Bisexual, and Lesbian Employees (GABLES)**—Come to discuss and work on issues ranging from harassment to domestic partner policies. Join us for social lunches and events. For meeting info, call Stephen, x3-6736. To sign up for the staff lesbisgay e-mail lists, send e-mail to <gables-request@athena.mit.edu>.

Infant-Toddler Child Care Briefing**—Dec 10: Introductory discussion for expectant parents, those considering their first child, and those new to MIT or to child care. Preregistration required, call x3-1592. Led by Kathy Simons, Co-Administrator, MIT Child Care Office. 12-1:30pm, Rm 4-144.

Informal Embroidery Group**—MIT Women's League, 10:30am-1:30pm. Upcoming dates are: Dec 16, Jan 6. Meets in the Emma Rogers Room 10-340. Info: x3-3656.

Kundalini Yoga Classes**—Beginners welcome, bring something on which to sit. Meets Fridays Sponsored by the VSG (Vegetarian Support Group). More info: Andy Rothstein x3-2276 or <adrothst@athena>.

Narcotics Anonymous*—Meetings at MIT, every Mon, 1-2pm, Rm E23-364 (MIT Medical Dept). Call 569-0021.

New Overeaters Anonymous (OA)*—Meets Friday, 12-1pm, Rm E23-364. Only requirement for membership is the desire to stop eating compulsively. Info: Alice, x3-4911.592 or x3-1316.

Parents Anonymous**—Ongoing meetings weekly on Wednesdays, 12-1pm. For those who would like ongoing support in dealing with the challenges of parenting. Led by Joanne Dougan, M.Ed., private practice, Boston. Sponsored by the Child Care Office. Contact Parents Anonymous at 1-800-882-1250 or Rae Simpson, Administrator, MIT Parenting Programs, Rm 4-144, x3-1592.

Parenting Workshops*—Dec 9: Setting Limits with Toddlers. Leader: Patty Whitelaw, M.S. Education. 12-1pm, Rm 6-233. All workshops sponsored by the MIT Child Care Office. More info: x3-1592.

Playgroups**—The MIT Wives Group, now with the cosponsorship of the MIT Child Care Office, sponsors and provides ongoing support for informal mother-child playgroups, currently in Arlington/Somerville, Belmont/Watertown, Lexington, Somerville, and Cambridge/Boston. Prospective members contact Wives Group, Rm E23-376, x3-2916. Resources and consultation: Kathy Simons, Rm 4-144, x3-1592.

Technology Children's Center**—The only childcare center on the MIT campus has spaces available in all of its programs at Eastgate (half-day and full-day) for children ages 2 yr 9 mo to 5 yr 6 mo. Information: Olga Slocum, Director, x3-5907.

MIT Toastmasters**—Upcoming meeting: Dec 18, Jan 8: An organization that helps people improve and practice their public speaking skills. 12:14-1:30pm, Rm E19-220. Sponsored by MIT Personnel Office.

Wives' Group**—Dec 9: "Women & Personal Safety—Street-Wise & Safe", Sgt. Cheryl Vossmer, MIT Campus Police. Dec 16: Holiday Party. Bring a dessert to share with the group, and we'll have a chance to talk together about how you celebrate holidays in your home. Meetings are from 3-4:45pm, Rm 491 Student Ctr. Babysitting in Rm 407. All women in MIT community welcome. Info: x3-1614.

Working Mothers Support Group**—Ongoing participant-led meetings monthly on the first Thursday of each month, 12:15-1:30pm, Rm 18-592. For all working mothers in the MIT community. No preregistration required. Cosponsored by the Child Care Office and the MIT Medical Dept. Contact Debbie Levey, volunteer coordinator for the group, x3-7112.

Working Parents Support Group**—Ongoing meetings weekly on Tuesdays, 12:30-1:30pm. For all working parents in the MIT community. Discussion of issues in parenting and the demands of balancing work and family. Led by Jackie Buck, Social Worker, MIT Medical Department. Cosponsored by the Child Care Office and the MIT Medical Dept. Preregistration required, call x3-4911.

Yoga*—Ongoing yoga classes. Beginner's Hatha, 5:15-6:30pm. Intermediate Iyengar Style, 6:30-8pm. Rm 10-340. Sponsored by the Women's League. For more information contact Ei Turchinetz 862-2613.

■ HEALTH EDUCATION

Practical Parenting Series**—Dec 16: Discussing Adolescent Sexuality. Programs meet 12-1pm, Rm E23-297. No fee. No registration unless noted. Call x3-1316 for details. Sponsored by the MIT Health Education Service.

A Breath of Fresh Air**—Monthly noon-hour reunion and relapse prevention sessions for graduates of the From Smoker to Non-Smoker workshop. No fee. No registration. Call x3-1316 for dates, rooms, times. Sponsored by the MIT Health Education Service.

Divorce Support Group for Students**—A support group for students whose parents

FOCUS ON SCIENCE

14 Students Win \$1,200 Service Fellowships

The MIT Public Service Center has awarded \$1,200 IAP fellowships, sponsored by the Lord Foundation, to 14 undergraduates.

Thirteen of the fellows will work with the Science Resource Teachers in the Cambridge Elementary Schools. Their responsibilities will include the following: form a science discovery club, leading to a science fair; support the teaching of new curriculum; and help the science teacher to become a "resource specialist." One of them will work in the High School Science Department and take charge of the Science Olympiad.

The winners of the fellowships are: Roberto S. Almeida '95 of Garden Grove, CA; Anup Bagaria '94 of Cambridge, MA; Ross Crowley '95 of Tucson, AZ; Brian Candler Davison '95 of Rock Hill, SC; Grant Kern Eiselein '93 of Rochester, NY; Kathy Howe '93 of San Antonio, TX; Francis Lee '93 of East Amherst, NY; Bryn Mowry '95 of Culver City, CA; Jee Young Park '93 of Deerfield, IL; Yvonne M. Romero '93 of Moreno Valley, CA; Brian Rose '93 of Cambridge, MA; Rohit Sakhuja '94 of Lexington, MA; Aafia Siddiqui '94 of Houston, TX, and Lucy Tsurulnik '95 of Newton, MA.

These fellowships are part of the year-long City Days program. Five independent living groups (Chi Phi,

Kappa Alpha Theta, Lambda Chi Alpha, Phi Beta Epsilon, and Zeta Psi) are involved with one branch of the City Days, The Links. Each living group is working with a Cambridge elementary school's science program. The fellows will continue the living groups' effort over IAP in those five schools and assist another eight city schools. The Links program will be recruiting living groups to work with more schools for the spring term.

Students involved in The Links program are asking their professors for help in setting up demonstrations that illustrate various points of science.

Professors who have "off-the-shelf" demonstrations assembled and who are willing to loan them for a brief time to one of the MIT students in the program are asked to call the Public Service Center at x3-0742.

Building a data base of available demonstrations will increase the effectiveness of the program, said Roberto Almeida, who made the suggestion to the Public Service Center.

For students who cannot make a full-time service commitment, there is a 3-unit IAP seminar: "Doing Science/Math With City Kids," sponsored by the Department of Urban Studies and Planning. An organizational meeting will be held on Thursday, Dec. 10, 4-5 pm, in Rm 7-335A.

have recently separated or divorced. Led by experienced group therapists. For information about joining this group please call Marcia Yousik, C.S., or Elizabeth Engelberg, Psy.D., at x3-2916. Sponsored by the Psychiatry service of the Medical Dept.

Nursing Mothers' Support Group**—First Tues of each month, 10-11:30am and third Wed of each month, 4-5:30pm, Rm E23-297. No fee. No registration. Call x3-2466 for details. Sponsored by the MIT Health Education Service.

Childbirth Preparation**—Early Pregnancy, Lamaze Childbirth Preparation, and Lamaze Review classes are offered to patients of the MIT Medical Department's Obstetrics Service. Call x3-1316 for details.

Tape Time for Health**—A free video loan program. Topics include birth, parenting, baby care, smoking cessation, etc. Visit the Health Resources Center to borrow a tape or call x3-1316 for a list of titles available.

■ MITAC

Ticket locations and hours: Tickets may be purchased at the MITAC Office, Rm 20A-023 (x3-7990), 10am-3pm Monday-Friday (except the third Monday of each month when MITAC is closed for inventory). Lincoln Lab sales in Rm A-218, 1-4pm Thursday and Friday. Further details on events are included in MITAC's monthly flyer. To avoid disappointment, make reservations and purchase tickets early. Because MITAC is nonprofit, refunds are not available.

MITAC, the MIT Activities Committee, offers discount movie tickets for General Cinema (\$4/each), Showcase and Loews Cinemas (\$4.25/each, not valid the first 2 weeks a movie is released). Tickets are good 7 days a week, any performance.

Vacation Show at the Bayside Expo Center**—Jan 15-17: \$1-off coupons currently available in the MITAC office (reg. \$8/adult; \$2 ages 6-12; children 6 & under are free if accompanied by an adult).

An Afternoon of Family Skating**—Jan 17: An energizing afternoon of family skating at the Johnson Athletic Center, 1-4pm. Hot cocoa/coffee and some afternoon sweets (cookie style), compliments of ARA Ice skates may be rented at the MIT Athletic Center Equipment Desk with an MIT Athletic Card. Free to the MIT Community.

The Mystery of Irma Vep**—Jan 20: At the Lyric Stage (Copley), 8pm. \$13/ea (reg. \$15). Purchase by Jan. 6th.

Shear Madness**—Jan 24: At the Charles Playhouse, Stage II, 3pm. Tickets: \$14/each (reg. \$19/each). Purchase by Jan 10.

Mother Said I Never Should**—Jan 28: At the Huntington Theatre, 8pm. Tickets: \$20/each (reg. \$30/each). Purchase by Jan. 14.

Tour of the Boston Garden**—Jan 30: Tour begins at 12 noon at the Boston Garden His-

tory Center on Causeway Street. \$4/pp/adult; \$3.50/pp/child (ages 5-12). Purchase by Jan. 15.

Museum of Fine Arts—The Council for the Arts has 10 passes employees may borrow for free admission. Call the Office of the Arts at x3-4003 for availability. At Lincoln Lab, MFA passes are available in A-150.

New Discounts for the Computer Museum—300 Congress St., Boston. Present your MIT ID and receive \$1 off admission. Valid through Sept. 1, 1993.

New England Aquarium Discounts—Purchase individual adult tickets (no discount on children's tickets) for \$5/ea (reg. \$7.50/ea). Valid through May 1993.

Other Discounts—Plymouth County, Mrs. Fields Cookies, Storyland, Disney World, Improv Boston, Catch a Rising Star, Special Shopping Night at Jordan Marsh for MIT Employees Only, Boston Brownie, Greater Boston Books (\$25/ea), Entertainment Books (\$25/ea).

■ SOCIAL ACTIVITIES

GABLES End of Term Potluck Fundraising Party**—Dec. 10: Sponsored by GABLES (Gay, Bisexual, and Lesbian Employees and Supporters at MIT), 5-7:30 p.m., Bush Room 10-105. Celebrate our first year. Suggested donation: \$5 staff, \$3 students. RSVP: Ruth, x3-1702 or GABLES info line, x2-1014.

MIT Singles over 35**—Group meets in the Faculty Club Lobby lounge 5:30-7pm every Friday evening. For more information call Mary Anne x3-3293 or Charlotte x3-4738.

Chinese Lunch Table. Meets every Tuesday and Wednesday, 12-1pm, Student Center, Private Dining Room, 3rd floor. Bring your lunch and come practice your Chinese speaking. All levels welcome. Sponsored by the Chinese Students Club.

Japanese Lunch Table. Meets Tuesdays at 1pm in Rm 407 and 491 in the Student Center. Bring a lunch and talk with native Japanese speakers. All Japanese speakers, especially beginners, are welcome. Call x3-2839.

La Table Francophone. Meets Tuesdays at 1pm in Walker Memorial Dining Room.

■ MOVIES

Admission to below Lecture Series Committee Movies is \$1.50, and MIT or Wellesley identification is required. For the latest Lecture Series Committee movie and lecture information, call the LSC Movieline, x8-8881.

Dec. 11: Sister Act [PG], 7 & 10pm, Rm 26-100.

Send notices for Wednesday, January 6, through Sunday, January 17, 1993 to Calendar Editor Rm 5-111, before 12 noon Monday, January 4.

The Arts

The Arts Page is produced by the Office of the Arts in collaboration with ARTSNET. Lynn Heinemann, writer; Susan Cohen, designer; Mary Haller, editor. E15-205; 253-4003.

Upcoming Arts Competitions

"Art in Science and Technology"

"I want to inspire students and researchers to look at the 'artfulness' of their scientific and technological surroundings," says Donald Heiman, sponsored research staff member of the National Magnet Lab, announcing his IAP "Art in Science and Technology" competition. The competition will be held on Friday, January 15 from 12-1pm in the Wiesner Student Art Gallery on the second floor of the Stratton Student Center. Refreshments will be served.

Submissions might be in the form of lab data, specimens, computer graphics, or a piece of research apparatus. Categories include 2D, 3D, and "time-domain" pieces. (Mr. Heiman defined time-domain pieces as "nerd-speak for anything that moves, such as kinetic sculpture or video") Prize money totals \$100.

The entries will be judged by a jury of local art experts including List Visual Arts Center Curator Helaine Posner and Professor Judy Haberl of Massachusetts College of Art. Information: 253-0806.

Wiesner Student Art Gallery Student Competition

The Wiesner Art Gallery is sponsoring a competition open to all students of the MIT community. The entries will be judged by a special panel of five art critics, and the winners will be invited to display their work at a special exhibition in February marking the opening of the newly renovated gallery.

Submit no more than three pieces (2D or 3D work) between 9am January 19 and 5pm January 20 to the Campus Activities Complex, Rm W20-500. All pieces must be complete and ready for display when submitted. Decisions will be announced by 5pm January 21. Pieces will be available to pickup at 9am January 22.

The exhibition will open Monday, Feb. 1 with a reception open to all members of the MIT community. For more information, contact the Campus Activities Complex at 253-3913.

During the year the committee meets regularly to review student work. Students are encouraged to pick up an application at W20-500 (CAC) and apply for an individual or group show.

Happy 222nd Birthday

The annual Beethoven's Birthday concert at MIT on Wednesday, Dec. 16 will feature the C minor String Quintet and the Trio in Eb for clarinet, cello and piano, Op. 38. Performers will include Chester Brezniak, clarinet; Bayla Keyes, violin; Donald Yeung (G), violin; Professor Marcus Thompson and Wilson Hsieh (G), viola; David Finch, cello and MIT Music Lecturer David Deveau, piano. The concert is at 8pm in Kresge Auditorium. Information: 253-2826, during office hours.

THE BEAUTIFUL SEASON

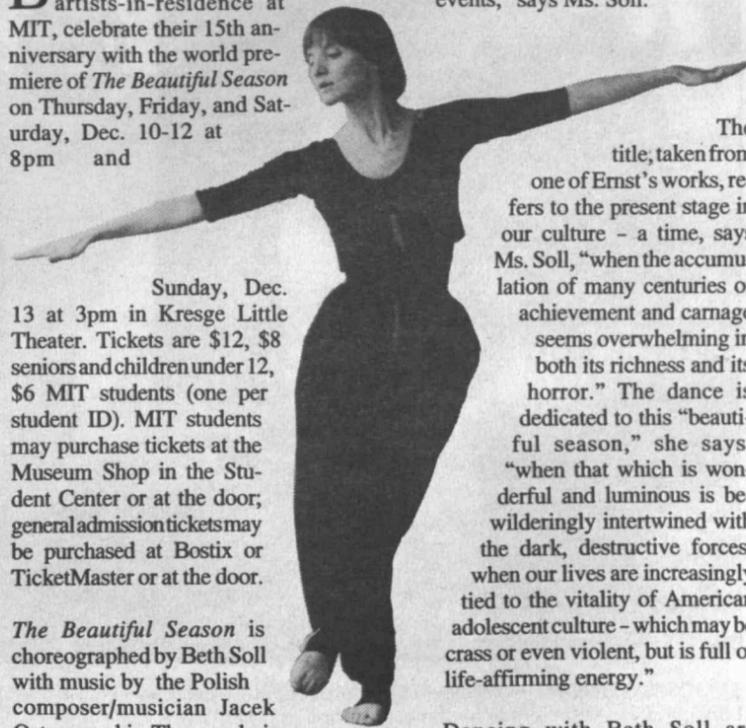
Beth Soll & Company Celebrate 15th Anniversary

Beth Soll & Company, guest artists-in-residence at MIT, celebrate their 15th anniversary with the world premiere of *The Beautiful Season* on Thursday, Friday, and Saturday, Dec. 10-12 at 8pm and

Sunday, Dec. 13 at 3pm in Kresge Little Theater. Tickets are \$12, \$8 seniors and children under 12, \$6 MIT students (one per student ID). MIT students may purchase tickets at the Museum Shop in the Student Center or at the door; general admission tickets may be purchased at Bostix or TicketMaster or at the door.

The Beautiful Season is choreographed by Beth Soll with music by the Polish composer/musician Jacek Ostaszewski. The work is about "the passage of time, the co-existence of good and evil, and the perpetual nature of change," says Ms. Soll. The piece also makes frequent references to classical and modern dance, and to aspects of American popular culture, such as music videos. *The Beautiful Season* was initially inspired by the work of artist Max Ernst, one of the dominant figures of both Dada and Surrealism. "Ernst was preoccupied by the dichotomy of the inner reality that is shaped by the imagination and the more objective external

experience of social and historical events," says Ms. Soll.



The title, taken from one of Ernst's works, refers to the present stage in our culture - a time, says Ms. Soll, "when the accumulation of many centuries of achievement and carnage seems overwhelming in both its richness and its horror." The dance is dedicated to this "beautiful season," she says, "when that which is wonderful and luminous is bewilderingly intertwined with the dark, destructive forces; when our lives are increasingly tied to the vitality of American adolescent culture - which may be crass or even violent, but is full of life-affirming energy."

Dancing with Beth Soll are Jacqueline Blombach, Amy Zell Ellsworth, Catherine Gallant, Anne Heskett, and Tommy Neblett. The dance will be accompanied by the live music of Mr. Ostaszewski, founder of Osjan, Poland's internationally famous jazz-inspired ensemble. Boston-based musicians guitarist Sandy Praeger and drummer Mark Burden will accompany Mr. Ostaszewski. Lighting will be designed by Blu, well-known for his innovative work with choreographers Mel Wong and Paula Josa-Jones. Information: 547-8771.

IAP Arts: From Donald Duck to Zen

During MIT's Independent Activities Period (IAP), a rich assortment of arts-related courses, lectures, workshops, films, trips, and performances are presented by departments, centers, laboratories and groups as well as individual faculty and staff members and students. This year the IAP Guide has denoted arts-related activities with a boldface "A." Activities range from films, exhibits, and lectures, to classes and workshops in studio art, dance, and music. "Look carefully through all the different departments, centers and labs," the Guide advises. "Some of the most creative courses could be hidden there!"

Here are just a few:

- "Second Annual Salute to Dr. Seuss"
- "Roots of Rock and Roll"
- "Haiku Poetry, Creativity and Zen"
- "Portraits of the Artists"
- "Interactive Shakespeare"
- "Math Movies" (including *Donald Duck in Math Magic Land*)
- "Modern Dance"
- "Walking Tour of MIT Architecture"
- "Fabulous Queer Shorts: A Film/Video Series."
- "Life Drawing/Painting"
- "Basic Photography"
- "Printmaking: Etching and Embossing"
- "Beginning Pottery"
- "Viennese Waltz Classes"
- "Jews in the Wild West: Films of Fact & Fiction"
- "Glassblowing Studio"

Mark Palmgren, director, Council for the Arts at MIT, will present a workshop on "Getting a Grant from the Council for the Arts" on Thursday, Jan. 21 from 3:30-5pm in Rm E15-054. (Call 253-2372 for more information.)

Check out the IAP Guide and watch for the IAP Timetable, a daily calendar of activities for updates and revisions.

SING "HALLELUJAH"

Literature Lecturer Conducts MIT's Messiah

Not all of MIT's music professionals are in the Music Section. Reed Woodhouse, lecturer in the Literature Department at MIT will conduct this year MIT's annual 'Messiah Sing' of the Handel oratorio, with pianist Ellen Pulansky.

The annual event, sponsored by the Lutheran Episcopal Ministry at MIT, will take place on Friday, Dec. 11 at 3:30pm in the Mezzanine Lounge on the third floor of the Stratton Student Center. Refreshments will be served.

An opera professional, Mr. Woodhouse has been musical assistant in the Boston Conservatory of Music-New England Conservatory Opera Department for the past five years and was assistant chorus master and coach at Glimmerglass Opera, where he prepared Jonathan Miller's acclaimed production of *La Traviata*.

Mr. Woodhouse's dual career began when he received his PhD in English and discovered that there were no jobs available in the field. Faced with the unusual situation of using music as his 'fall-back' profession, he found employment at the New England Conservatory as a coach. The literary musician says that he is "constantly amazed" by his double life.

Mr. Woodhouse has also worked at the Des Moines Metro Opera and is past director and librettist of the successful Brown Bag Opera Company. He has performed as pianist or accompanist at the Gardner Museum, Harvard Musical Association and the Longfellow House.

Information: 253-0108.

Ring Those Bells

Change ringing is truly a 'ripple of music,' says Ken Olum, graduate student in physics and president of the MIT Guild of Bellringers. "I like it because I find the patterns interesting and in a sense mathematical. But most of all, I love the sound of bells," he says with a smile.

Formed in 1975, the MIT Guild of Bellringers rings "changes" on handbells at MIT, on the bells of the Old North Church (the same bells rung by Paul Revere), and the bells of Boston's Church of the Advent which date from 1900. "We carry on a grand tradition dating back 300 years," says Mr. Olum who has been with the group since 1989. "Change ringing" is a style of bell ringing invented in Britain in the 17th century for use with tower bells that can swing in a full circle," he explains. "Ringing melodies would be impossible on such bells, so instead we ring in patterns according to rules called methods. Each person rings two handbells or one tower bell."

The group is always looking for new ringers, and beginners are welcome to attend the handbell sessions each Monday at 6:30pm in Rm 1-375. "You don't have to know anything about music to make music by change ringing," says Mr. Olum. You just need to know when to ring your particular bells and everything comes together."

During IAP the Guild will give a special bell ringing class beginning on Thursday, Jan. 8 with an introductory

talk and hands-on demonstration at 7pm in Rm 1-375. Classes for the rest of IAP will be organized at this first meeting at the convenience of beginners and instructors.

The Guild will also ring for parties and special occasions, both on and off-campus. "It's another chance to spread the ancient sound of change ringing to the people of Boston," says Mr. Olum.

Information: 253-7194 or 784-6114.



Members of the MIT Guild of Bellringers

This issue marks the last appearance of the Arts Page until February 3. During IAP, listings for readings, theater, dance, music, and exhibits will be incorporated into the Institute Calendar column of Tech Talk. Happy Holidays!

MUSIC

For recorded information on upcoming concerts call the MIT Music and Theater Arts Concert Line, 253-9800. Updated weekly

MIT Chapel Concerts-Dec 10: Musica Romanza. "The Truth Sent From Above: An English Christmas." Musica Romanza was formed in 1987 to perform music of the Middle Ages and Renaissance, with an emphasis on storytelling. 12noon, MIT Chapel.

MIT Chamber Music Society-Dec 9: Brahms' Quintet for clarinet and strings; Stravinsky's Suite from *L'Histoire du Soldat* (Text to accompany the trio version by Rick Foster, used by permission); Byrd's *Infelix Ego* (six voice motet in two movements to be performed in the lobby); Dvorak's Piano Quintet, Op. 81 in A Major. 5:15pm, Killian Hall.

MIT Chamber Music Society-Dec 10: Corelli's *La Follia*; Bach's Sonata for Flute and Continuo, BWV 1034; Haydn's Quartet, Op. 9, No. 1 in C Major; Schumann's String Quartet in A, No. 3, Op. 41; Chausson's Quartet in A Major, Op. 30. 5:15pm, Killian Hall.

MIT Symphony Orchestra-Dec 12: David Comanday, guest conductor; Abbott Rushkin, piano. Brahms Piano concerto #2, Brahms Symphony #4. \$1 at the door. 8:30pm, Kresge Auditorium.

MIT Women's Chorale Holiday Concert-Dec 13: Conductor: Nancy Wanger; accompanist: Ingrid Eppelsheimer. Music by Fauré, Bach, Butler, Mendelssohn, Britten, and others. 3pm, Killian Hall. 625-2941

Logarithms A Capella Holiday Concert-Dec 11: With the Wesleyan New Group and the MIT Muses. 7:30pm, Rm 10-250.

THEATER

Twelfth Night Auditions-Dec 9: MIT Community Players auditions. Bring a prepared 1-minute monologue. 7:30-10pm, Student Center Rm 491. 524-9463

The Real Inspector Hound-Dec 11-12: MIT Community Players production of Tom Stoppard play. \$7.1 \$6 MIT community/seniors/students/children under 12, \$5 MIT/Wellesley students. 8pm, Student Center Sala de Puerto Rico. 253-2530

EXHIBITS

List Visual Arts Center (E15): Corporal Politics. Features the works of artists Louise Bourgeois, Robert Gober, Lilla LoCurto, William Outcault, Annette Messenger, Rona Pondick, Kiki Smith, and David Wojnarowicz, who examine the body fragment as both theme and content in contemporary work, demonstrating the disturbing degree of dissolution which has characterized recent art. **Opening Reception-Dec 11, 5-7pm.** Exhibition will run through Feb 14. Regular hours: Weekdays 12-6, weekends 1-5. 24-hr Hotline, 253-4680.

MIT Museum Bldg (N52): Photographs: 1918 to the Present. Examines the development and use of the photograph, heralded by the Dadaists as being anti-photography and anti-paintings, and hailed by others as "the interweaving of art and technology." Through Jan 3. *Works by Juliet Kepes.* Works of painter, sculptor, and graphic artist, Juliet Kepes. Through Dec 30.

Ongoing: *Crazy After Calculus: Humor at MIT; Doc Edgerton's Stopping Time; Holography: Types and Applications; Light Sculptures by Bill Parker; Math-in-3D: Geometric Sculptures by Morton C. Bradley, Jr.; MathSpace.* Tues-Fri 9-5, Weekends 1-5. 253-4444

Compton Gallery-Hurt Dance: Photographs of Endurance Athletes by Peter Moriarty. Photographs which capture the lyrical and stressful aspects of being an endurance athlete. Through Dec 18. *The Sporting Woman.* An exhibition organized by Sally Fox based on research for her book of days published under the same title. **Opening Reception-January 7, 5-7pm.** Reception in honor of Sally Fox and MIT's women athletes, hosted by MIT Women's League and MIT Athletic Dept. Exhibit runs Jan 8 through Feb 5. (Enter 77 Mass Ave. Weekdays 9-5. Information: 253-4444)

INTERACTIVE EXHIBITION

Wheel of Life: An Interactive Transformational Space-Jan 7-17. This walk-in environment will be experienced by pairs of visitor/participants, one acting as explorer and one acting as guide. The piece was developed by MIT students in "Workshop in Elastic Movietime" in collaboration with Glorianna Davenport, Assistant Professor of Media Technology and Larry Friedlander, Visiting Professor of Literature teaching "Shakespeare Through Performance." 12-6pm, Philippe Villers Experimental Media Facility ("The Cube"), E15, lower level. 253-1607

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.

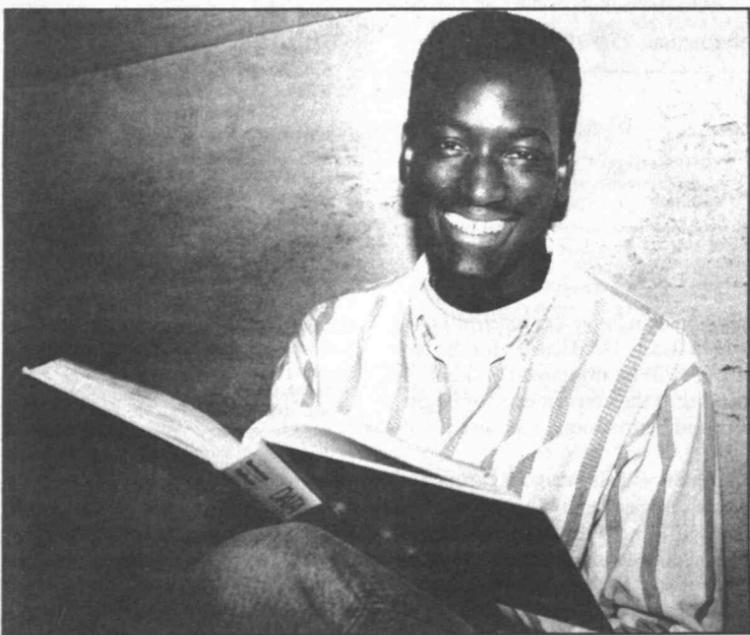
The account said he drove 45 hours or more from Friday through Sunday and attended classes from Monday through Thursday, often staying on campus from 9am until 10pm. Studying between classes and cab rides, he earned an A average and departmental honors.

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.