MIT TECH TALK
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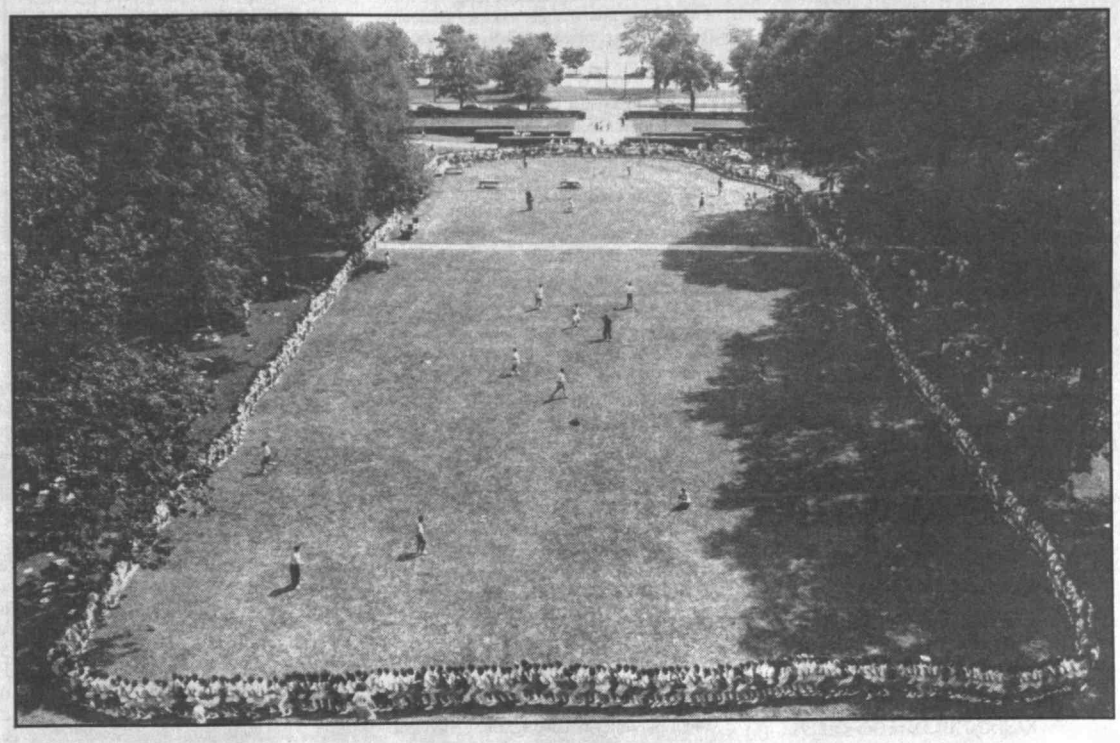

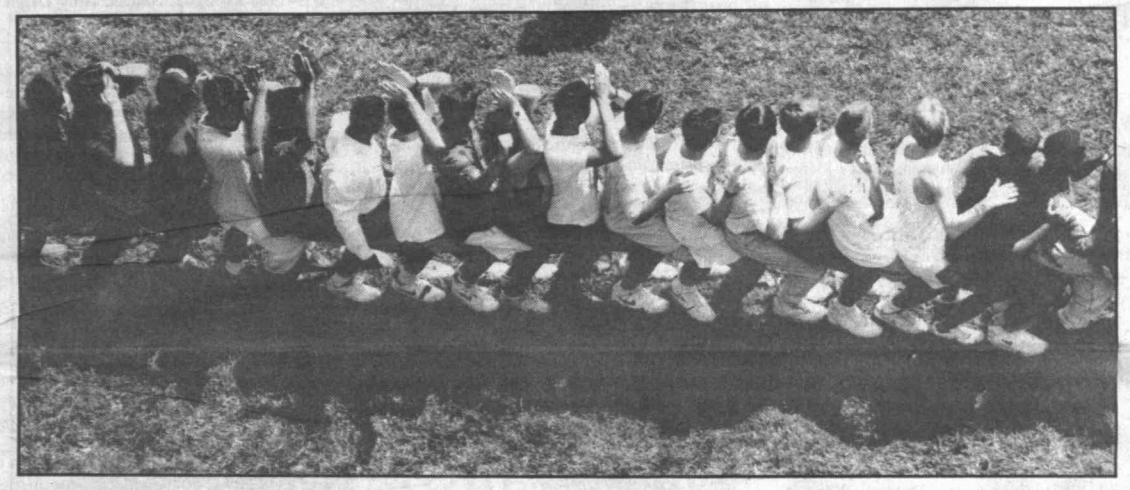

WORLD RECORD?—Most of the 1,060 members of this year's freshman class can be seen in the photos above in a giant lap sit held during the recent residence/orientation period. Representatives from the *Guinness Book of World Records* were on hand for the event, which could be a world record. To find out for sure, the Guinness book required everyone who participated to sign up (the list is still being compiled). The lap sit was the finale of Project MOYA, or Move Off Your Assumptions, a set of activities designed to help new students get acquainted. (See page 5 for more photos of MOYA events.)
Photos by Donna Coveney

PROGRESS MADE

Academic Responsibility Committee Issues Report

■ **By Robert C. Di Iorio**
News Office

The Committee on Academic Responsibility has completed the first phase of its work, a Progress Report [published as an insert in this issue of MIT Tech Talk], and is poised for phase two, which will include an extensive series of meetings with groups of faculty and students.

The committee was established to review community values in connection with the conduct of academic research, to review MIT policies and procedures in connection with research in view of community values, and to suggest innovative educational programs related to the conduct of academic research.

To aid and stimulate discussion, the report has been mailed to faculty and research staff members.

"The faculty plays an essential role in the resolution of disputes related to the conduct of research and education . . . ," the committee said, expressing the hope that members of the MIT community "will communicate to us in writing or in person their reactions, suggestions and criticisms of this document."

An open environment within departments and research groups will allow issues to be resolved at an early stage, the committee said.

"An environment which encourages good research practices and which sees positive value in correcting earlier research claims in light of new evidence may prevent disputes from escalating, protect the rights of all involved and allow everyone to get back to their laboratories," the committee said in its report.

In a letter to the community covering the report, President Vest and Provost Wrighton, who appointed the committee in April, said: "We believe that the progress report provides an excellent framework for a discussion of how the Institute maintains the integrity of academic research on our campus and of how we discharge our stewardship to the public for its support of scientific research. You are encouraged to review the report and to discuss it with your colleagues. Please feel free to convey your views to the Committee on Academic Responsibility or to us. We also believe that the increased dialogue and debate on these issues this fall will promote greater understanding about the conduct of academic research, an enterprise that is vital to the nation."

The committee, established to review the policies and procedures of MIT on the conduct of academic research, is chaired by Dr. Sheila E. Widnall, Abby Rockefeller Mauzé Professor of Aeronautics and Astronautics. Dr. Widnall is a member of the National Academy of Sciences' Panel on Scientific Responsibility and the Conduct of Research and a past president of the American Association for the Advancement of Science.

Other members of the MIT committee are Professor Richard Mulligan, Whitehead/biology; Institute Professor Jerome I. Friedman, who shared the 1990 Nobel Prize in physics; Institute Professor Morris Halle, linguistics and philosophy; and Professor Gerald N. Wogan, toxicology.

The committee said it had "little doubt that recent publicity about cases of scientific misconduct has damaged science and the scientific community in the eyes of the public and that the relationship between the research university and the federal government, our most important patron, has undergone a marked change for the worse."

MIT's goal, the committee said, "must be a robust set of policies and community attitudes that will allow us to respond to new challenges, the details

(continued on page 6)

THURSDAY LAUNCH

MODE to Travel on Space Shuttle

An engineering experiment developed by MIT will be aboard the space shuttle Discovery scheduled to be launched Thursday, Sept. 12.

The experiment—called MODE, for Middeck 0-gravity Dynamics Experiment—will study the mechanical and fluid behavior of components designed for use in future space structures.

The principal investigator for MODE is Professor Edward F. Crawley, director of the Department of Aeronautics and Astronautics' Space Engineering Research Center. The MODE science team and several of Professor Crawley's students who worked on the project will be at the launch.

MODE is part of a NASA program that encourages collaboration among universities, industry and NASA to develop experiments for space flight. Payload Systems, Inc., of Cambridge, was selected by MIT to be the prime subcontractor. The company, responsible for MODE's hardware fabrication and certification, was founded by Dr. Byron Lichtenberg, who received his PhD at MIT in 1979. Dr. Lichtenberg was aboard the first flight of NASA's Spacelab in 1983. McDonnell Douglas Space Systems Co. of Huntington Beach, Calif., joined the team on a no-cost basis, using its own funds to support the design, construction and testing of the MODE structural test hardware.

The experiment consists of electronically instrumented hardware that the astronauts aboard the shuttle will test in the craft's pressurized section. MODE will study the sloshing behavior of fluids in partially filled containers and the vibration characteristics of jointed truss structures.

Grant Promotes Chinese Studies

The Section of Foreign Languages and Literatures has received an award of $179,520 from the Chiang Ching-kuo Foundation to initiate a small, experimental program on Chinese language, culture, and literature.

Dr. Yih-jian Tai, a scholar of classical drama, will lead the program, which begins this month. He will offer classes in beginning Mandarin Chinese and in classical and modern Chinese literature in translation.

MIT faculty members with scholarly expertise on China already teach a range of subjects related to China in a variety of disciplines. "The new classes will add an important component to the existing curriculum, and will benefit students pursuing research on China or majoring in language and literary studies," said Professor Isabelle de Courtivron, head of foreign languages and literatures.

ON CLOUD 10

Honiker Finds 'Instant Family'—Only 50 Years Later

■ **By Charles H. Ball**
News Office

Paul J. Honiker of the Comptroller's Office sounds like someone who still can't quite believe what has happened to him. Understandably.

At the age of 50, Mr. Honiker has found his mother and has acquired an instant new family of a brother, six sisters and 11 nieces and nephews.

"I'm on Cloud 10," he said, a day after returning from Fairhaven, Vt., where he saw his 69-year-old mother for the first time.

Sharing his happiness, he said, have been his office colleagues at MIT. "They are like a second family to me and have been incredibly supportive," said Mr. Honiker, who has been at the Institute for 27 years, currently as personnel administrator in his office.

His story began in 1941, when he was given up for adoption at birth and spent the first six and one-half years of his life in a Catholic orphanage in Burlington, Vt. Then he was adopted by a Bennington couple, went to school in that community and graduated from high school in 1959.

He came to Massachusetts to attend Burdett College in Boston and met the woman who was to become his wife. He arrived at MIT in 1964.

While he had been curious about his mother and had made an inquiry some years ago, Mr. Honiker said, he found the adoption information had been sealed by the courts. He pretty much dropped the matter, he said, until he returned to Bennington several years ago to attend the funeral of an aunt of his adoptive family.

By that time, his adoptive parents had died. They had no other children.

Under the prodding of his wife, Virginia, who understood how much finding his mother meant to him, he said, he contacted a probate court judge in Bennington. The judge said that while he could give him no information that would identify his mother, he could tell Mr. Honiker that she had lived in the Rutland area, and not—as he had assumed—in Burlington.

With that information, Mr. Honiker contacted the Rutland newspaper without success and finally turned to a professional agency, Adoption Connection of Peabody, Mass., which helps in such searches.

And it wasn't long before they called him at MIT one morning and said they had the information. They were going to give it to him on the telephone then and there but, first, he set up a conference call with his wife "because I wanted her to share in the moment."

That was quickly followed by a

(continued on page 6)

Student Notices

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

■ ANNOUNCEMENTS

English Conversation Classes for International Women—Sept 17:** Sponsored by the MIT Women's League, 9-11am, Rm 10-105. Cost per student is $40 and babysitting is available for $75 per child.

MIT Libraries Booksale—Sept 19:** Books in Social Sciences & Management, 10:30am - 3pm, Dewey Library Plaza. Rain date Sept 26.

Libraries Fall & Spring Term Hours—Admin Offices: M-F 9-5, Sat-Sun closed. **Aero & Astro:** M-F 8:30-6, Sat 11-6, Sun 1-5. **Barker:** M-Th 8:30-11, Fri 8:30-7, Sat 11-6, Sun 1-11. **Computerized Literature Search Svc:** M-F 9-5, Sat-Sun closed. **Dewey:** M-Th 8:30-11, Fri 8:30-7, Sat 11-6, Sun 1-11. **Humanities*:** M-Th 8-12, Fri-Sat 8-8, Sun noon-12. **Inst Archives & Special Collections:** M-F 9-5, Sat-Sun closed. **Lindgren:** M-Th 8:30-11, Fri 8:30-7, Sat 11-6, Sun 1-11. **Microreproduction Lab:** M-F 9-5, Sat-Sun closed. **Music:** M-Th 8:30-11, Fri 8:30-7, Sat 11-6, Sun 1-11. **Reserve Book Room:** M-Th 8:30-11, Fri 8:30-7, Sat 11-6, Sun 1-11. **RetroSpective Collection:** M-F 9-5, Sat-Sun closed. **Rotch:** M-Th 8:30-10, Fri 8:30-7, Sat 11-6, Sun 2-10. **Rotch Visual Collections:** M-F 8:30-6, Sat-Sun closed. **Schering-Plough:** M-F 9-6, Sat-Sun closed. **Science*:** M-Th 8-12, Fri-Sat 8-8, Sun noon-12. *** Open 24 hrs/day for members of the MIT community only (MIT ID required).**

Dining Hours—Lobdell:** M-Th 7:30am-8pm, Fri 7:30am-7pm, Sat-Sun 8am-7pm. **Networks & Pizza Hut Express:** M-F 11am-11pm, Sat-Sun 5-11pm. **Traditions at Morss Hall/Walker:** M-F 11am-7pm. **The Cookie Cart/Walker:** M-F 7:30am-2pm. **Pritchett PLUS/Walker:** M-F 7-11pm, Sat-Sun 12-11pm. **Kosher Kitchen/Walker:** M-F 5-7pm (times will vary on religious holidays). **Infinite Corridor:** M-F 8am-2pm. **Next House Snack Bar PLUS:** M-F 7-11pm, Sat-Sun 4-11pm. **Refresher Course:** M-F 8am-3pm. **MIT Faculty Club:** M-F 12-2pm, 5-8pm. MIT faculty, staff, graduate students and their guests. Info x3-2111. **House Dining Rooms:** McCormick, Baker, MacGregor, Next House, M-F 5-7pm.

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

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—**great bargains, used furniture and more, Tues/Th, 10am-2pm, 25 Windsor St (MIT Museum bldg, 1st fl). Donations welcome. x3-4293.

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

MIT Table Tennis Club—**Starting Sept 6; meets Fri 8-10pm, Sat 6-9pm, T Club Lounge, DuPont. Everyone welcome. Info: David Marcus 492-4317.

Crimewatch

Following are incidents reported to the MIT Campus Police Department August 23 - September 5.

Aug 23: wallet containing $20, stolen in Bldg 8; two bicycles stolen 1) Bldg W20, value $200; 2) Bldg 54, value $400.

Aug 25: male arrested for trespassing after notice, Bldg E3.

Aug 26: two males arrested after being observed by an officer attempting to steal bicycles by Bldg 9; portable CD player left unlocked & unattended, value $300, Bldg 3; wallet left unattended in library, value $4.

Aug 27: larceny of two bicycles 1) Bldg W20, value $260; 2) unlocked & unattended in Bldg 66, value $430; toaster stolen from Bldg W1, value $30; two wallets were stolen from unlocked & unattended areas 1) Bldg E34, value $20; 2) Bldg 18, value $15; harassing telephone call reported, Bldg W71.

Aug 28: bicycle stolen from Bldg E40, value $600; an officer on patrol observed two juveniles acting in a suspicious manner, upon stopping them he confiscated a weapon.

Aug 29: attempted larceny of stereo component, Bldg NW-10; motor scooter left unlocked was stolen, Bldg 33, value $400; portable CD stolen, Bldg 62, value $150; step ladder, value $150, Bldg 4.

Aug 30: slide projector, value $40, Bldg 1; after a short foot pursuit by officers, a male was arrested for breaking and entering a motor vehicle and other related charges; synthesizer keyboard left unlocked & unattended, Bldg W84, value $1,500.

Aug 31: three bicycles stolen 1) Bldg W85, value $300; 2) Bldg W85, value $750; 3) Bldg W20, value $375; wallet stolen, Bldg 64, value $50; car window broken in West Garage, no further damage.

Sept 1: while person was sleeping, unknown person stole coat that was covering him, Bldg W20, value $775; three bicycles stolen 1) Bldg W85, value $450; 2) W84, value$150; 3) Bldg 1, value $110; locker was broken into, various items taken, value $995, Bldg 3; larceny of computer, Bldg 33, value $5,918.

Sept 2: fire in Bldg 18, same extinguished by occupant of lab; three bicycles stolen 1) Bldg W85, value $400; 2) Bldg 1, value $750; 3) Bldg 1, value $100; vandalism to the "Safe Ride" van, while parked in West Garage; stolen motor vehicle recovered, Bldg W7.

Sept 3: bike stolen from W85, value $275; answering machine stolen from Bldg 16, value $60; bicycle patrol officers apprehended a shoplifter and arrested suspect; officers arrested a male for assault and battery by means of a dangerous weapon (tree limb).

Sept 4: dump truck fire rear Bldg 41; officer arrested a male for trespassing and possession of a class E substance after a short foot pursuit.

Crime Prevention is the reduction of opportunity. For more information contact the Campus Police Crime Prevention and Sensitive Crimes Unit at x3-9755.

■ RELIGIOUS ACTIVITIES

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

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

Noon Bible Study*—Every Wed, Rm 1-132, bring lunch. Ralph Burgess, x3-8121. (Since 1965.) (Graduate Christian Fellowship.)

MIT Bible Study Group*—The Economy of God, a look at God's eternal purpose to dispense Himself into man based on the revelation of the Bible, Fri, 8pm, Student Ctr Rm 407. Singing, prayer, Bible reading, fellowship.

Tech Catholic Community—**Mass Sundays, 10am, MIT Chapel. Info x3-2981.

MIT Christian Community—**Come and join monthly lunch and discussion on God and Christians at MIT with your fellow faculty, staff, administrators, and grad students. Info: Park x3-2875.

MIT Christian Impact*—The weekly meeting for the ministry of Campus Crusade for Christ. Wind up the week: relax, snack, sing, laugh through skits and gain practical insight from God's Word. Meets Friday 7:17pm, Student Ctr, 3rd flr.

Chinese Christian Fellowship—**Join us for Bible Study, singing, prayer and fun Wednesdays 7-9pm. All English-speaking undergraduate and graduate students are welcome (you don't have to be Chinese!). For location and more information contact Carl Lim, dorm x5-7533.

Graduate Christian Fellowship—**Come join other grad students, faculty and staff in learning about and growing in the Christian faith. Activities open to both Christians and those interested in learning more about Christianity. Info: John Keen x3-7706, Dave Otis x3-2198.

MIT Orthodox Christian Fellowship—**Meets every Wednesday evening at 5:30pm in Private Dining Rm #1 in the Student Center for dinner/fellowship/discussion followed by Vespers (evening prayer) in the MIT Chapel. Open to Eastern Orthodox Christians and those interested in learning about the ancient Christian Faith. Information: Arlene Marge 625-3768. First meeting: **Sept 11.**

Church of Jesus Christ of Latter-day Saints Student Association at MIT*—Sunday services, Cambridge University Ward, meets every Sunday 3-6pm at the Cambridge Chapel, corner of Brattle Street and Longfellow Park. Meetings are for students and young single adults.

MIT Hillel*—Sept 11, 25: Israeli Folk Dancing, 7:30pm. **Sept 13:** Torah & Chocolate, 12pm, Hillel. Shabbat Services, 5:30pm, Walker 50-010. Shabbat Dinner, 6:45pm, Walker Hall Blue Rm (reserve by Thurs, x3-2987). Oneg Talk: "Dating—When it Works and When it Doesn't," 8:30pm, Walker Hall Blue Rm. **Sept 15:** TECH-iya, Hillel's singing group, 4pm. Hillel Exec Mtg, 8pm. **Sept 17:** Pre-Fast Meal, Kosher Kitchen, Walker Hall 50-007, 4-6pm. Conservative Kol Nidre services, 6:15pm, Kresge Little Theatre. Reform Kol Nidre services, 7pm, MIT Chapel. Obtain tickets from Hillel. **Sept 18:** Conservative Kol Nidre services, 9am & 4:30pm, Kresge Little Theatre. Reform Kol Nidre services, 10am & 6:15pm, MIT Chapel. Break Fast for all, 7:30pm, Kresge Lobby. Grad Student Break Fast, 7:45pm, Ashdown West Dining Rm. **Sept 20:** Torah & Chocolate, 12pm, Hillel. Shabbat Services, 5:30pm, Walker 50-010. Shabbat Dinner, 6:45pm, Walker Hall Blue Rm (reserve by Thurs, x3-2987). **Sept 22:** Sukkah decorating, 11am. More info: x3-2982.

MIT Korean Bible Study Group*—Come & join our Bible study, fellowship & sing-a-long on every Friday, Rm 1-136, 7pm. Also, worship service on Sunday 1-3pm at Central Square. For more info, Chris Pak x3-9342 or 876-8594.

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.

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

United Christian Fellowship—**Join us for a time of workship, prayer, and Biblical teachings. For more information call Adam Szabo x3-2401 or 576-3795 or Cathy Trotter x3-4944 or x5-6414.

■ GRADUATE NOTICES

Graduate Student Council Meeting—Sept 12:** Guest speaker: J. Kim Vandiver, chair of the faculty. 5:30pm, Rm 50-222.

Whale Watching Cruise—Sept 21:** Tickets sold at the GSC office, Rm 50-222, $8. Cruise departs at One Long Wharf. All graduate students welcome.

■ INTERNATIONAL

International September Degree Candidates—**International students who are September degree candidates with MIT loans must contact Eleanor Wolcott at x8-5663 in the Bursar's Office/Alumni Services to arrange an appointment for an exit interview. An exit interview is required prior to graduation.

International Students: 1st Time Student Loan Borrowers—**Contact Eleanor Wolcott at x8-5663 in the Bursar's Office to arrange an appointment to sign your loan notes.

MIT Language Conversation Exchange—**This service, sponsored by the MIT Medical Department, 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, lv mssg.

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.

On Campus, Non-Technical. Male sophomore interested in public service needed to write Tech and Tech Talk columns and other responsibilities as needed. 5-10 hrs/wk, $6.75/hr. Contact Virginia Sorenson, MIT Public Service Center, 3-123, at x3-0742.

Off Campus, Technical, Clerical. Administrative Assistant needed for a new education center. Should be personable, bright, computer literate, and interested in working with high school and college students. Strong telephone skills a must. Please send resumé to Christine Tessier, The Ronkin Educational Group, 124 Mount Auburn Street, Cambridge, MA 02138.

Off Campus, Non-Technical, Childcare. Childcare needed in exchange for room and board. Spend 15-20 hrs/wk caring for a 2 year old girl and a newborn. Located near public transportation and references are required. Contact Deanne Priest at 846-0952.

On Campus, Non-Technical. Hillel Foundation seeks a cheerful person for reception, data entry, mailing, fundraising, and other office help. Flexible hours, 3-5pm 3-5 days/week. Contact Dan or Miriam, W2A-100, at x3-2982.

On Campus, Non-Technical, One Time. Student needed for painting, minor carpentry, and brute force for space moves within the main building in the next few weeks. Contact Les Norford at x3-8797 or Diane McLaughlin at x3-4015.

■ UROP

The UROP office welcomes new and returning students to participate in UROPs this fall. We invite 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 new UROP 1991-92 Directory, available at UASO, 7-104, and the UROP office, 20B-140; also pick up a Fall 1991 Guidelines information sheet for pertinent information.

Please watch for other types of information which we post on the UROP bulletin boards in the infinite corridor near the Admissions office, and in the UROP office.

The Fall UROP period has started as of September 9, Registration Day, and ends December 31; Fall/IAP UROPs end January 30, 1992. The UROP minimum wage rate has been increased to $6.90 an hour and will be in effect starting September 9.

Faculty supervisors wishing to have projects listed may send brief project descriptions to the UROP office, or call x3-7306, or e-mail to urop@athena. Listings are posted here, on the UROP bulletin boards in the infinite corridor and in the UROP office.

Fall Opportunity in Biomedical Research. Laboratory seeking student to assist in an investigation of the cellular and molecular effects of low density lipoproteins (LDL) for the Fall semester. The project involves working closely with M.D.'s and a medical student. Opportunities for additional independent work may also be available. Previous laboratory experience is a plus, but is not a prerequisite. Faculty supervisor: Prof. Robert S. Lees, 26-131, x3-3012; e-mail: shahn@hstbme.mit.edu.

Project in Child Language Acquisition. Project involves assisting with language studies testing the development of 3 and 4-year-old children's grammar. Testing takes place at day care centers in Arlington. Interested students must have 2 completely free mornings a week. Own transportation helpful. Some background in linguistics preferred. Pay or credit. Faculty supervisor: Prof. Ken Wexler, E10-020; contact: Rosalind Thornton, E10-246, x3-7957 or (203) 974-2063.

Brain and Cognitive Sciences. A motivated, independent and reliable undergraduate is sought to carry out neurobiological research on the development of mammalian nervous system. The project is well defined on the development of the retina that would involve learning neuroanatomical techniques (dissecting, slicing tissue, applying dyes) as well as microscope work (analyzing tissue, drawing, photographing). At the beginning the student would work closely with a senior colleague before working independently with supervision. Seeking a one-year commitment, for pay or credit, at least 10 hours per week. Faculty supervisor: Prof. Mriganka Sur, E25-618; contact: Cheryl White, E25-618, x3-8785.

Cardiac Imaging Research. Opportunity for one or more students to participate in a large international study on regression of coronary arteriosclerosis. The project involves computer acquisition and analysis of coronary angiograms. For more information please call. Faculty supervisor: Prof. Robert S. Lees, HST, x3- 3012.

Arteriosclerosis Research. Opening available to study the cellular metabolism of lipoproteins, including the affects of growth factors on lipoprotein metabolism. Prior research experience is desirable but not essential. For more information, please call. Faculty supervisor: Prof. Robert S. Lees, HST, x3-3012.

Econometrics. UROP student needed to assist with assembling and analyzing data on stock returns and financial structure. Knowledge of basic econometrics is essential. Faculty supervisors: Prof. Julio Rotemberg, E52-432, x3-2956, or Prof. Robert Pindyck, E52-454, x3-6641.

Research in Molecular Genetics. Position available for an organized, hardworking student with a significant amount of time, to participate in research employing molecular genetic techniques to study the "Murine Y Chromosome" and "Mammalian Sex-Determination." The successful candidate will work also with a postdoctoral fellow at Whitehead. Faculty supervisor: Prof. David C. Page, WH429B, x8- 5203; contact: Amy Daigle, x8-5472.

Experimental Fluid Mechanics. Student needed to conduct experiments in a recently developed apparatus used to study the movement and interaction of multiple fluids within a narrow cavity. Results from this experiment will provide important data to verify various numerical algorithms developed in our lab. (REL-Mechanical Engineering). Seeking someone with a light course load who can commit at least 12 hours a week during the fall. Faculty supervisor: Prof. Michael Cleary, 3-352, x3-2308; contact: Amaury, x3-2318 or e-mail amaury@rel.mit.edu.

Numerical Methods. Student needed to assist on verification of various numerical algorithms developed at REL (Mechanical Engineering). Codes written in Mathematical (Macintosh), FORTRAN-77 (DECstation-3100, CRAY) and "FORTRAN-90" (Connection Machine). Student will compare numerical results against experiments in our laboratory and learn techniques to enhance the current algorithms. Seeking someone with a light course load who can commit at least 12 hours a week during the fall. Faculty supervisor: Prof. Michael Cleary, 3-352, x3-2308; contact: Amaury, x3-2318 or e-mail amaury@rel.mit.edu.

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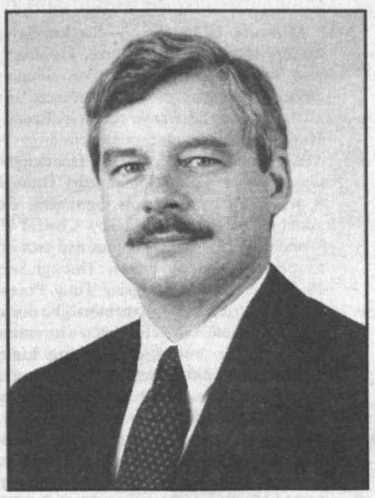
RETURNS FROM LEAVE

Schmalensee to Head Energy Policy Research

Professor Richard Schmalensee, the Gordon Y Billard Professor of Economics and Management, has been named director of MIT's Center for Energy Policy Research (CEPR), a joint center of the Department of Economics, the Energy Laboratory and the Alfred P. Sloan School of Management. Professor Schmalensee returned to MIT this summer after two years as a member of the President's Council of Economic Advisers.



Professor Schmalensee

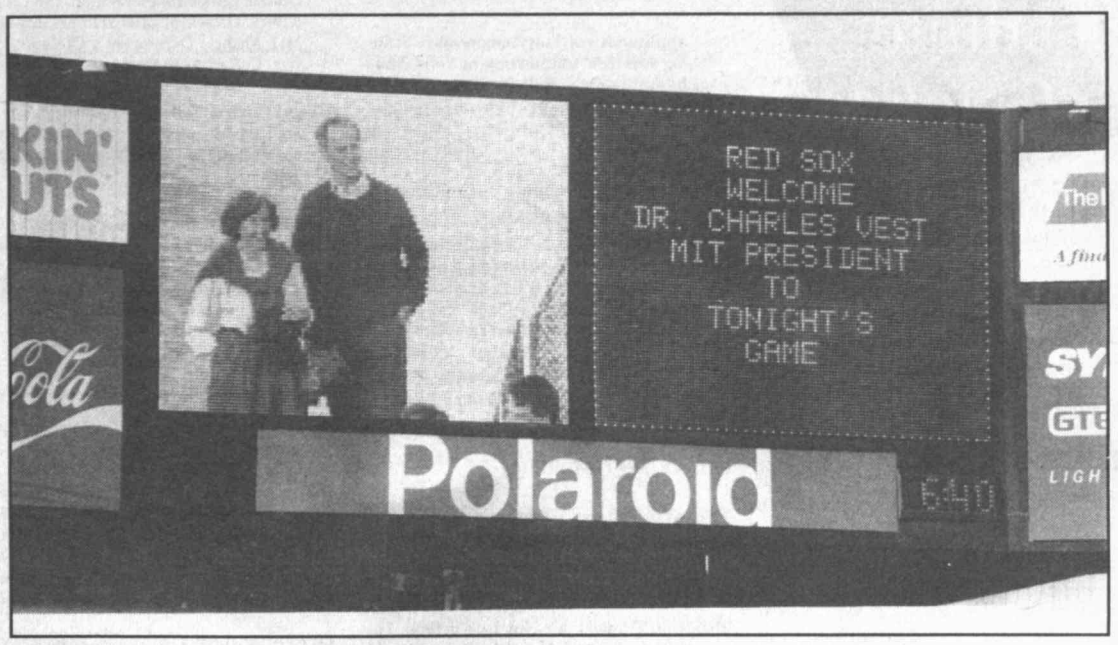
Professor Schmalensee's appointment was announced by the MIT provost, Professor Mark S. Wrighton, who said: "Dick Schmalensee has both a distinguished record of academic accomplishment and high-level experience in the development of national energy and environmental policy. I am very confident that under his leadership the CEPR will build on its strong record of producing high-quality research that guides important policy decisions facing the United States and the world community."

Since its founding in 1977, the CEPR has been the focus of research on energy markets and policies at MIT and an international forum for the examination of policy alternatives. In recent years, the CEPR's research, which is mainly industry supported, has been increasingly concerned with environmental policies related to energy production and use. Earlier this year, the CEPR and the Center for Global Change Science created a Joint Program on the Science and Policy of Global Change to provide a focus for policy-relevant, interdisciplinary research on global climate issues.

Professor Schmalensee, an MIT faculty member since 1977, received the SB (1965) and PhD (1970) degrees from MIT. He served as area head for economics, finance and accounting in the Sloan School of Management from 1987 to 1989.

Professor Schmalensee is widely recognized as an authority on the economics of industrial markets and on regulatory and antitrust policy. He has authored or co-authored more than 60 papers and six books, is the founding editor of the MIT Press series, *Regulation of Economic Activity*, and is a Fellow of the Econometric Society. While on the Council of Economic Advisers he played an active role in the development of the National Energy Strategy, served as a member of the White House Environmental Policy Review Group, and was a US delegate to the 1990 White House Conference on Science and Economics Research Related to Global Change.

50th Birthday Surprise for Dr. Vest



AT THE BALL GAME—President Charles M. Vest walked home a week ago Tuesday to what he thought was a reception for members of the MIT community. Instead, he was stunned to find his wife and about 100 friends and colleagues singing Happy Birthday, and preparing to whisk him off to Fenway Park for a surprise fiftieth birthday party at MIT's Night at the Sox, which featured a tour of the ballfield and the singing of the Star Spangled Banner from home plate by Ellen Harris, Associate Provost and Professor of Music. Here, the Boston Red Sox beam up to the scoreboard the video of Chuck and Becky Vest on the field outside the Red Sox dugout before the game. Despite the cheers of 31,000 people and the waving of nearly 200 Vest Fans–paper fans showing a cutout photo of Dr. Vest's face–the Sox lost, 2-0. (On Sept. 9, Dr. Vest's actual birthday, the Sox were winners in Cleveland.) **Photo by Donna Coveney**

FIRST SCHOLAR

Darnton to Launch Cultural Series

The distinguished historian Robert Darnton will be at MIT the next three days as the first Visiting Scholar in Cultural Studies, beginning his activities with a public lecture this afternoon (Wednesday, Sept. 11).

A MacArthur Prize Fellow and the Shelby Cullom Davis Professor of European History at Princeton University, Professor Darnton will speak on the topic, "Censorship, A Comparative View: France, 1789 – East Germany, 1989." The lecture, at 4:30pm in Rm 25-111, will draw in part on Professor Darnton's research in East German archives during the extraordinary period marking the dissolution of the communist empire.

On Thursday and Friday, Professor Darnton will visit classes, confer informally with students and faculty, and address the Literature-History Workshop, a faculty symposium devoted to current research in humanities.

His visit inaugurates the Visiting Scholar series, a major new program of the Cultural Studies Project. The series will bring ground-breaking researchers working in areas of special interest to MIT humanists to campus.

"We believe the Visiting Scholars program will immensely enrich both teaching and scholarship in the humanities here," said David Thorburn, professor of literature and director of the Cultural Studies Project.

Now in its second year, the project, initiated by the humanities faculty and funded by the Office of the Provost and the School of Humanities and Social Science, aims to stimulate interdisciplinary research and discourse at the cutting edge of the humanities.

FALL WELCOME

Community Ball Honors Vests' First Year

All members of the MIT community are invited to a ball on Saturday, Sept. 21, in honor of President Charles M. Vest and his wife, Becky, as they near completion of their first year at MIT.

Sponsored by the Presidential Inaugural Committee, the MIT Community Ball will be held in the Johnson Athletics Center starting at 8:30pm.

The ball's theme, "Be a star. Dance under the stars," hints at its decorations.

Music will be by Dick Johnson's Swing Shift Orchestra under the direction of Dave Burdet. Refreshments will include desserts, punch and champagne.

Claude R. Canizares, chairman of the Inaugural Committee, said the ball is open to faculty, staff, students, alumni and friends of MIT in the Boston area. "Everyone is encouraged to come—solo, with a spouse, or with friends," he said. Dress is black tie, festive, or international.

Tickets ($10 for students and $15 for others) are available in the Alumni Office (Rm 10-110), Graduate Student Council Office (Rm 50-222), Information Center (Rm 7-121) and MITAC, located in the Office of Special Community Services (Rm 20A-023). Also, there will be ticket booths in Lobby 10 and the Stratton Student Center Lobby.

Speaker Suggestions Wanted

The Commencement Committee invites suggestions for the guest speaker at MIT's Commencement Exercises on Monday, June 1, 1992, from all members of the community.

The speaker should be one who can address topics of relevance to MIT.

Written nominations may be dropped off at the Undergraduate Association Office, Rm W20-401; the Graduate Student Council Office, Rm 50-222, or the Information Center, Rm 7-121.

Suggestions may also be filed with Furio Ciacci, president of the GSC; Aileen W. Lee, president of the Class of 1992; Mary L. Morrissey, executive officer for Commencement, and Professor Martin F. Schlecht, chairman of the Commencement Committee.

All suggestions will be reviewed and a list will be submitted to President Charles M. Vest. The list will not be made public nor will it be rank ordered. The responsibility for selecting a Commencement speaker and issuing an invitation will rest with President Vest.

The deadline for nominations is Friday, Sept. 20.

Heywood Fills in for Bowen at LFM

Professor John B. Heywood of the Department of Mechanical Engineering will serve as acting co-director of the Leaders for Manufacturing Program (LFM) during Professor H. Kent Bowen's sabbatical from August 30 to September 1, 1992, the LFM has announced.

Professor Heywood, director of the Sloan Automotive Laboratory, has been active with the LFM since 1988. He is the LFM engineering liaison to Chrysler Corp.

Awards & Honors

■ Dr. **Robert S. Langer**, Germeshausen Professor of Chemical and Biomedical Engineering, is the winner of the 1991 C.M.A. Stine Award for Materials Engineering and Sciences given by the American Institute of Chemical Engineers.

The awards committee cited Professor Langer, a leader in the fields of polymers and bioengineering, "for pioneering contributions to the synthesis of new polymeric materials, their innovative structural modification, and their skillful application in a wide range of pharmaceutical and biomedical uses."

■ A professor and a visiting professor in the Department of Ocean Engineering—Professors **Koichi Masubuchi** and **Leopold B. Felson**, respectively—have received special recognition.

Dr. Masubuchi, Kawasaki Professor and professor of materials science and ocean engineering, is one of 13 longtime members of the American Welding Society to be named Fellows of the society—the first group so honored.

The designation recognizes AWS members for distinguished contributions in the field of welding technology. Professor Masubuchi, a Life Member of the society, is an authority on welding fabrication of marine and aerospace structures, and a leader in the introduction of computer technologies to the analysis of welded structures and modeling of welding fabrication.

Dr. Felson, a visiting professor at MIT for the last two years, has been awarded the 1991 Heinrich Hertz Medal of The Institute of Electrical and Electronic Engineers (IEEE).

The medal, which recognizes outstanding achievement in the field of electromagnetic radiation, is being given to Dr. Felson "for highly original and significant developments in the theories of propagation, diffraction and dispersion of electromagnetic waves."

Dr. Felson is University Professor and former dean of engineering at Polytechnic University in Farmingdale, N.Y. His research at MIT is focused on structural acoustics—the propagation of sound through and from complex structures.

■ Dr. **W. Gerald Austen**, an MIT graduate, Life Member of the MIT Corporation and chief of surgical services at Massachusetts General Hospital, has been elected vice chairman of the Knight Foundation. Dr. Austen, who received the SB in mechanical engineering in 1951 and an MD from Harvard Medical School, is an internationally recognized heart surgeon.

The Knight Foundation, one of the nation's largest private foundations, makes grants in journalism, higher education and the field of arts and culture. It is the principal sponsor of the Knight Science Journalism Fellowships program at MIT.

■ MIT's **Sigma Chi** Chapter took three top awards at the fraternity's Leadership Training Workshop in August at Oklahoma State University.

The first, the Peterson Significant Chapter Award, is the highest honor bestowed upon an undergraduate chapter. All major areas of chapter operations are considered, including scholarship, member retention, finances, pledge retention, campus activities and leadership, campus and community service, alcohol awareness, faculty and alumni relations, publications, and ritual, initiation and pledge programs. The winning chapter receives a plaque and a Sigma Chi Foundation cash contribution to MIT's counseling and/or tutoring program.

The MIT chapter also received the Legion of Honor award and a Public Relations Citation. The former recognizes its commendable scholastic and education programs, and the latter its awareness of, and contributions to, good public relations.

■ Boston Magazine's annual "Best and Worst" feature gives a "Best" in public art to the sculptures on MIT's campus, notably Henry Moore's 1976 Three-Piece *Reclining Figure, Draped* in Killian Court, Alexander Calder's 1965 *Big Sail* in McDermott Court, Louise Nevelson's 1975 *Transparent Horizon* on the Building 66 (chemical engineering) plaza near Ames Street and Pablo Picasso's 1963 *Figure Découpée* in front of the Hermann Building on Wadsworth Street.

Suggests the magazine: "Take a walk."

Institute Calendar

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

September 11 - 22

■ SEMINARS & LECTURES

Freshmen are encouraged to attend departmental lectures and seminars. Even when these are highly technical they provide students one means to learn more about professional work in a department and field.

WEDNESDAY, SEPTEMBER 11

Lessons from Two-Dimensional Gravity—Prof. Greg Moore, Yale Univ.** LNS Joint Theoretical Physics Seminar, 4:30pm, Bldg 4, 3rd floor CTP Seminar Rm.

Human Capitalism*—Robert S. Ozaki, California State Univ at Hayward. Cosponsored by the MIT Japan Program and the Japan Society of Boston, 5:30-6:30pm, Rm E38-7th flr conf rm.

MIT Enterprise Forum*—Case Presentation: Harvard Design and Mapping Co., 6pm, Rm 10-250, registration 5:30, $5 fee, $2/students. Spotlight Series: "Do I Need a Board of Directors?" with Robert Badavas, Chipcom Corp.; Charles Granville, CIMtelligence Corp.; Daniel Holland, Morgan Holland Ventures Corp.; Peter Loconto, Ceramic Process Systems, Inc., 7:45pm.

THURSDAY, SEPTEMBER 12

From Expanding Atmospheres to the Expanding Universe*—Prof. Robert P. Kirshner, Harvard. Physics Colloquium, 4:15pm, Rm 10-250. Refreshments, 3:45pm, Rm 26-110.

FRIDAY, SEPTEMBER 13

The Mechanism of Self-Organization Drift Wave Turbulence*—Dr. Bruce D. Scott, IPP, Garching. Plasma Fusion Center Seminar Series, 11am, Rm NW17-218. Refreshments.

Success Factors in Technology Transfer—John Preston, MIT.** Mechanical Engineering Colloquium, 3pm, Rm 3-270. Refreshments, 4pm, Rm 1-114 (Miller Rm).

Mode-Locked FEL Oscillator Experiments*—Dr. Eli Jerby, Tel Aviv University. Plasma Fusion Center Seminar Series, 4pm, Rm NW17-218. Refreshments.

MONDAY, SEPTEMBER 16

Summary of FML Faculty Research—Forbes Dewey, Mark Johnson, Roger Kamm.** Fluid Mechanics Seminar Series, 4-5pm, Rm 5-234.

Setting an Agenda for MIT*—C.M Vest, President, MIT. EECS Colloquium Series, 4-5pm, Rm 34-101. Refreshments, 3:30pm.

Straight Out of Hollywood: Thelma and Louise, Spike and Annabelle*—Lillian S. Robinson, author and visiting scholar, Univ. of Texas. Sponsored by the Women's Studies Program and the Cultural Studies Project at MIT, 4:30pm, Rm 9-150.

TUESDAY, SEPTEMBER 17

Microsensors—Prof. Stephen Senturia, MIT.** Autonomous Underwater Vehicles Seminar Series sponsored by MIT Sea Grant, Draper Labs and MIT Ocean Engineering, 12pm, Rm E38-300. Bring lunch.

WordPerfect User Group—Coordinated by Information Systems, 12-1pm, Rm 1-390. Topic: Back to Basics and DOS Virus Update. Contact Gail Garfield Neuman, x3-0878.

Process/Structure Innovations—Pacesetters for Semiconductor Technology Evolution*—H. Bernhard Pogge, IBM. Microsystems Technology Laboratories, VLSI Seminar, 4pm, Rm 34-101. Reception, 3:30pm.

Laser Guide Star Adaptive Optics at Haleakala*—Ron Parenti, MIT Lincoln Laboratory. Astrophysics Colloquium, 4:15pm, Rm 37-252. Refreshments, 3:45pm.

WEDNESDAY, SEPTEMBER 18

Microsoft Word (for the Macintosh) User Group--**Coordinated by Information Systems, 12-1pm, Rm 12-182. Topic: Using Word With System 7. Contact Phyllis Crerie x3-0736.

Leonardo da Vinci's Kinematics of Flow and Tranport Phenomena—Prof. Enzo Macagno, Emeritus Prof. of Mechanical Engineering, Univ. of Iowa.** Sponsored by MIT Sea Grant and Dept. of Ocean Engineering, 1:30pm, Rm 5-314.

New Applications of Low Temperature Scanning Electron Microscopy in Solid State Physics—Prof. R. P. Huebener, Univ of Tübingen, Germany.** Thermal Science Seminar, sponsored by the Dept of Mechanical Engineering, 4pm, Rm 5-234. Refreshments, 3:45pm.

THURSDAY, SEPTEMBER 19

C 60 - From Soot to Superconductivity*—Dr. Arthur Hebard, AT&T Bell Laboratories. Physics Colloquium, 4:15pm, Rm 10-250. Refreshments, 3:45pm, Rm 26-110.

Crisis in the American Universities*—Camille Paglia. Sponsored by the Writing Program, 8pm, Rm 10-250.

FRIDAY, SEPTEMBER 20

The Atmosphere Chemistry of Global Change—Dr. Charles Kolb, Aerodyne Research.** Sponsored by the Chemical Engineering Dept, 3pm, Rm 66-110.

Modes of Tropical Air-Sea Interaction: Towards a Unified View—Dr. J. David Neelin, UCLA.** EAPS Department Lecture Series, 4pm, Rm 54-915.

■ FILMS

Video News Tapes on India from Newstrack*—Sept 23: Showing in a series of video tapes, covering events during August, from Newstrack, an independent news agency in New Delhi. Sponsored by the Center for International Studies, 4:30pm, Rm E38-615.

■ COMMUNITY INTEREST

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

Al-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.

Eldercare Support Group—**Meetings every Monday 12-1pm, Rm 8-219. For info call Carole x3-9368 or Maria x3-8820.

Informal Embroidery Group—**MIT Women's League, 10:30am-1:30pm. Upcoming dates are: **Sept 18, Oct 2, 16, Nov 6, 20, Dec 4, 18.** Meets in Rm 10-340, the Emma Rogers Room. Info: x3-3656.

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

Overeaters Anonymous (OA)*—Meets Thurs, 1-2pm, Rm E23-364. Only requirement for membership is the desire to stop eating compulsively. Info: Alice, x3-4911.

Parenting Workshops*—Sept 19: Raising Children for a Multicultural World, 12-1:30pm, Rm 14E-304. Sponsored by the Child Care Office.

Parent Support Group*—Wednesdays, 12-1pm, sponsored by Parents Anonymous and MIT Child Care Office. Call 1-800-882-1250 for more information.

Wives' Group—Sept 11:** "Getting Acquainted and Settling Down Here—Where to Find What You Need and Meet Others," Charlotte Schwartz, Wives' Group Leaders and Members of the Wives' Group. **Sept 18:** No meeting. Meetings are from 3-4:45pm, Rm 491 Student Ctr. Babysitting in Rm 407. All women in MIT community welcome. Info: x3-1614.

■ HEALTH EDUCATION

Nursing Mothers' Support Group—**Pregnant and breastfeeding women at MIT meet to gain confidence and share info and practical tips. First Tues of each month, 10-11:30am and third Wed of each month, 4-5:30pm, Rm E23-297. Babies welcome. Info: Margery Wilson 868-7218.

Working Mothers Support Group—**An ongoing support group that meets to discuss parenting-related issues in a casual atmosphere. Meets every other Thursday, 12-1:30pm (drop in anytime), Rm 18-591. Info: Therese Henderson, x3-7492.

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.

Weight Control Followup—Sept 9-Nov 18:** Six sessions, Mondays, 11:30am-12:30pm. For past Weight Control participants. Fee: $40.

Tape Time for Health—**A new, 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. Lincoln Lab sales in Rm A-218, 1-2pm Tues-Fri. Ticket sales in Lobby 10 and E18 and E19 on Fridays, 12-1:15pm. 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 and Loews Cinemas, both are $4/ea (Loews tickets are not valid the first 2 weeks a movie is released). Tickets are good 7 days a week, any performance. Due to popular demand, Showcase discount tickets have returned—tickets are $4.25 ea, valid Mon-Thurs only.

King Richard's Faire—Sept 14, 21, 28 & Oct 5, 12, 14, 19, 20: South Carver, MA, tickets $9/ea (reg. $12/ea), must be purchased by Oct 15.

MIT Community Ball in Honor of President and Mrs. Vest—Sept 21: With Dick Johnson's Swing Shift. Desserts, beverages. Formal (black tie)/festive attire, please. 8:30pm, Johnson Athletics Center. $15/MIT Community, $10/students. Tickets also available in 7-121, Lobby 10, and Student Center Information Desk.

The Big E: The Eastern States Expo—Sept 21: Bus leaves Hayward lot 8am, returns approx. 6pm. Tkts $16/pp.

English Afternoon Tea in the Berkshires—Sept 29: Visit to Stockbridge for over 2 hours and high tea at the Village Inn in Lenox. Bus lvs. Hayward lot 10am, returns approx. 6pm. Tkts: $29/pp (incl. bus & High Tea).

Celtics vs. Lakers—Oct 12: 7pm, Worcester Centrum. Cost: $32.50/pp (incl. r/t bus, lvs Hayward Lot 5pm, returns approx. 11pm, and ticket) or $21/pp (ticket only). Tickets go on sale Sept 12 (10am in 20A-023, 1pm at Lincoln Lab A-218); limit 2 tkts/pp with 1 MIT ID, first come, first served.

Weekend Fall Foliage Shopping Spree in North Conway, NH—Oct 19-20: Hundreds of outlet stores. Cost: $135/pp/dbl. occup. incl 1 night's lodging at the Red Jacket Inn, Sat. evening dinner, full breakfast Sunday, and bus. Bus lvs Hayward Lot 8:30am Saturday and returns approx. 7:30pm on Sunday. Reservations must be made by Sept 17.

Autumn Weekend in Hyannis—Oct 25-27: $65/pp/dbl. occup. includes 2 night's lodging at the Hyannis Travel Inn, 2 continental breakfasts, 2 dinner discount allowances at a fine restaurant, and r/t bus. Reservations begin Sept 11 (10am in 20A-023; 1pm at Lincoln Lab A-218). Limit 1 rm/pp with one MIT ID. Reservations and full payment due by Sept 30.

Museum of Fine Arts—The Council for the Arts has 10 passes employees may borrow for free admission. Call the MIT libraries, x3-5651, for availability. At Lincoln Lab, MFA passes are available in A-150.

Discounts (i.e., coupons, use of MIT ID, etc): Arlington Capitol Theatre, Cambridge Discount Coupon Books (including the new City Books, $1 ea, valid through 11/15/91), Ferry discounts, Kay Jewelers, Kendall Athletic Club, Lyric State subscriptions, Magic Kingdom, selected New England inns, North Shore Music Theatre, Plymouth County discounts, Rebecca's Café, Riverside, Vanity Fair outlet, Waltham Racquet & Fitness Club, whale watches, whitewater rafting. Call MITAC.

Contact MITAC for diverse getaway information and summer dance/music schedules in Boston/New England.

■ SOCIAL ACTIVITIES

Japanese Lunch Table. Meets Tuesdays at 1pm, Sept 17 through Dec 10 (except 10/15) in Rms 400 & 407 in the Student Center. Bring a lunch and talk with native Japanese speakers. Free babysitting. Beginning Japanese speakers are especially welcome. Call Susan Sherwood x3-8095 or Kimie Shirasaki 484-6533.

■ MOVIES

Admission to below Lecture Series Committe 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.

LSC Movies-Sept 13:** *Desk Set,* 7:30pm, Rm 10-250. *Dances With Wolves,* 6, & 10pm, Rm 26-100; 8pm, Rm 10-250. **Sept 14:** *Green Card,* 7 & 10pm, Rm 26-100. **Sept 15:** *Casablanca,* 7 & 10pm, Rm 10-250. **Sept 20:** *Gaslight,* 7:30pm, Rm 10-250. *Sleeping with the Enemy,* 7 & 10pm, Rm 26-100. **Sept 21:** *Defending Your Life,* 7 & 10pm, Rm 26-100. **Sept 22:** *Stakeout,* 7 & 10pm, Rm 10-250.

■ THEATER

Call the Theatre & Dance Performance Hot-Line at x3-4720 for complete up-to-date information on theatre and dance performances at MIT.

Theater Arts Open House—Sept 11:** Meet the Theater Arts Staff & Faculty along with student representatives from MIT Dance Workshop, MIT Dramashop, MIT Gilbert & Sullivan Players, MIT Musical Theater Guild and the Shakespeare Ensemble. 7:30pm, Kresge Little Theater and Rehearsal Room A. More info x3-2877.

Sweeney Todd*—Sept 12-14: Stephen Sondheim musical about the "demon barber of Fleet Street." Sponsored by the MIT Musical Theater Guild, 8pm, Kresge Little Theater. $8, discounts avail for students & seniors.

■ DANCE & MOVEMENT

MIT Tech Squares*—Western Square Dance, Tuesday nights. Classes begin **Sept 17**, 8pm, Student Center, Sala de Puerto Rico. More info x3-2700.

Ballroom Dance Team Members—**MIT/Wellesley students needed to be part of a competitive/performance ballroom dance team. Basic ballroom training is helpful, but beginners are welcome. All you need is a willingness to learn, dancing feet and a smile. Shane Atwell 782-7326 or Suresh Adina 225-9594. Practices Tuesdays, 50-201, 7:30-9:30pm.

MIT Folk Dance Club*—Three nights of dancing. Sunday: International Dancing, 7-11pm, Lobby 13, with Early Teaching from 7-7:30pm. Tuesday: Advanced Balkan Dancing, 7-11pm, Rm 491, Student Center. Wednesday: Israeli Dancing, 7-11pm, Lobby 13, with Early Teaching from 7-7:30pm. Info: x3-FOLK.

Aerobics Classes*—Sponsored by the MIT Dance Club, Every Mon, Wed, Fri, 6-7pm, Bldg W31 Dance Studio. $4/class, beginners welcome. More info: Julia, 492-1369.

Yoga*—Ongoing classes in traditional Hatha and Iyengar style. Beginners: Mon, 5:10pm; Intermediate/Advanced: Mon, 6:30pm, Rm 10-340. For information call Ei Turchinetz, 862-2613.

MIT Dance Workshop—Sept 17:** First meeting for winter dance concert, beginners welcome, 7:15pm, Walker 201. For more information call Jackie 266-3750 or Melinda 492-5464.

MIT Dance Workshop Classes*—An activity of the Theatre Arts program taught by members of the Beth Soll & Co, MIT's resident dance company. Beginning Modern Technique, M,W, 3:30-5pm, T-Club Lounge, Dupont Ctr; Intermediate Modern Technique, Tu,Th, 5:30-7pm, Walker-201; Composition/Improvisation, Tu 1-2:30pm, Walker-201; Tap, W 11:30am-1pm, Walker-201; Modern Dance Technique—All Levels, F 11:30-1, Walker-201. Info: x3-2877.

Tai Chi—**Ancient Chinese exercise beneficial to physical, mental, and emotional health. **Sept 11:** Open House; **Sept 18, 25:** Introductory classes; 5pm beginners; 5:30pm intermediate/adv, Rm 10-340. Call x3-4724.

■ EXHIBITS

List Visual Arts Center—Annual Student Loan Art Exhibition and Lottery: Contemporary prints and photographs from MIT's permanent collections, all available for one-year loan to MIT students and student groups. Includes works by Berenice Abbott, Albers, Calder, Johns, Motherwell, Rauschenberg, Warhol. Through Sept 20. Application deadline for lottery selection: Sept 19, 6pm. List Center 24-hr Hotline x3-4680.

MIT Museum Bldg (N52)—Buckminster Fuller: Harmonizing Nature, Humanity and Technology. Retrospective including models, drawings, photographs, artifacts. Sept 20 through Dec 15. **Watercolors by Freddy Homburger:** Landscapes, primarily of Mexico and Maine by Freddy Homburger, physician, scientist, diplomat, artist. Through Sept 12. **Postcards from Ogunquit.** Oil sketches and larger works by Charles H. Woodbury, 1886 MIT alumnus and turn-of-the-century American painter. Through Sept 15. **Doc Edgerton: Stopping Time.** Photographs, instruments, and memorabilia documenting the late Harold Edgerton's invention and use of the strobe light. Ongoing. **Light Sculptures by Bill Parker.** Vivid interactive light sculptures, each with its own personality and set of moods. Ongoing. **Holography: Types and Applications.** Scientific, medical, technical and artistic imaging drawn from the work of the Spatial Imaging Group at MIT's Media Lab. Ongoing. **Math in 3D: Geometric Sculptures by Morton G. Bradley, Jr.** Colorful revolving sculptures based on mathematical formulae. Ongoing. **Harold Tovish: Tenant, 1964-65.** Sculptural installation utilizing stroboscopic light by MIT's Center for Advanced Visual Studies Fellow. Ongoing. **Mathspace.** Hands-on exploration of geometry. Ongoing. Tues-Fri 9-5; Sat-Sun 1-5. 24-hr Hotline: x3-4444.

Hart Nautical Gallery—Ongoing exhibits: George Owen '94, Yacht Designer, Ship Models, Half Models in Naval Architecture. Ongoing. 77 Mass Ave, Mon-Sun 9am-8pm.

Corridor Exhibits—Bldg 1 & 5, 2nd floor: **John Ripley Freeman.** Lobby, Bldg 4: **Norbert Wiener, Karl Taylor Compton. Community Service Fund, Ellen Swallow Richards. Women at MIT.** An overview of the admission of women at MIT. Five photographic panels with text documenting the circumstances that increased the number of women in the classroom since Ellen Swallow Richards. Bldg 6: **Laboratory for Physical Chemistry.**

Compton Gallery—Crazy After Calculus: Humor at MIT. Photographs, cartoons, and a collection of artifacts documenting a rich history of MIT wit and wizardry shown through "hacks,"—elaborate practical jokes involving humor and/or engineering technique. Through Sept 21. Hours 9-5 weekdays.

Other Exhibits—Institute Archives and Special Collections: Julius A. Stratton: Happy Birthday. In honor of his 90th birthday, May 18, this exhibit chronicles Dr. Stratton's career at MIT from his student days (Class of 1923) to his presidency (1959-1966). It also reviews his government service and scientific contributions outside MIT. **WIT at MIT: Thesis Humor.** The lighter side of thesis writing as expressed in titles, dedications and acknowledgments. First floor corridor of Bldg 14.

■ WELLESLEY EVENTS

Sept 11: "The Splintering Vision of Emancipation: A Historical Account of Women's Political Agency," Sheila Rowbtham, 4:30pm, Library Lecture Room. Wellesley Peace Lecture by Loret Ruppe, Ambassador to Norway, 8pm, Jewett Arts Center Auditorium.

Sept 15: "The Evolving Role of the UN in the Nineties," William Rogers, former US Secretary of State, call 239-3121.

Sept 16: The Chinese Athletic Troupe, 8pm, Alumnae Hall Auditorium.

Sept 22: Charles Fisk, piano, 8pm, Jewett Auditorium.

■ LOOKING AHEAD

Attention Concourse Alumni—Sept 28:** 20th Anniversary Celebration. All-day forum on Redesigning an Undergraduate Education, followed by reception and dinner at the Hyatt Regency. Interested? Please call Cheryl Butters x3-3200 and leave name & mailing address.

Send notices for Wednesday, September 18 through Sunday, September 29 to Calendar Editor Rm 5-111, before 12 noon Friday, September 13.

SAT Course to Begin

An SAT preparation course for high school students will be offered by the Educational Studies Program this fall on six consecutive Sundays, September 22 through October 27. Registration for this year's course is this Sunday, September 15, 2-4pm at 77 Mass. Ave.

The course is designed to aid students in improving their SAT scores and includes two classes, verbal and math, geared toward understanding the subject matter as well as developing test-taking skills. The classes meet from 1-4:40pm each Sunday; each lasts an hour and forty minutes.

A $50 course fee covers all textbooks and other materials. Financial aid is available, but students must contact the ESP office at x3-4882 before registration to be eligible.

A diagnostic test will be given at registration, so students should plan to stay from 2-4pm (and be sure to bring a pen!). Enrollment is limited to 150 students on a first-come, first-served basis.

ESP is an MIT student activity that has offered high school students a variety of educational opportunities since 1957.

PROGRESS REPORT OF THE COMMITTEE ON ACADEMIC RESPONSIBILITY

August 12, 1991

To members of the MIT community:

We have received a progress report from the Committee on Academic Responsibility. It is now being distributed widely to the MIT community to stimulate dialogue on the issue of integrity in the conduct of academic research. The committee plans to use this document in discussions with members of the community and as a basis for its final report which is expected in the middle of the coming academic year.

We believe that the progress report provides an excellent framework for a discussion of how the Institute maintains the integrity of academic research on our campus and of how we discharge our stewardship to the public for its support of scientific research. You are encouraged to review the report and to discuss it with your colleagues. Please feel free to convey your views to the Committee on Academic Responsibility or to us.

We also believe that the increased dialogue and debate on these issues this fall will promote greater understanding about the conduct of academic research, an enterprise that is vital to the nation.

Charles M. Vest

Mark S. Wrighton

INTRODUCTION

The Committee on Academic Responsibility was established jointly by the President and the Provost in May, 1991. The charge to the Committee is:

1. Review the current situation with respect to the community values in connection with the conduct of academic research.

2. Review our existing policies and procedures in connection with the conduct of research in view of the values held by the community.

3. Compare our existing policies and procedures with guidelines and regulations of federal and private research sponsors.

4. Suggest innovative education and mentoring programs directed toward raising the consciousness of our community concerning issues associated with the conduct of research and also propose mentoring programs related to faculty career development.

The Committee began its deliberations in May. We met with many members of the MIT community, administration, faculty and postdoctoral students. We reviewed substantial literature dealing with the issues of responsibility in the conduct of scientific research. We read transcripts of congressional hearings and media coverage of developing cases.

Members of the community were most helpful to us, giving of their time and serious attention to these important issues. We benefited from the description of activities already underway in several departments to deal with the issues raised herein and with abstracted descriptions of relevant MIT experience and lessons learned.

We present here our interim report summarizing the progress that the Committee has made to this point. It is our hope that members of the MIT community will communicate to us in writing or in person their reactions, suggestions and criticisms of this document.

In our discussions to date, we have concentrated primarily on research in science, using a broad definition of science that would encompass the research activities of most of our academic departments. Although specific federal legislation applies only to research funded by NIH and NSF, we believe that the values we discuss and the need for education in values applies broadly to the conduct of academic research in general.

In this progress report we set out what we believe to be the consensus of the community regarding the values that must be upheld in the conduct of scientific research. We discuss the regulatory environment in which science must now function. We have little doubt that recent publicity about cases of scientific misconduct has damaged science and the scientific community in the eyes of the public and that the relationship between the research university and the federal government, our most important patron, has undergone a marked change for the worse.

We raise questions about the changes in science itself. Can we assume that the values of science will effectively be passed on from individual mentor to new students, or from faculty member to faculty member, by word of mouth? Do we have new responsibilities to develop occasions for education in a variety of forms to insure that students and faculty participate in discussions about research values?

We have not concentrated on the details of current MIT policies and procedures nor do we present any explicit recommendations in the areas of our charge. These will be a subject of our final report. We do raise questions which need to be examined in any revision of MIT procedures.

We intend to distribute this report broadly, to the faculty, to graduate students and to postdoctoral students for their review over the summer when the Committee will be somewhat inactive. We anticipate resuming our meetings in the fall. We plan to meet with groups of faculty and students to discuss the issues raised in this report. We welcome any inputs: letters and written statements, e-mail messages, requests to meet with the Committee. Of course, individual members of the Committee stand ready to discuss these issues with any member of the community.

We hope to issue our final report by the end of the fall term.

Scenarios

Scenarios and case studies are useful ways to discuss difficult issues that arise in the conduct of research and the mentoring of graduate students, postdocs, and junior faculty. Some examples are presented here in shaded boxes. These can serve as the basis for discussions within departments and research groups. The committee would be happy to receive any comments on the issues raised in these cases. Additional cases can be added to the committee's folder in Tech Info.

THE RESPONSIBILITIES OF UNIVERSITIES HAVE CHANGED

The last half century has seen the creation of a uniquely American institution, the research university. In many respects, MIT is the prototypical example of this new institution. A dedicated, active faculty, on the frontiers of research in a broad variety of disciplines across science and engineering, linking education and research in the service of society, carrying on a frenetic level of activity while achieving a high standard of excellence, make MIT a critical national resource and an institution of international impact.

So successful has this institutional form become as a way of structuring the scientific enterprise that it has become the primary vehicle for the education of students in science and the organization of faculty into research units. As the level of competition between research groups in the enterprise has grown, the funding pressures have increased, the size of groups has increased, and the pressures to gain priority by rapid publishing have increased. Today's collaborative research often involves specialists who cannot always evaluate each other's work in depth or detail. And increasingly, faculties have a dual allegiance, to their disciplines and peer groups, and to their institutions.

The enormous political and economic changes that have taken place in the world in the last decade—the collapse of the Soviet system, the emergence of Japan as a dynamic economic power, the budget and banking crisis in the United States—have fundamentally altered the relationship between this country's government and its major research universities. During World War II and for many years after that science was seen by both the government and the public as the major resource for solving problems affecting our national survival. Today science is perceived by many as yet another special interest group whose access to public funds must be severely scrutinized. The headlines that we have seen in the papers during the last few years are examples of this scrutiny.

However, the fact remains that many of the problems faced by the world—overpopulation, mismanagement and depletion of resources, pollution—can only be solved through the disciplined application of human knowledge and reason. We hope that when this is understood the public's esteem for science will be restored. Meanwhile the scientific community in general and MIT in particular must respond positively to the new realities arising from the increased scrutiny of science and scientists. It can do this by articulating clearly and transmitting to the next generation the abiding values of science, by constant self-examination and by correcting inadequacies and shortcomings as soon as they are discovered.

Because of the rapidity with which the changes noted above have taken place, much of the academic community is still unaware of the fundamentally altered environment in which the pursuit of science finds itself. Thus, among our colleagues on the MIT faculty we have encountered a fair number who believe that the newspaper headlines reflect the sensationalism of the press rather than fundamental changes in our environment. Many have only the dimmest awareness of the fact that there is now in place an elaborate administrative structure in both the Department of Health and Human Services and the National Science Foundation for dealing with allegations of scientific misconduct and that more stringent regulations aimed at the prevention of scientific misconduct are being considered by the Congress.

In addition to changes in the relationship between the research university and its chief sponsor, the US gov-

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ernment, the last decade has also seen major changes in relations between individuals differing in race, sex and position in the hierarchy. There is a new atmosphere in research universities among this diverse population who are now less likely to have a shared set of assumptions about their roles, rights and responsibilities and there is a new legal framework within which we must deal with these issues. Our informal conversations about these matters with faculty colleagues and other members of the MIT community indicate—not surprisingly—both unawareness of the situation prevailing beyond their own circle (laboratory, group or academic department) and confusion about their options and responsibilities.

Finally, the ever increasing pace of scientific research has greatly increased the pressure on each of us, from the most successful senior researcher to the entering freshman. Moralists have long taught that when pushed to extremes even the most sublime virtues turn into vices. There is therefore a real need to come to an understanding of how the drive for excellence in science impacts daily on each of us, on the manner in which we accomplish our work and on the ways in which we communicate our results.

In sum, we need to develop a greater sensitivity to the basic values inherent in the doing of science and of the many ways in which these can be compromised. We must not only articulate these values clearly, we need also to internalize them, to make upholding them an essential part of our daily lives. The process of examining our values and of the ways in which we implement them must become a continuing activity of the community involving our students, faculty and staff.

THE REGULATORY ENVIRONMENT

Universities have been subject to an increasing set of regulations affecting the conduct of Federally supported research. Since the university is the official recipient of the funds, the primary responsibility for fulfilling these requirements falls upon it. Since the faculty are the principal investigators and the supervisors of the research, they must accept the ultimate responsibility for fulfilling the university's obligations.

Federal regulations governing the conduct of research and the treatment of students, faculty, research staff and research subjects cover areas such as safety, protection of human subjects, animal care, equal opportunity, harassment, and financial affairs such as overhead and auditing practices.

As a result of several highly visible cases of alleged scientific misconduct, additional federal regulations have been established recently governing institutional response to charges of scientific misconduct that affect more directly the conduct of research by faculty, research staff and students. This remains an active area of congressional and regulatory interest. In addition, traineeships sponsored by certain federal agencies now carry requirements for instruction in the ethical conduct of scientific research.

Before the advent of these regulations, MIT had established internal procedures (contained in Policies and Procedures) to investigate charges of scientific misconduct. These procedures were recently revised to accommodate the new regulations regarding misconduct in research supported by NSF or NIH. We found that the small number of cases of scientific misconduct that have arisen at MIT are more complex than could have been envisioned by the drafters of any set of procedures. For example, the limited experience that we have had at MIT with the occurrence of such charges suggest that they often arise as a part of a more complex dispute in which charges of misconduct are raised only after charges such as poor mentoring, harassment, disagreements about publication of research results, failure to share data or improper authorship have been made and are not properly resolved in the eyes of one of the parties.

Disputes in science are normal, inevitable and often welcome.These include disputes about interpretation, selection, retention, and sharing of data, about research procedures, about the timing and content of publication, and about authorship and other intellectual property rights. Disputes in science can act to make science itself error correcting even though individual scientists are fallible.

It is important to emphasize that a charge of error in science or a dispute about interpretation of research results is not a charge of scientific misconduct. A scientific disagreement about the meaning of data that have been fully documented and disclosed in a publication is not the basis for a charge of misconduct. Conversely, an allegation of misconduct cannot be countered by asserting, or later demonstrating, that the science was correct if the data initially used in its support were fabricated or questionable in other ways.

Scientific misconduct, in most of its forms, involves an attempt to deceive. The definitions of scientific misconduct used by two federal agencies as a basis for their regulations are as follows:

PHS POLICIES AND PROCEDURES "Misconduct" or "misconduct in science" is defined as fabrication, falsification, plagiarism, or other practices that seriously deviate from those that are commonly accepted within the scientific community for proposing, conducting or reporting research. It does not include honest error or honest differences in interpretations or judgments of data.

NSF POLICIES AND PROCEDURES (revised May 15, 1991) "Misconduct" means (1) fab-rication, falsification, plagiarism, or other serious deviation from accepted practices in proposing, carrying out, or reporting results from activities funded by NSF; or (2) retaliation of any kind against a person who reported or provided information about suspected or alleged misconduct and who has not acted in bad faith.

Central to these definitions is the attempt to obtain credit for scientific advance by an act of deception. While all scientists would immediately condemn obvious occurrences of fabrication or falsification of data and plagiarism in science, broad definitions of these activities will produce gray areas where researchers may reasonably disagree. The definitions also include "other practices that seriously deviate from those that are commonly accepted within the scientific community for proposing, conducting or reporting research". For the most part, the federal government has looked to the scientific community to define such practices in reaching judgments about specific cases that occur on university campuses, but such language has also led to disagreements between universities and government agencies about the resolution of specific cases. (Also note that the new NSF definition includes retaliation against accusers in its definition of scientific misconduct.)

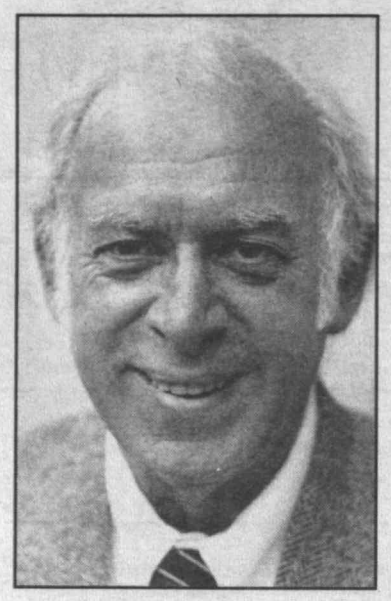
Not all misconduct by scientists should be equated with scientific misconduct. Other types of misconduct by scientists occurring in their lives or work such as misappropriation of funds for personal use, vandalism, harassment, tax evasion, etc., which unfortunately do occur from time to time, are not scientific misconduct and should be handled with the normal mechanisms used by institutions and society to deal with such behavior.

Scientific misconduct regulations differ substantially from previous regulations governing the conduct of university research and the treatment of personnel. Over the years universities have developed a variety of internal procedures for dealing with disputes and other conflicts that commonly arise in the course of research and other activities. Such procedures are developed within a body of applicable law and regulation and great care is taken to insure a high degree of confidentiality of the individuals and the allegations. If after all appeals have been exhausted, the internal procedures produce a result that is not satisfactory to one party, that party may decide to take the matter to the courts or to a government agency at which point the university typically ceases its efforts to resolve the dispute and becomes a party to the dispute.

The regulations governing investigations of allegations of scientific misconduct in research supported by NSF or NIH differ from this pattern of dispute resolution in that they require notification of the research sponsor at an early stage in the process, at the point when formal investigation of an allegation of scientific misconduct begins. The name of the accused scientist must be reported to the agency and may be placed in a data bank available to agency personnel. Certain restrictions may be placed on this individual while the investigation is in progress such as not being able to serve on an agency review panel. The conduct of the university investigation, its timing, its findings and its outcome is overseen by the agency which also receives a copy of the investigatory report. In some cases, the agency has disagreed with the findings of the university, usually finding misconduct where the university did not. Reports of completed investigations, including the name of the accused scientist, can be obtained under the Freedom of Information Act whether or not misconduct was found.

For research supported by NIH and NSF, MIT is now required to have a two stage process that responds to allegations of scientific misconduct. The first stage, called the inquiry, is the responsibility of the supervisor to whom the charge is brought. Given the seriousness of these issues, usually this would be the department head. This individual is required to conduct an inquiry to decide whether a formal investigation is warranted. This individual may conduct the inquiry her/himself or may set up a small group of faculty to do it. If, based on the inquiry, the supervisor determines that a formal investigation is warranted, the matter is referred to the Provost. It is at this point that the sponsoring agency is notified. The Provost would then set up a formal committee of investigation. MIT is also required to make an annual report on the number and nature of the allegations it has received and the outcome of inquiries it has conducted.

Dr. Sheila E. Widnall, committee chair, is the Abby Rockefeller Mauzé Professor of Aeronautics and Astronautics. She was the first woman chair of the MIT faculty, in 1979-80, and was president of the American Association for the Advancement of Science in 1987-88. She serves on the National Academy of Sciences Panel on Scientific Responsibility, and has been a member of several key committees at MIT. In 1974, she was the first director of university research at the US Department of Transportation.



Dr. Jerome I. Friedman, Institute Professor and William A. Coolidge Professor of Physics, shared the 1990 Nobel prize for physics for research that revolutionized particle physics. He has served on many national scientific advisory committees and, at MIT, was director of the Laboratory for Nuclear Science and head of the Department of Physics.

In this progress report we do not deal with the many issues surrounding the conducting of inquiries and investigations. This will be considered in our final report and we anticipate making specific recommendations in this area. In our meetings to date, many issues have been raised to us concerning these processes. Many of these issues appear later in this report framed as questions that need to be considered in any revision of MIT policies and procedures.

This area remains dynamic.The few, highly public cases that have occurred test the university's abilities to manage the research done on its campus and test the scientific community's ability to warrant the public trust. While there is no evidence that the scientific knowledge base has been seriously affected by these cases, the universities and the scientific community have been damaged in the eyes of the public and the Congress by these cases, not so much because they occurred but because they were not well handled.

Even a well handled investigation of scientific misconduct can lead to messy, highly public lawsuits where allegations of violation of due process and property rights abound. Criminal prosecution for scientific misconduct has occurred and suits against the individual or the university charging fraud in the use of government funds may follow a finding of scientific misconduct. The university may be liable for multiple damages if misuse of government funds occurs.

At MIT, our collective understanding of these issues and our ability to respond have shifted dramatically over the past few years. Although some important things can be learned from the few past cases that have occurred at MIT, our goal must be a robust set of policies and community attitudes that will allow us to respond to new challenges, the details of which we cannot possibly anticipate, while retaining the strengths of our institution.

THE ROLE OF THE FACULTY IN RESOLVING DISPUTES

The faculty plays an essential role in the resolution of disputes related to the conduct of research and education within the MIT community. The most important role that faculty play may be that which occurs well before a dispute in a research group has arisen

The Proposal Scenario

Three faculty members in a clinical department of a medical school collaborated to write a proposal in response to an NIH-Issued Request for Applications (RFA). The RFA mandated two phases: 1) The development of techniques for the non-invasive detection of a pathological state and 2) a clinical trials to evaluate several methods for treating that pathology. Collaboration started approximately two months before the due date but without the selection of a Principal Investigator. Ten days before the due date it was determined that the senior member of the team would be P.I. but would transfer that responsibility to one of the two others during the phase 2 clinical trials provided the grant was awarded. The day the grant was due, one of the other two collaborators withdrew because the PI would not agree in advance to transfer the PI-ship to him for phase 2. There were no other points of disagreement.

When he withdrew from the proposal, this individual denied the inclusion of the work he had drafted for the proposal. The proposal was submitted without the individual's name on it but portions of the material he drafted were left in. The material at issue pertains to the phase 2 clinical trials and includes the patient selection criteria and flow charts of the randomized treatment plan. They were generated after meetings between the two junior members of the collaboration in which they discussed the clinical trials. The material was contributed freely for inclusion in the proposal and without any preconditions or any statement that the material was proprietary in nature. Some of the material was subsequently edited and revised, but a small section concerning patient inclusion criteria for the clinical trials was used verbatim.

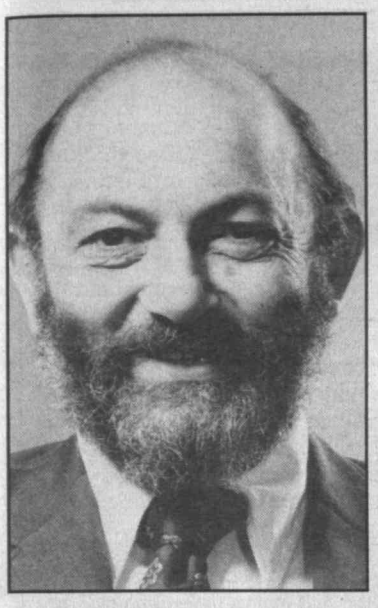
None of the material was original or unique in the sense of its being patentable. There is nothing in it that could not have been written by one who has read the RFA, knew the signs and symptoms for the disease entity and had access to a text on the design of clinical trials.

The individual who withdrew from the proposal subsequently notified the chair of the department and also NIH that material that he had contributed toward the proposal might be included without his approval. Given the facts as they are stated, the following questions come to mind.

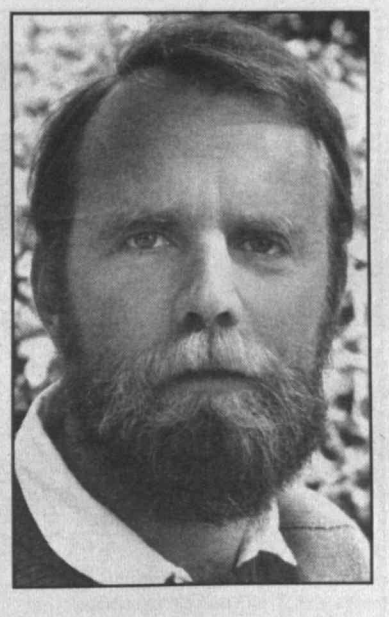
1. What rights does the individual who withdrew from the proposal have with respect to the material he contributed to the collaboration?

2. Are there any precedents for this situation?

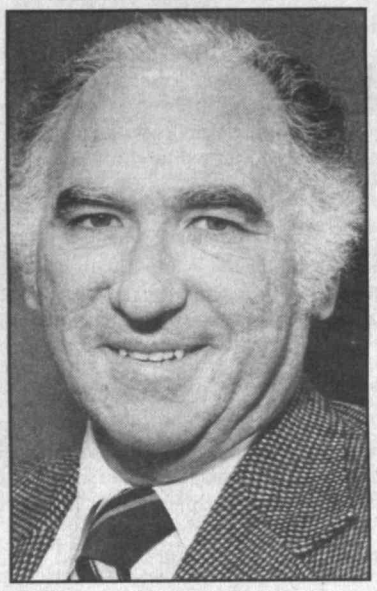
3. What are the most compelling arguments in favor of the remaining collaborators to have included this material in the proposal?



Dr. Morris Halle, Institute Professor and professor of linguistics, guided MIT's linguistics program to its commanding position among graduate programs in linguistics in American universities. He headed the newly-formed Department of Linguistics and Philosophy in 1976-77, the first year of its operation. He was the recipient of the James R. Killian Jr. Faculty Achievement Award in 1978-79, and served on the Faculty Advisory Committee on the Presidency preceding the selection of Paul E. Gray as president.



Dr. Richard C. Mulligan, professor of molecular biology at MIT and a member of the Whitehead Institute, is one of the nation's leading researchers in the field of human gene therapy. He received a MacArthur Prize Fellows Program grant for exceptionally talented persons in 1981. He has received a number of awards including the C.P. Rhoads Memorial Award in 1991 from the American Association for Cancer Research.



Dr. Gerald N. Wogan is the Underwood-Prescott Professor of Toxicology, professor of chemistry and director of the Division of Toxicology at Whitaker College. A leader in the identification of potent human carcinogens, he served both as head of the Department of Applied Biological Sciences and director of the Center for Environmental Health Sciences.

or even shortly thereafter. The active participation of faculty in discussions of research values and practices may help to set a climate where issues are easily resolved before positions are hardened. An open environment within departments and research groups will allow issues to be resolved at an early stage. An environment which encourages good research practices and which sees positive value in correcting earlier research claims in light of new evidence may prevent disputes from escalating, protect the rights of all involved, and allow everyone to get back to their laboratories.

Senior faculty have an especially important role to play. They can advise and counsel their colleagues caught in contentious situations, they can serve as mentors and colleagues to junior faculty, they can create an atmosphere of approachability for graduate students and postdocs, and they can serve as role models.

Faculty may act within a department at an early stage in providing advice, in mediating disputes, in inquiring into an allegation of misconduct or in response to a request for a resolution of a dispute. This is a most difficult role requiring the balancing of values of objectivity, fairness and collegiality. Individuals quite naturally react defensively whenever their behavior is questioned or criticized. Junior faculty may feel particularly isolated and fear that merely being questioned creates doubt as to their scientific capabilities or their abilities as research supervisors and mentors.

Formal charges brought to a supervisor or department head in a dispute can only be resolved within our set of academic and research values with the participation of individual faculty, who bring the required expertise in the disciplines involved and knowledge of the standards and practices of the field. There is little corporate memory available to faculty members charged with adjudicating such charges. Questions arise as to what constitutes evidence. What types of evidence can a university faculty be expected to gather (notebooks, eye witness accounts, manuscripts, dates on invoices for key supplies, vs. finger prints, ink dating, paper comparisons, other forensic evidence)?

What is the "standard of proof" or the level of certainty to be reached (more likely than not, clear and convincing, beyond a reasonable doubt) at different phases of an investigatory process? Who gathers evidence? How do we avoid conflict of interest? How do we insure a fair process? How do we protect the rights of alleged offenders, and other colleagues who may be involved in the research? What is the role of legal counsel at various stages in the process?

Are there stances that MIT and its research community can take that would help in the early resolution of such cases? What stance do we take when a colleague cannot produce the data to back conclusions in a proposal or paper? What should happen when that paper is challenged in a formal process?

What is the "burden of proof" placed on the individual bringing the allegations? At what point does the Institution take on the role of active investigation and remove the burden of proof from the original bringer of charges? How do we level the playing field for junior colleagues who question the behavior or the research results of senior colleagues? How can we avoid a situation in which the bringing of an allegation is extremely damaging to the career of the accuser? Faculty are ill equipped to handle many of these issues and service on the committees charged with the resolution of such cases is not highly sought.

VALUES IN SCIENCE

The general values that are held to be essential in research conform to those that ideally govern behavior and activities in the general society. Among these are honesty, performing one's craft with skill and thoroughness, respect and fairness in dealing with others, and responsibility to people and institutions.

The first of these, honesty, is the foundation on which scholarly inquiry is based. Research is the attempt to extract a body of knowledge, a set of principles, or laws from various observed phenomena and the highest standards of conduct and practice are necessary to assure the integrity of the results. Deception in the proposing, conducting, and reporting of scientific research is never acceptable and is totally opposed to the spirit of inquiry. Conflicts of interest, which can arise in the proposing, conducting, evaluating or reporting the results of research, must be avoided or fully disclosed. Scientists must participate fairly and thoroughly in the peer review system and not let personal interest or advantage influence their judgments, and there should be no unauthorized use of material obtained in the peer review process.

Skill and thoroughness, and other aspects of craftsmanship, are essential elements in conducting research and advancing a field. Good science requires good scientific practice, and the non-adherence to this principle is often the cause of much scientific dispute. While it is clearly desirable to be first in reporting scientific results, this should not be done at the cost of "cutting corners." A scientist's first responsibility is to be right. An important aspect of scientific practice is the proper reporting of one's work. The data, procedures, and controls of research must be fully disclosed in publication for the purposes of allowing the experiment to be replicated and the results and conclusions to be evaluated. The criteria used to select the data presented should be explained and defended. Such disclosures are required to insure the proper functioning of the system by which the support, credit and priority for scientific research is decided.

Errata should be promptly submitted to correct errors discovered after the publication of results. While science is inherently a risky enterprise, every effort must be made to minimize error. One way to decrease the probability of error is to make the research data available to all collaborators for their review. As a minimal requirement, each co-author should take responsibility for the full evaluation of data and procedures and for the conclusions of the paper in his/her area of expertise, and ideally all authors should take responsibility for the conclusions of the paper as a whole. Research data should be retained for a reasonable time after publications to allow for examination by others.

With regard to the value of respect and fairness to others, scientists should be scrupulous in assigning proper credit for intellectual achievement. Significant research contributions by individuals in a group project must receive acknowledgment through authorship on publications, or other suitable means. While there are varied practices with regard to authorship, the doctrine of fairness requires that an author should have made a significant intellectual contribution to the work. Specialized contributions that do not merit authorship should be acknowledged. In addition, the published results of others used in research publications should be properly referenced.

Education, being the major goal of a university, must play a significant role in university research activities. The education and development of postdocs and graduate students in research are objectives that clearly rank in importance with obtaining scientific results. Faculty have the responsibility to foster the development of intellectual independence and to communicate not only knowledge and research expertise in their fields but also the values that should govern research practices. Since young people constitute the next generation of scientists this is necessary to ensure the continuation of a healthy scientific tradition.

Proprietary and classified research in universities is detrimental to the objectives of education. Faculty engaging in such research are not able to divulge resulting ideas and knowledge to students and colleagues in general, eliminating this part of their efforts from the educational mission of the university. In addition, student and post-docs participating in this type of research are not able to get appropriate credit and recognition for their work in open publications and meetings, which can be highly damaging to their careers. The requirement of secrecy is antithetical to the traditions of university research, which are based on the idea that basic knowledge obtained in research and scholarly endeavors should be available to all of society.

EDUCATION IN VALUES IN SCIENCE

Ethical behavior in the conduct of scholarly research is of central importance in the educational programs of all academic institutions, but is of special significance in those with major research emphasis, such as MIT. Traditionally, principles of appropriate research conduct have rarely been explicitly discussed during the early phases of education of young scholars. Rather, they have been left to develop their own personalized code of behavior, based in part on personal values and in part implicitly, through examples set by their mentors. Senior scholars, in particular the faculty, therefore have borne the major responsibility for this important aspect of the educational process.

Faculty vary widely in the explicitness with which they convey appropriate research standards and practices. In some cases, new students may be instructed about the research practices in their group. In others, research practises are transmitted by word of mouth from other students and by interaction with faculty on specific issues as they arise. In our discussions with students, we noted a fair amount of uncertainty about these issues. Uncertain about their responsibilities and prerogatives within their research groups, they are often unsure about how to raise issues of concern and to whom they should be addressed. Issues of authorship provoked the most intense discussion, but issues of intellectual property in general, data selection, and publishing provoked lively discussion.

Complex issues of intellectual property arise quite naturally in the context of academic research. Students coming into a group are not always sure "who owns the data". Collaborative research often involves agreements about the timing of publication, sometimes across several university groups. When is a student free to publish the results of his/her experiment? Other issues arise when a student leaves the laboratory for a new position at another institution. Often, the final stage involves the participation of the student in preparation of grant proposals for both the student in his/her new role and for the continued work of the laboratory. Questions can arise as to "who owns the problem area." What material and equipment will the student be allowed to take on to his/her new position? Free and open discussion of these issues will help to insure that students understand how these matters are viewed and will help to prevent misunderstandings.

Because of the importance of mentorship in the establishment of values as a part of the educational process, it is important that members of the faculty develop an enhanced level of awareness of ethical issues that continually confront scholars at all levels of experience. It is also important that they encourage the development of educational activities that will clarify appropriate behavior in the conduct of research and will provide more explicit training in these areas to those working with them.

It seems to us that MIT students, both graduate students and postdoctoral students, could benefit from a more systematic discussion of the issues of appropriate research conduct. We see today's graduate students and postdocs as tomorrow's faculty. Where there exists confusion today about issues of research practice among students, there will exist uncertainty when they must function as faculty in their own research groups and in providing guidance to the next generation.

Graduate Student Scenario

After much toil Generic Student has completed the master's thesis. Generic's Advisor, Some Mentor, pronounces the work significant and tells Generic that a paper should be published and Some will see to it. That is the last that Generic hears until the article appears. When it does, Generic is distressed to see that although the published version is based entirely on Generic's research, Professor Mentor's name appears first. Furthermore, in rewording many parts of the work Mentor has introduced some misstatements. Which, if any, of Mentor's behavior was wrong and what is the gravity of any offense?

Do members of your department have differing views on the first question? Does this vary with their previous disciplinary orientations, the conventions used by the journals in which they most frequently publish, the nation and period in which they received their own graduate training, etc.? (For example, a few decades ago, in some fields, the practice in Europe was to list the senior professor's name first, and in some fields with multiply authored articles, the practice is to list the authors in alphabetical order.)

Are there standards of behavior covering a case such as this one that are generally accepted in your department? How would a new faculty member come to know them? How would a new graduate student?

Does your department take any particular measures (including public discussion of any standards) to prevent cases like this one from occurring?

Are there any actions that Generic could have taken to prevent wrong-doing, if any? In your department, would there be support available to Generic for taking those actions?

Once the situation has occurred, with whom should Generic discuss the matter? Are there are supports and safeguards available to Generic in doing so?

If there was wrong-doing in this case, what, if any, forms of remedy would be available to Generic?

We believe that discussions of research standards and practices, based in departments and large multi-facultied research groups as appropriate, would enhance the educational environment for graduate students and postdocs. The involvement of several faculty in these discussions would provide students with a broader exposure to these issues than they would receive as members of a single research group. Individual faculty will also benefit and will be aided in dealing with the issues that arise with their own students. In addition, such discussions, if formalized and continued on an annual basis, would be one mechanism to respond directly to the new federal requirements for training in the ethical conduct of research that now accompany training grants from certain federal agencies. Other mechanisms for training students in the ethical conduct of research include incorporating such material into existing courses and the development of formal subjects in research ethics.

What would be the content of such discussions? The interesting discussions would be in the gray areas, where no single guideline or principle seems appropriate and yet the issues involved are important and contentious. One can begin to lay out quite reasonable guidelines of research practice, which, when applied to specific cases, will evoke very different viewpoints. The use of scenarios to engage a discussion group in the application of a principle to the specifics of a case is a particularly valuable approach to the discussion of responsible research conduct. Although there will be a few areas in which all will readily agree, individual, field and group specific differences in research practices will quickly emerge. These discussions can reveal that such issues are invariably complex, that reasonable individuals can differ in their point of view, that a common framework exists within which these issues can be debated, that such issues are proper to discuss and debate in a research environment, and that individual faculty are open to discussions with students about their concerns.

The Committee has commissioned a study of education in research ethics which will be done over the summer and made available to the community in the fall. This study will gather background material of general usefulness which could be given to students and faculty, survey other universities to determine what courses and programs are in place or planned and generate a number of scenarios illustrating difficult issues that arise in the application of principles of good research practice, which may be useful to departments for their educational programs.

RESEARCH PRACTICES AND STANDARDS

Our discussions with members of the MIT community about research standards and practices invariably began with the statement that such practices are quite field-dependent. While we believe this to be the case, we would like to take this opportunity to sharpen this assertion and give it content. How much of what we do is driven by customs and traditions within our discipline, how much from the exercise of personal prerogatives, and how much by our allegiance to our institution and its mission of education and research?

In the Appendix to this report, we present a set of generic research practices. Such guidelines are increasingly common as institutions and professional societies begin to develop material by which values and traditional practices in research can be transmitted to students and young people entering a field. We would be happy to hear from members of the community about these issues as applied in various fields of study. Are there similar research practices that have developed in your field? Are there useful materials that can be used for education of graduate students and postdocs? Do any of the suggested practices not work in certain disciplines? Why?

We suggest that discussion of the issues of research practice and standards take place in research groups and with new students and postdocs that are considering joining a research group. Such a set of research practices could also serve as a basis of discussion in educational programs within departments.

APPENDIX

This appendix sets out a generic set of research practices. These are based on guidelines collected from a variety of sources: research institutions, universities and professional societies. The field specific references were removed or reworded to make them generally useful. We present these to stimulate discussion in the MIT community.

A. Data Management

Research data include detailed experimental protocols, primary data from laboratory instruments, and the procedures applied to reduce and analyze primary data. Meticulous attention should be paid to the acquisition and maintenance of research data because these data provide the essential foundation for scientific advance.

1. Fabrication of data or selective reporting of data on an unjustifiably biased basis is an egregious departure from the code of honesty. Similarly, the unauthorized appropriation or use of data or research results from others is unacceptable.

2. The results of research should be recorded and maintained in a form that allows access for analysis and review. Research data should always be immediately available to scientific collaborators or supervisors for such examination. Research data, including primary experimental results, should be retained for a sufficient period to allow examination and further analysis by others. After publication, the primary research data generally should be made available promptly and completely to other responsible scientists who seek further information.

B. Publication Practices

1. Other than presentation in scientific talks, publication in a scientific journal should normally be the mechanism for the first public disclosure of new findings.

2. Timely publication of new and significant results is important for the progress of science. Similarly, it is the obligation of each scientist to provide prompt retractions or corrections of published worked when necessary.

3. Fragmentary publication of the results of a scientific investigation or the multiple publication of the same or similar data is inappropriate. Each publication should make a unique and substantial contribution to its field.

4. Each publication should contain sufficient information to enable the informed reader to assess the validity of the publication's conclusions. Each scientific paper should contain all the information necessary for the scientific peers of the authors to repeat the experiment.

C. Authorship

Authorship is the primary mechanism for determining the allocation of credit for scientific advances and thus is the primary basis for assessing a scientist's contributions. Authorship conveys great benefits, as well as responsibilities.

1. Plagiarism constitutes an egregious violation of the principle of honesty in science and is never acceptable. Authors should always cite significant sources on which they have relied and should properly attribute ideas and methods derived from other sources.

2. Authorship should be limited to those who have made a significant contribution to the conceptualization, design, execution, and/or interpretation of the research study. All those who have made such contributions should be offered the opportunity to be listed as authors. Each co-author should take responsibility for the full evaluation of data and procedures and for the conclusions of the paper in his/her area of expertise. Ideally all authors should take responsibility for the conclusions of the paper as a whole. Other individuals who have contributed to the study should be acknowledged, but should not be identified as authors. "Honorary authorship" is never acceptable.

3. The submitting author should certify that each author has reviewed the manuscript and authorized its submission. The submitting author has the responsibility to coordinate the responses of the group of authors to inquiries and challenges and must assure that the manuscript as published has been approved by all authors.

D. Peer Review

Peer review is used to guide decisions on the funding of research proposals and on the publication of research results. It is an essential component of the scientific process.

1. Peer review can serve its intended function only if the members of the scientific community provide thorough, fair and objective evaluations. Although peer review is a difficult and time-consuming activity, scientists have an obligation to participate in the peer review process and, in doing so, they make an important contribution to science.

2. Scientists should not make any unauthorized use of information or ideas that are obtained through peer review. Any information contained in the material subject to review should be held as confidential.

3. Peer review requires that the reviewer be expert in the subject under review. The reviewer, however, should avoid any real or perceived conflict of interest because of a direct competitive, collaborative or other relationship with one or more of the authors of the material under review. Normally, such a conflict of interest would require a decision not to participate in the review process and to return any material unread. In any event, the reviewer should disclose any potential sources of bias.

E. Training and Education

Each scientist has the obligation to pass along his/her knowledge and skills to the next generation of scientists.

1. The supervised research experience should extend beyond the performance of tasks assigned by the supervisor; the student should be provided, over time, with an increasingly independent role in the choice and performance of research projects.

2. Each student should have a designated primary scientific mentor. It is the responsibility of this mentor to provide a training environment in which the student has the opportunity to acquire both the conceptual and technical skills of the field.

3. Mentors should minimize involvement of students in activities that do not provide meaningful educational experiences.

4. The research experience must impart to the student appropriate standards of scientific conduct. The mentor must convey these standards both by instruction and by example.

5. Research supervisors should discuss the authorship polices and other intellectual property issues currently used in their research group with potential new members of the group.

6. Mentors have a responsibility to provide students with a realistic appraisal of their performance and with advice about career development and opportunities. Discussion should take place about continuing the line of research after the student leaves the laboratory.

Journal Scenarios

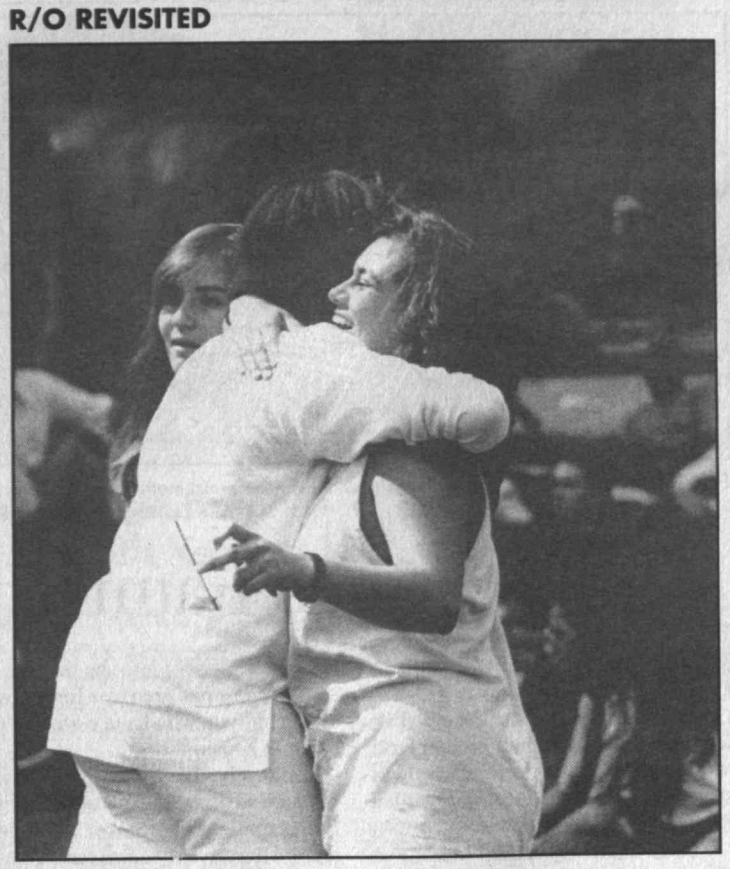
■ A paper describing a small but useful scientific advance is published. The editor soon discovers that it was previously published in another journal in identical form except that the authors have a) rewritten the abstract, b) introduced a few editorial changes elsewhere, c) changed the tables and figures to show results in subjects recruited since the first publication (about three times the initial number, but with little change in overall results), and d) added a sentence with an ambiguous reference to the earlier publication, which is not listed in the bibliography. In response to an inquiry from the editor, the author says that the large number of new subjects justified publication even if the text was nearly identical, and that, anyway, the second paper gave adequate notice to the editor and reviewers (as well as readers) that it was updating an earlier publication. The editor reviews the file and concludes that the correspondence as well as the ambiguous reference could in fact be interpreted as the author claims, though the wording seems to be deliberately deceptive.

■ An author has submitted a paper on a new laboratory procedure that uses an expensive piece of equipment. The reviews are favorable, but the editor has received an anonymous note stating that the author of the paper has a large financial stake in publication and that his analysis is biased. There is no allegation of fraudulent data. The author admits, on query from the editor, that he has a substantial stock interest in the firm that makes the equipment, but vigorously denies that his judgement has been affected. (He says that he bought the stock because the product looked good, and not vice versa). He also denies that his private financial affairs are any business of the scientific community as long as his scientific work is honestly done and honestly reported.

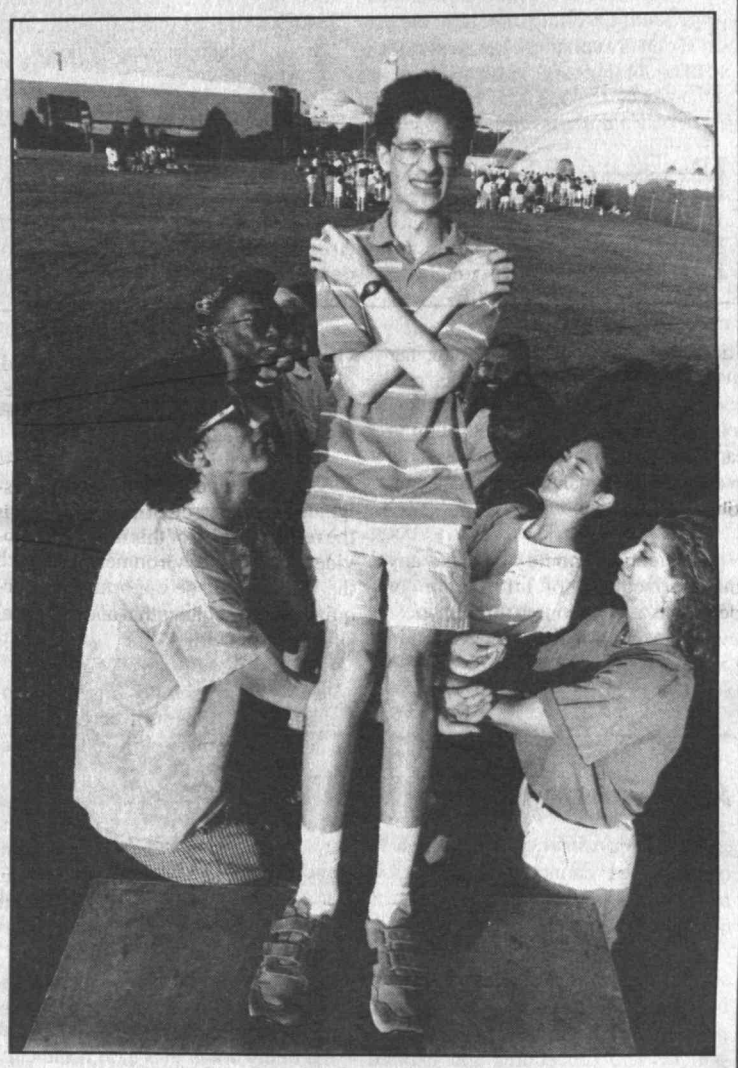
■ A journal has a backlog of approved papers such that the average time from approval to publication is about one year. With the advice and consent of the journal's advisory board, the editor adopts a policy that certain classes of papers will be published out of sequence: papers by authors who pay optional page charges; papers that seem to enhance the subject make-up of specific issues; papers by first-time authors; papers that the editor, using the comments of reviewers, judges to be unusually important or urgent.

Authors of favored papers like the policy, but other authors—their work now delayed even more—complain that the policy is unfair. (This problem has clear implications for journal quality, especially if competent authors start publishing elsewhere, but please comment only on possible ethical issues.)

R/O REVISITED



Friends Angela Batiste of Seattle and Christine Borja of El Paso, who attended Interphase together, embrace at renewed acquaintance in R/O.



Freshman Jason Sacks of New Jersey shows a bit of trepidation as he prepares to do his "Trust Fall" during MOYA events in R/O period.

Photos by Donna Coveney

9TH GROUP

Knight Fellows Begin Year Here

Science journalists from Poland and Germany joined eight American colleagues here last week to spend nine months at MIT. Selection of the American science journalists was announced in *Tech Talk* on May 15.

The 11 Knight Science Journalism Fellows for 1991-92 cover science, technology, and environmental issues for books, television, magazines, and newspapers. They are participating in the ninth year of the Institute's program to open MIT's intellectual resources for mid-career training of science journalists.

Yesterday afternoon, the new Knight Fellows met President Charles M. Vest and other members of the faculty and administration, along with former Fellows in the Boston area, during a reception in the Emma Rogers Room sponsored by the MIT News Office and Technology Review. Before the reception, an open house was held in the new quarters of the Knight Fellowships on the third floor of Building 9.

Established with grants from the Alfred P. Sloan and Andrew W. Mellon Foundations, and continued under operating and endowment challenge grants from the Knight Foundation of Miami, the Fellowships are an activity of the Program in Science, Technology, and Society in the School of Humanities and Social Science.

The Fellows are to begin their schedule of twice-weekly seminars with engineers and scientists during a visit to the Whitehead Institute today. The Fellows also will visit the Hubbard Brook Experimental Forest in New Hampshire on September 27, the Woods Hole Oceanographic Institution on October 3 and 4, and the Haystack radio telescope in Westford on October 18.

The Knight Fellows from overseas this year are:

Krystyna Panek, 37, of the 125-year-old weekly technical magazine Przeglad Techniczny published in Warsaw, who covers environmental issues. Ms. Panek is the second journalist from Poland to join the MIT program, and the fifth to be sponsored by the German Marshall Fund of the United States.

KNIGHT WRITERS—Learning their way around the campus this week are the new Knight Fellows. Top, from left: Paul Judge, Monika Weiner and Richard Brandt; center: Krystyna Panek, Victor McElheny, program director, Michael Schwarz, Eric Adler, June Kinoshita and Shawna Vogel; front: Lisa Drew, Richard Hudson, Peggy Girshman, and Linda Lowe, program administrator. Photo by Graham Ramsay

Dr. Michael Schwarz, 38, of Heidelberg, Germany, a free lance writer and head of the press service of Heidelberg University.

Monika Weiner, 32, of Munich, Germany, also a free lance journalist who works for newspapers, magazines, and radio.

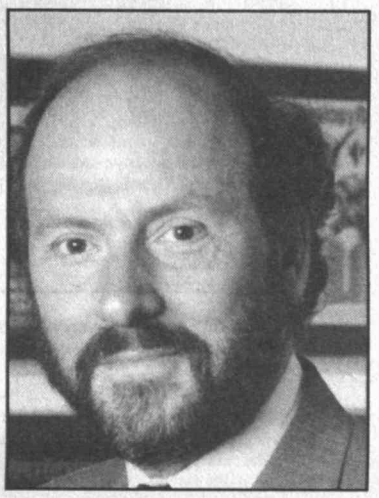
Dr. Schwarz and Ms. Weiner are the third and fourth Knight Fellows to be sponsored by the Robert Bosch Foundation of Stuttgart, Germany.

The total number of science journalists selected since the Fellowships were inaugurated is 96, including 26 from outside the United States. The 43 women and 53 men have come from 21 American states and 11 foreign countries on five continents.

SUCCEEDS SCHLEFER

Marcus to Lead Technology Review

Technology Review, the national magazine of technology and its implications edited at MIT, has announced the appointment of Steven J. Marcus as editor in chief.



Dr. Marcus

Dr. Marcus, a well-known science journalist for the past 20 years, served as managing editor of Technology Review from 1979 to 1983. For the past four years he has been editor of Issues in Science and Technology, the publication of the National Academy of Sciences. He also has been executive editor of High Technology and a technology reporter for The New York Times.

Dr. Marcus, a resident of Belmont, Mass., received a bachelor's degree in engineering from City College of New York in 1965 and a PhD in engineering from Harvard University in 1971.

He has been a visiting writer at MIT and a university lecturer on environmental issues at MIT, the University of Paris Institut d'Urbanisme and Harvard University. He also is an advisor to NOVA, the Public Broadcasting System's science series, and a member of the judging committee for the AAAS-Westinghouse Science Journalism Awards.

As a freelance writer, his articles have appeared in many newspapers and magazines.

William J. Hecht, executive vice president of the MIT Alumni Association and publisher of Technology Review, said that Dr. Marcus "brings to the magazine a keen awareness of the need for a broad understanding of technology and science as well as a commitment to exploring their intimate connection with the larger fabric of society."

The magazine covers a wide range of technology-related issues, from arms control and the environment to industrial policy and the arts, bringing the work of experts from MIT and elsewhere to a general audience. It has recorded steady growth over the past several years and now has a circulation of 92,000. It has started up Italian and French editions, and the Japanese magazine B-ing reprints some of its articles. The New York Times recently has begun syndicating Technology Review to newspapers in the United States and periodicals abroad.

Technology Review has been nominated for two National Magazine Awards, and has received two Olive Branch Awards for its coverage of arms control and disarmament from the Center for War, Peace, and the News Media at New York University. It received the John Bartlow Martin Award for Investigative Journalism in 1988.

Dr. Marcus succeeds Jonathan Schlefer, who became editor in chief in 1988 after John I. Mattill, editor of the magazine for 20 years and now editor emeritus, retired. Mr. Hecht said that Mr. Schlefer, who was with Technology Review a total of nine years, "brought immense strengths to the magazine" and served "as a force for the magazine's sustained intellectual integrity." Mr. Schlefer plans to write a book and to become a PhD candidate in MIT's Department of Political Science.

English Classes Start Next Week

The MIT Women's League is once again offering English Conversation Classes for international women. Registration for the fall term is on Tuesday, Sept. 17, from 9-11am in the Bush Room (10-105).

Classes range from beginner to advanced and are held Tuesday and Thursday mornings, 9:15-11am, at various locations on campus. They start September 19 and will run through November.

The Thursday morning class will be followed by an informal coffee get-together where all class participants are invited to socialize and practice newly learned language skills.

Space is limited, so the League is accepting applications on a first come, first served basis. There is a small class fee of $40 per student and babysitting is available for $75 per child.

For more information call Coordinator Jan Kirtley at 277-2628 or Pam Daveta at the League office at x3-3656.

Crewel Returns

Priscilla Gray's crewel embroidery classes will begin again on Tuesday, Sept. 24, in the Emma Rogers Room (10-340). Advanced lessons will be 11:15am-12:15pm and intermediate lessons will be 12:20-1:30pm. To register, call Mrs. Gray at x3-0064 or Muriel Petranic at x3-0637.

Paglia to Speak

Camille Paglia, author of *Sexual Personae: Art and Decadence from Nefertiti to Emily Dickinson*, will give a talk entitled "Crisis in the American Universities" at 8pm Thursday, Sept. 19, in Rm 10-250.

Ms. Paglia is associate professor of humanities at the University of the Arts in Philadelphia and a frequent critic of the state of American Universities.

The lecture is the first in the Writing Program's 1991-92 Writers Series. It is free and open to the public.

Golf Benefit Set

Members of the MIT community are invited to participate in the third Aaron Open Golf Tournament in support of Aaron (Bunk) Donaghey, who is confined to a wheelchair as the result of an auto accident. He is the son of MIT electrician Robert L. Donaghey. The tournament will be held at the Mount Hood Golf Course in Melrose on Sunday, Sept. 15. For information, call Ed at (617) 438-0191 or Linda at (508) 667-8016.

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 approximately 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 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 will not be accepted.

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

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

Deadline is noon Friday before publication.

■ FOR SALE

Peugeot 10-sp bicycle in super condition, accessories, spare tire, tubes, recent complete overhaul, $100 firm. Ron x3-0160.

Nintendo, $50; 6 games, $15 ea; Maverick II joystick, $13; exc cond; winner take all $125. Helen x3-6337 or 547-7778.

Roller blades: Blade Runner, sz 5, like nw, $60; Lightning, sz 10, $120; new set of wheels, $20. Call x3-8005 or 577-9671.

Suede jacket, gd cond, $45 or bst; pair Elan 170 skis, gd cond, $100 or bst; 2 nw pillows, standard, $8 ea or both $14. Lisa x3-0435 lv mssg.

Antique ornate carved gilt picture frame 21"x15", $25. Call x3-7607 or 391-8045.

Light blue carpet, 10.5'x12', gd cond, $60; wall unit for TV & stereos, $125. Paul, Linc x3981 or 893-2841.

Huntington upright piano, circa 1910, great rolling bass, bst offer. L. Bucciarelli, x3-4061.

Must sell IBM compatible, Gateway 2000, 386, VGA color monitor, 20MHz, 80 meg, various sftwr progs incl Microsoft Windows, $1500 or bst. Call x3-4927 or 227-6109.

Girl's white figure skates, sz 5, hardly used, $20. Joan x3-1345.

Refrigerator, frost-free, lrg capacity, Hotpoint brand, works fine, 5.5' tall, brown, $85. Barbara x3-1350 or 492-7109.

19" color TV, exc cond, $100 or bst. Dot Chase, Linc x2231.

Laptop Zenith-183, 10Mb hard dr, 640KB RAM, 3.5 drive, graphics monitor, software, case & Okidata printer incl, $850. Call x3-5738 or 861-6865.

Mocha color, gd cond, contemporary, comfortable: couch, $150; loveseat, $75; chair, $75. Valerie x3-8258.

Energy conservation special: solar-power clothes dryer, buy America's premier clothes line at cost, $59. Linc x4425.

Hand held computer/organizer, PS10N LZ, 32K, sci calculator, programmable (add RAM drives), appts, etc, terminal emulation, Mac/PC communication hd/sftwr, $275 for all. Call x5-9897.

Bedroom set: Q-sz headboard & frame, W's dresser w/hutch & mirror, M's dresser, exc cond, $500 or bst. Dineen Doucette x3-4259.

Bionaire 1000 air purif/ionizer w/repl filter, $75; AM/FM radio, fits Toyota Corolla, $50 or bst; Bell bike helmet, sz sm/med, like nw, $40 firm; baby hi-chair, $20. Jan Blair, Draper x8-2843.

4-drawer file cabinet, $65; chest of drawers, $55; Mayflower rocker, $55; academic chair, $75; ktchn tbl, rd, $55; coffee tbls, $45 & $30; Ency Brit 1956, $100. Call x3-3175 or 332-8251.

Four-drawer dresser, $15; leather roller skates, sz 10.5, $15; bed frame & hdbd, twin sz, $20; two almost new 3-pc fitted suits, sz 40, $50 ea. Mario Passanisi x8-4715 or 508-535-0270.

Baby furniture: crib, hi-chair, walker, carriage, rocking chair, etc., exc cond, prices v negot; Sears apt-sz washer, exc cond, must sell, orig $500, sac $125. Maria x3-8012.

Eureka canister vac cleaner, $35; sm old oak desk, $55. Linc x3002 or 396-3667.

2 Steelcase armchairs, sturdy metal frame, formica arms, back & seat cushions, polyester foam w/brown vinyl covering, $10 ea. Rosalie 776-3748.

Brand new red & white 1.6 c.f. refrigerator w/ Coca-Cola logo, $95 or bst. Marie x3-1700.

Magnavox color big-screen TV, 26" diag screen, cable-ready w/remote control, great deal, $300 or bst. Call x3-2744.

Gold velour 7' sofa, $350; 5' sofa, $200; glass/pecan 5' coffee table, $100; end table, $50; oversized Oriental lamp, $75; all in exc cond. Call x3-4924 or 617-272-5942.

Zero Hallibertin indestructible alum case, 6x20x12" w/lock, perf for camera equip, nw, $500; x-c skis, 205 cm, $150; M's sz 9 x-c boots, $50. Susan, Linc x7507 or Nancy 508-653-1998.

Bicycle, Ross 10-sp, W's, in gd cond, moved, no longer use, can be seen at MIT, $35. Eileen x3-9319.

Lt blue Q-sz sleeper sofa; reg lt blue 84" sofa; both in gd cond, best offer. Claude x3-4608.

Multitech 1200 baud modem, $60; Logitech mouse, $40; PC Tools v6 sftwr package, $40; dBASE IV Developers Edition, $295. Call 497-1479 aftr 5pm.

386SX/16, 42M HD, 1M RAM, VGA, 1.2M & 1.44M floppy, int modem (2400), mouse, loaded w/MS Windows, C, Wordperfect, etc, prntr, exc cond, askg $1700. Yu x3-4431 or 864-6908.

Nat'l Geographic magazines, 10 yrs worth, no more space to keep in. Bob x3-6279.

Love seat, gd cond, best offer. Robert x3-8064.

Rollerblades, Vetra 303, sz 9 1/2 M's, almost new, must see, optional ankle straps incl. Tom, 225-2200 x236.

French Prov LR set, incl 3-pc sectional, 2 armchrs, 2 end tbls, coffee tbl, 2 lamps, all in exc cond, $950. Gina, Linc x7923 or 396-8455.

Round walnut ktchn tbl w/wrought-iron legs, 4 swivel chrs, $100. Fran x3-0424 or 933-8213.

Selmer VI soprano, Selmer Alto B/A, Beaucher Aristocrate Tenor, professional instruments, best offer. Call 617-332-7152 aftr 6pm.

■ ANIMALS

Young cockatiel, cinnamon pearl color, tame and friendly, cage & accessories included, $100. Jay x3-8662 or 734-4453.

Adorable kittens born July 14, friendly & healthy, need loving, caring homes. Free. Call 328-3293.

■ VEHICLES

1977 Buick century wagon, gd shape for the year, runs ok, seldom used for last 5 years, $500 or bst. Wu, Linc x7346 or 259-9130.

1978 Olds Cutlass Cruiser wgn, orig ownr, carefully maint, exc cond throughout, V8, a/c, all options, nw trs/brks/batt, $700 or bst. Scott x3-8229.

1979 Olds Delta '88, 2-dr, auto, a/c, some surface rust but mech sound, $800. Ray x3-0723 or 628-4159.

1980 VW Rabbit diesel, 4-dr sunrf, 4-sp, reliable, 45 mpg, rust, recent sticker, call for details, $400. Bill x3-5758 12-5pm or 576-2507.

1980 VW Sirocco, 125K, little rust, new parts, nice interior, AM/FM/cass, alloy wheels, $750. Sol, dorm x5-8725.

1980 Toyota Tercel, only 78K, orig ownr, AM/FM, 5-sp, nw muff/tune-up, runs grt, selling due to relocation, $999 firm. Call x3-0428 or 497-6319.

1981 Chevrolet Chevette, 91K, runs fine, $250 or bst. Nick x3-8939 or 628-4832.

1981 BMW 320i, 118K, silver, sunrf, radio/cass, loaded, exc cond, maint records, $3600 or bst. Call x3-5714 or 545-7872 eves.

1982 Malibu sta wgn, 81K, a/c, cassette, pretty good cond. Call x3-6811 or 484-6472.

1983 V-45 Honda Magna motorcycle, only 4K miles, $1200. Tom, Draper x8-1225.

1983 Honda Civic, 4-dr sedan, 5-sp, a/c, 101K, 40mpg, Alpine removable stereo, exc shape. Larry, dorm x5-9853.

1983 Nissan Sentra, silver, 59K, 2-dr, 5-sp, sunrf, rear defrost, nw trs/radiator, $1300 or bst. Amy x3-3746 or 661-9352.

1984 Cadillac Cimarron, 47K, exc running cond, stick shift, $1850. Call x3-3663.

1985 Pontiac Fiero, 2m6, 2.8 liter, V6, fuel injected, black w/gray int, auto, a/c, cc, tilt, pw, AM/FM/cass, well-maint, runs grt, all receipts, $3800. Call x3-1200 or 617-899-4818.

1987 Dodge Omni, 4-dr, auto, AM/FM/cass, a/c, 73K, nds some work, $2000 or bst. Chris x3-0035.

1990 Dodge Caravan Grand LE, 29K, cc, roof rk, pw, pl, ps, AM/FM/cass, a/c, velour int, tint windows, V6 3.3l, ultradrive 4-sp automatic, showrm cond, $16,700. Rosie Wilson, Linc x2160.

1990 Cutlass Supreme, fully loaded, blue, 24K, AM/FM CD, $13,000 or bst. Call x3-0289 or 986-7927.

■ HOUSING

Arlington: compact rm for rent, spotless, ww carpet, priv bath & entrance, incl all utils, furnished. Call x3-4251.

Belmont: furn BR/study in priv home, shr bath, ktchn priv, conv to Hvd Sq/MIT, intl guests welcome, non-smkg gentlemen, $450/mo, incl all utils, prkg $35/mo, short-term poss. Leova 484-6455.

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

Brighton: 5-rm, 2BR apt in 2-fam, nw bath, hdwd flrs, prkg, quiet, short ride to MIT via car, bike or bus, avail Oct 1, $675/mo, no utils. Bob, Linc x2081 or 787-2655.

Burlington: gd starter home, 6-rm ranch, 22,000 s.f., close to T & major routes, $130,000 by ownr. Call 617-272-2206.

Cambridge: Kendall Sq area, 11/91-7/92 sublet, 2BR w/1.5b, garden, a/c, designer ktchn, $550/mo for each of 2 occupants. Jack Duggan 577-8182.

Cohasset: 2BR house, fully furn, avail 9/28-5/1, ideal for transferred executive, visiting prof or other short-term housing requirements, $800 incl utils. Buck x3-3185.

Littleton: 4BR, 1 1/2 b, LR, DR, FR, minutes from Rt 2, Rt 2A, 495, schools & shopping, lovely priv street, $1100/mo incl water. Call 508-448-2636.

Mt Wash Valley: Columbus Day wknd, 4BR lakeside cottage, sleeps 8, furn, w/w, appl, rowboat, canoe, 5 mins to Kancamagus, 15 min N Conway, $500/wknd. Call Linc x5431 or 508-263-2397.

Newton Corner: 1BR apt nr express bus, bright modf ktchn, lrg yd, high ceilings, hdwd flrs, off-st prkg, laundry, storage, $775/mo incl hw, no fee. Draper x8-1610.

Saugus: 2 level, 2BR, 2 nw c.t. baths, on busline, w/d hkup, huge master BR, 3-car prkg, storage, gas ht, $825/mo, 1st & last. Call 231-1109 or 662-2974.

So. Harwich: charming 4BR Cape on quiet country lane, close to beaches, shopping and restaurants, sleeps 8, full-season hse, $500/wk. Pat, Linc x2981.

Watertown: Mt Auburn St., 4BR w/bus to Hvd Sq outside, nr shopping mall, newly remodelled & avail immed, ideal for college & int'l students, $265/person or $980 whole apt. Call 527-3431.

Wellesley: non-smkr housemate wanted, furn rm, cathedral ceilings, skylights, woodstove, $400/mo. Call Draper x8-1424 or 237-2254.

1BR, quiet, modern, spacious, priv prkg, on Red Line, 20 min from MIT, $620 negot. Call x3-6863.

■ WANTED

Mountain bike, approx 19", in gd cond, for 12-yr-old boy. Call 926-4138 aftr 3pm.

Gas powered lawnmower. Call 926-4138.

Cheap storage for compact car, immediate access to vehicle not necessary, anywhere within 20 min. radius of MIT/Central Square. Daniel 876-4112.

■ ROOMMATES

Arlington: non-smkg F, age 25-35, no pets, shr lrg 4BR, prkg, d/w, disp, off Mass. Ave., $300+. Call 641-3728.

Belmont: M/F (prefer 30+) shr spacious 2BR, LR, DR, pantry, eat-in-ktchn, d/w, w/d poss, avail 10/1, quiet, indep, $425+. Call x3-1764 or 489-4258.

Cambridge: Kendall Sq, 1 rmmt to shr lrg duplex, 4BR, 2.5b, LR, DR, mod ktchn, d/w, disp, bsmt, w/d, skylt, w/w, hdwd flrs, no pets, no smkg, avail immed, $375-$450 + utils. Pat x3-9687.

Jamaica Plain: rmmt wanted for lrg 2BR apt, lrg LR, DR & ktchn, f&b porches, located on quiet, tree-lined street nr T. Call x3-7314 or 524-3181.

Medford: M seeks M/F to shr 2BR apt nr Tufts, avail ASAP, w/d avail, no pets, $350/mo+. Call 391-7043 aftr 6pm.

■ CARPOOL

I am interested in carpooling from Saugus area to Linc Lab. Are there any carpools out there? Anyone interested in starting one? Call 231-1455.

Ride wanted to/from Marshfld/MIT. Susan 837-2270.

■ LOST AND FOUND

Keys lost vicinity of Bldg 1 on 8/26/91. If found call 484-3134 or x3-3291.

■ CHILD CARE

Child Care Providers: If you wish to advertise your availability to care for children in your home, we are required by law to publish your family day care license number in your ad. This applies to all child care ads unless you specify that you will take care of the child in his or her home.

Babysitters needed for Wives Group programs, 3-5pm Wednesdays in Student Center, Rm #407, $6.75/hr. Susan x3-1614.

Looking for experienced and loving person to take care of our 5-mo-old baby 3-4 days/week. Our home is near Hvd Sq. Call 354-4266 eves.

Two Wellesley alums wd like to provide p/t child care in exchange for reduced rent in quiet 2BR apt. Call 539-1946 lv mssg.

■ MISCELLANEOUS

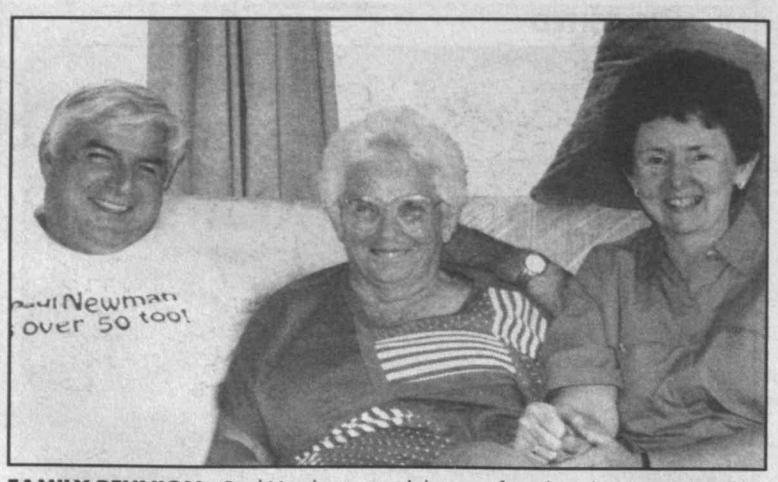
Talk to a computer for 40 minutes & earn a $10 gift certificate for Toscanini's or Royal East. Data collection effort needs subjects for speech research. Call x3-3049 or x3-8386.

Papers & resumés typed using word processors, LaTeX and AMS-TeX. Disks available. High quality & low cost. Robert Becker x3-1797.

Word processing, professional editing, 15 yrs MIT experience, IBM PC, laser output, Sloan employee, live on campus. Marie x3-3490 or 547-1311 eves.

Word processing & graphics, thesis, reports, term papers. Scotti x3-4657.

Piano lessons for all ages by graduate of Yerevan & Leningrad conservatories. In your home or school in Cambridge. Reasonable. Alice x3-4911.



FAMILY REUNION—Paul Honiker sits with his new-found mother (center) and his wife. **Photo courtesy Paul Honiker**

Honiker Finds Family

(continued from page 1)

letter to his mother, who called Mr. Honiker as soon as she received it, telling him about his half brothers and sisters ("Thank God my chair was strong because I could have fallen through it.").

Then came a weekend drive to Rutland in August for an emotional meeting with his mother and several of his sisters, one of whom had driven from South Carolina to see him. He has since met or spoken on the telephone to all of his siblings and, in his own words, has "melted" right into the family.

The same has been true for his own three children, who have a whole new batch of cousins.

Strangely, the two families already have found several points of similarity. For example, Mr. Honiker's daughter and a sister have the same name, Kelly Marie.

Because his adoptive parents have died, Mr. Honiker said he and his mother instantly agreed that he could call her "mom," which he happily does.

After 50 years.

Event Features Viking Ships

Members of the community are invited to attend a special event, "Vinland Revisited: A Thousand Years of Discovery," Monday, Sept. 16, beginning at 5:15pm at the Charlestown Navy Yard.

The occasion is part of the millenial commemoration of the voyage of Leif Ericsson to America, or Vinland, as he called it. Three ships, replicas of the *Gaia*, a Gokstad Viking longship from about 850 AD, the *Saga Siglar*, a viking trading vessel from about 1000 AD, and the *Oseberg*, a royal yacht from about 800 AD, will be in port for viewing.

A reception, featuring traditional Scandinavian fare, will begin at 6:15pm, to be followed at 7:30pm by a presentation by Knut Kloster '51, of the Norwegian Caribbean Line, sponsor of the voyage.

The event is sponsored by the MIT Club of Boston. Tickets are $22.50/person and are available from Bonnie Jones in the Alumni Center, Rm 10-110, x3-8222.

A related exhibit, "A Thousand Years of Voyages of Discovery—Exploring the Ocean from Surface to Seabed," will open in the Hart Nautical Museum, also on September 16. In addition to a historical overview, the exhibit will include a presentation on how contemporary and future submersibles will increase our knowledge of the oceans.

Academic Responsibility Report Issued

(continued from page 1)

of which we cannot possibly anticipate, while retaining the strengths of our institution."

In its report, the committee raised several questions which it says need to be examined in any revision of MIT procedures. Details of current MIT policies and procedures and explicit recommendations will be the subject of its final report, the members said.

". . . The scientific community in general and MIT in particular must respond positively to the new realities arising from the increased scrutiny of science and scientists," the committee said. "It can do this by articulating clearly and transmitting to the next generation the abiding values of science, by constant self-examination and by correcting inadequacies and shortcomings as soon as they are discovered. . .

"In sum, we need to develop a greater sensitivity to the basic values inherent in the doing of science and of the many ways in which these can be compromised. We must not only articulate these values clearly, we need also to internalize them, to make upholding them an essential part of our daily lives. The process of examining our values and of the ways in which we implement them must become a continuing activity of the community involving our students, faculty and staff."

The Arts

The Arts Page is produced by the Office of the Arts in collaboration with ARTSNET--253-4003

Arts Page Begins its 5th Year

Welcome to the Arts Page! On behalf of the Office of the Arts (OA), I'm delighted to begin the fifth year of this page in Tech Talk *and invite you to share in the vibrant, innovative world of the arts at MIT.*

The arts are a flourishing, vital force at the Institute, marked by involvement, creativity, and excellence. Students, faculty, and staff have numerous opportunities to both attend and participate in a variety of performing and visual arts activities, and to study and collaborate on any number of arts-related projects. As a central voice for the arts at MIT, the Arts Page is here to inform you, include you, and inspire you—to let you know more about the creative activities at MIT, and about the people behind them.

The Arts Page is produced in the OA by Lynn Heinemann who gathers, organizes and writes up information on the arts, and Susan Cohen, who designs the page. It is a voice for those involved in creative, arts-related activities at MIT in all programs and departments. Whether you're in Music and Theater Arts or Materials Science and Engineering, we're eager to find out about your projects, performances, exhibitions, research, and interdisciplinary collaborations. While giving preference to events and programs taking place on campus, we are also interested in off-campus arts activities involving any member(s) of the MIT community. In addition, we invite members of the arts community to submit their own feature stories for consideration in the Arts Page, and encourage you to send us images and photographs for inclusion.

In short, we want to hear from you. Our deadline is one week before Tech Talk*'s publication date. For details on how to get your stories, items, or images on the Arts Page, call Lynn Heinemann at x3-4003 or stop by E15-205.*

The Office of the Arts was established in 1989 by Associate Provost for the Arts Ellen Harris to oversee, coordinate, support, and facilitate arts activities on campus. The OA is located on the second floor of the Wiesner Building, Rm E15-205, and consists of three programs: the Council for the Arts at MIT, Special Programs, and Arts Communication. Watch this page for future articles on the various opportunities and services provided by the OA.

We welcome your thoughts and comments on the Arts Page. Give us a call, or stop by and visit!

Mary Haller
Director of Arts Communication

STUDENT ART LOAN

Sign Up for Art

Student Loan Collection **photo by Kristine An Yeung '91**

The MIT List Visual Arts Center in the Wiesner Building (E15) is once again the site of the annual Student Loan Collection Exhibit.

More than 300 framed contemporary prints and photographs from MIT's permanent collections are available for one-year loan to full-time, registered MIT students for their dorm rooms, apartments, club offices, and activities rooms during the 1991-92 academic year.

Students or group representatives simply complete a registration card with the names of their three favorite works of art and await the distribution by lottery. Only one card/student or student group is accepted for consideration. There is no charge to borrow the print for the year.

The Student Loan Collection features original signed prints, artist-designed posters, and photographs by such artists as Berenice Abbott, Alexander Calder, Jasper Johns, Robert Motherwell, and Andy Warhol.

Sign up for your choice during Gallery hours, weekdays 12-6, weekends 1-5. The application deadline is 6pm on September 19. The lottery will be held on September 20 and the winners' names will be posted on the doors of the List Visual Arts Center at 6pm. Artworks must be picked up at the Gallery desk on Saturday, Sept. 21 and Sunday, Sept. 22 from 1-5pm or Monday, Sept. 23 from 12-6pm. If the weather is rainy, works will not be released on these dates and the deadline for pick-up will be extended. Students must present a current MIT ID and claim their works in person.

Information: 253-4400.

IMPROV

'Road Kill Buffet' Premiere

MIT's only improvisational comedy troupe, "Road Kill Buffet," takes on the suggestions of all comers in their premiere public performance, Thursday, Sept. 12 at 8pm in Rm 10-250. Professional improv musician Dave Alexander accompanies the action with a synthesizer and CD player.

The predominantly student company is taught by Sloan School of Management alumna Betsy Salkind '86, SM '87.

The troupe formed last February and has played to enthusiastic private audiences.

Julie Landholt, administrative assistant in Theater Arts commented that "Road Kill Buffet" confronts issues as varied as the "most mundane MIT-specific events to major world crises."

Cast member Jack Kotovsky G was inspired to experience "the thrill of being put on the spot, to be funny at a moment's notice," after seeing a performance by a professional improv troupe.

He also noted that the Monday night meeting time was perfect for him because "my TV isn't good enough to get Monday night football. And, since I don't play varsity sports, this is the only way I can get in The Tech."

Future performances will be on October 17 and November 18.

The "Road Kill Buffet" troupe currently numbers eight and would like to add four more members, especially women. Kotovsky noted that improvisational theater is the ideal vehicle for busy MIT students: "There's no preparation or memorization required, so there's no homework."

If interested in joining, call 253-5623.

Glen Weinstein '93, Archee Roberts '94, Jack Kotovsky G, Dan Zentner '93, Alec Jessiman '88 (L-R) **photo by Benson Wen '92**

'Leonardo' at Museum of Science

Leonardo: Anatomy of a Soul, the multi-media performance event created by Pilgrim Theater Research & Performance Collaborative while artists-in-residence at MIT 1989-90, will be performed in Cahners Theater at the Museum of Science September 12, 15, 18, and 22 at 8pm.

The text was adapted from the notebooks of Leonardo da Vinci by director/writers Kermit Dunkelberg and Kim Mancuso of Pilgrim Theater (both still teaching part-time at MIT) in collaboration with MIT students and community members.

Leonardo: Anatomy of a Soul premiered at MIT in January 1990 and has since traveled to the Edinburgh Festival in Scotland and Europe with the support of the MIT Summer Session Office and the Council for the Arts.

Tickets are $9, $7 students/seniors/Museum members, available at the Museum and at Bostix. For group sales $5 each for 20 or more call Pilgrim Theater, 723-2170. Information: Museum of Science, 723-2500.

Wodiczko Speaks at MFA

Krzysztof Wodiczko, who will be joining the faculty of the Visual Arts Program in September 1992, will discuss the challenge of creating work that raises public awareness of social issues today (September 11) at 7:30pm in Remis Auditorium at the Museum of Fine Arts.

Wodiczko, visiting artist-in-residence at the VAP in the spring of 1991, is known for large-scale slide projections onto the face of buildings and memorials, creating "counter-monuments" with political and social implications.

Tickets $7.50, $6.50 Museum members/seniors/students. Information: 267-9300 x306.

ANYONE FOR PIE?

Final Weekend for 'Sweeney Todd'

Sweeney Todd has set up his barbarously deadly barber shop in Kresge Little Theater for the Musical Theatre Guild's presentation of the Tony award-winning musical thriller, *Sweeney Todd: The Demon Barber of Fleet Street.* The final weekend for Sweeney's murderously close shaves is September 12 through 14 at 8pm. Tickets $8; $7 students/seniors/MIT staff; $5 MIT/Wellesley students. 253-6294

Jeanette Ryan '92, Mike Friedhoff '90 **photo by Benson Wen '92**

Sweeney Todd is based loosely on a story by Christopher Bond, with music and lyrics by Stephen Sondheim, and book by Hugh Wheeler. The story centers around Todd's return to 19th-century London and his pursuit of revenge against those who unjustly exiled him. Twenty years before the play begins, Todd was sent to Australia by the evil Judge Turpin so that the Judge could steal his wife. Now Todd has escaped and come back under an assumed name to kill the Judge and reclaim his wife and daughter.

He is assisted by his former landlady Mrs. Lovett, and Anthony, the sailor who rescued him at sea. Soon he discovers that his daughter, Johanna, is the lecherous Judge's ward, and that his wife had apparently killed herself soon after his incarceration. Anthony and Johanna find and lose each other, Mrs. Lovett plots her future life with Todd, and the Judge eludes Todd's schemes. The only bright spot in Todd's life seems to be Mrs. Lovett's thriving meat pie business, using her own secret recipe, for which Todd supplies the grisly main ingredient.

The show is directed by Tarik Alkasab '92 and Sherry Ipri '93.

Lecture on Hollywood

Lillian S. Robinson will present "Straight Out of Hollywood: Thelma and Louise, Spike and Annabelle" on Monday, Sept. 16 at 4:30pm in Rm 9-150.

Robinson is a writer and activist whose books include *Sex, Class and Culture.* She is currently a visiting scholar at the University of Texas.

The lecture is sponsored by the Women's Studies Program and the Cultural Studies Project at MIT. Information: 253-3581.

NEWBORNS TO TEENS

Childcare Programs Expand This Fall

An expanded program of parent workshops, workshop series, and support groups will be offered this fall by MIT's Child Care Office, now part of MIT's new Office of Special Community Services.

Topics will include multicultural issues, child and young-adult development, discipline, child care and balancing work and family, with sessions for parents of newborns, preschool, school-age and young adult children. Held during the noon hour, most of the seminars are free of charge and open to the public. Nonparents are also welcome.

Workshops for September, meeting noon to 1:30pm except as noted, include:

—September 19: "Raising Children for a Multicultural World," on teaching children to resist bias and to recognize, respect, and celebrate the differences among people, led by Joyce King, a widely known consultant, Rm 14E-304.

—September 24: "A 'Relationship Approach' to Parenting Teenagers," an easy-to-implement approach for improving parent-teen relationships, led by Mira Kirshenbaum and Charles Foster, authors of the recently published *Parent/Teen Breakthrough*, Rm 14E-304.

—September 25, October 2: "In-Home Child Care," a two-part overview of in-home child care options, with session one including consultant Allene Fisch and session two a panel of parents, led by Kathy Simons, administrator of the MIT Child Care Resource and Referral Services, Rm 14N-417.

—September 26: "Caught Between Two Worlds: Raising 'Bicultural' Children," a discussion of the special challenges of raising children in the US when parents come from another country or culture, led by Sau-Fong Siu, associate professor of social work at Wheelock College, Rm 1-136.

—September 30: "Babysitting Co-ops and Playgroups: How to Grow Your Own," on ways to get together with other parents to exchange child care and provide social opportunities for children, led by Cyndie White, coordinator of the Center for Parenting, Harvard University, Rm 6-233.

The following parenting support groups are also starting or resuming this month and next, free of charge, but require preregistration:

—Parents Anonymous meets every Wednesday, noon to 1:30pm, for parents seeking ongoing support in dealing with the demands and stresses of parenting. Open to the public. Call Parents Anonymous, 1-800-882-1250.

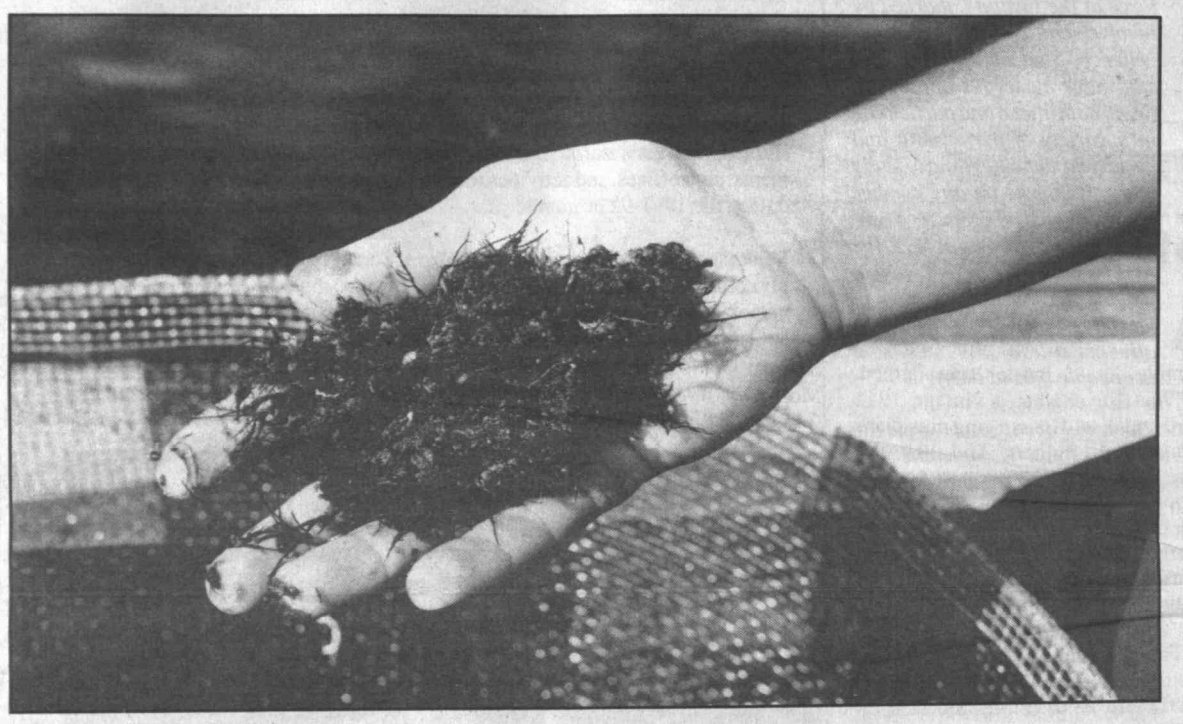
—Working Parents Support Group, day and times to be announced, to discuss issues in parenting and the demands of balancing work and family, led by Jackie Buck, social worker in the MIT Medical Department. Open to the MIT community only. Cosponsored by the MIT Medical Department. Call x3-4911.

Ongoing support groups now open to new members include the Working Mothers Support Group, a participant-led discussion group, with no preregistration. Day and location available from Therese Henderson, x3-7492, and in Calendar listings of Tech Talk. Co-sponsored by the MIT Medical Department.

In addition, the Child Care Office offers biweekly briefings on Boston-area child care options and issues on alternate Thursdays at noon in Rm 4-144. Briefings on infant and toddler care, for expectant parents, those considering their first child, and those new to MIT or to parenthood will be held on September 19, October 3, 17, and 31, November 14, and December 19.

The Child Care Office also houses resources and offers individual consultations by appointment on a range of parenting issues. The Office has recently established special collections of resources on giftedness, peace education, separation and divorce, fathering, and multicultural issues.

For further information on any of these programs, or to be added to the Child Care Office mailing list, contact the Office in Rm 4-144, x3-1592.



MUCKING AROUND—Sea Grant Fisheries Engineer Cliff Goudey and Jim Meneghini, a junior in civil engineering, have developed a system for removing the alga *Pilayella littoralis* from the shores around some North Shore communities. In the top photo above Jim (left) and Cliff work with the pump and hose that are integral to the system. In the bottom photo, one of the men holds a handful of *Pilayella*.

Photos by Donna Coveney

BROWN SLOP

MIT Project Combats Mutant Alga

■ **By Donna Coveney**
News Office

When residents around Nahant Bay, Lynn and Revere see and smell the gelatinous brown slop on the shore and in the sea they say, in despair, "It's ba-ack." As though in some B horror movie, the alga *Pilayella littoralis*, a mutant form of an alga indigenous to the area, proliferates and fouls beaches and water in its wake.

MIT's Sea Grant, in an effort to come to the rescue, has designed and successfully tested a prototype for an algae harvesting system to remove the nasty stuff. The system consists of a centrifugal pump hooked up to a large vacuum dredge that is towed through the algae, scooping and sucking it through a hose into a screened-in container. The container captures the algae while letting the sea water drain out.

Cliff Goudey, Sea Grant fisheries engineer and project manager, said, "We're having good luck in this experimental phase. We'd have to scale up for commercial use. It is a cost-effective way of removing the algae." Goudey is working on the project with Jim Meneghini, a junior in civil engineering.

Currently the only removal method is to bulldoze the beaches the foul-smelling *Pilayella* washes up on, and drop it back at water's edge. Unfortunately more sand is scraped up than algae and the decomposition piles continue to add nutrients to the water. In addition, relief is short-lived. *Pilayella* is back with the next tide.

Pilayella littoralis is an unusual free-living planktonic mutant form of the most abundant bottom-attached brown alga in the North Atlantic. Why it mutated into a free-living form is not really known, though it seems to need the high level of nutrients and relative calm of Nahant Bay. It is, however, moving south into Broad Sound and Revere Beach, as far south as Winthrop. It's growth may be driven by the amount of nutrients coming into the water from sewage outfalls and run-off in the area.

Pilayella has been in Nahant Bay since 1900 or earlier. It has only begun to proliferate at its current alarming rate since 1987. No one knows at this point what caused the sudden growth. As a result, no one knows how to curtail the alga's growth once it establishes itself, and scientists fear that if *Pilayella* continues to move south it could cause serious problems in Boston Harbor and potentially on shorelines all the way to Cape Cod.

Disposal of *Pilayella* remains an unanswered and pressing problem. Alternatives suggested are burying the algae in landfill, or dumping them several miles out to sea, where it is believed they cannot survive. Use of *Pilayella* as a composting or aquaculture feed stock is also being investigated.

MIT Theses Added to Database

In a change designed to increase access to MIT theses by scholars and researchers around the world, the MIT Libraries have begun submitting abstracts of MIT theses to an international database.

The database, Dissertation Abstracts International (DAI), is recognized as the most widely used information source about theses written in English. Further, because of its dissemination around the world DAI is important as a tool for researchers and as exposure for authors.

Until now the only comprehensive index of MIT theses was the Libraries' catalogue, where search possibilities were limited to author or title. This made it difficult, especially for persons outside the Institute, to find out about theses written here if they did not have a specific citation. DAI will group abstracts by subject, and index them by keyword and author.

Researchers interested in a particular MIT abstract in the database can request copies of the complete thesis from the Libraries' Microreproduction Laboratory. The Libraries hope to offset the cost of putting abstracts in DAI by retaining distribution rights of thesis copies, rather than charging graduate students.

All doctoral-level theses have been included in DAI since the beginning of the 1990-91 academic year. DAI is published by University Microfilms Incorporated.

Here & There

■ Croquet anyone?

A faculty member who plays croquet at the tournament level with the Boston Croquet Club thinks it's about time for MIT to have a croquet team, to keep pace with such schools as Harvard, Yale, Princeton, Smith and Wellesley.

"I'm quite serious about it," said Dr. **Norman D. Ham**, professor emeritus and senior lecturer in the Department of Aeronautics and Astronautics.

"We've tried out the artificial turf [on Jack Barry Field] and it's quite suitable. I've got a grad student who was captain of the UMass team. He would be the prime mover and I could serve as faculty advisor. And one of our club members is Number 4 in the United States. He lives in Cambridge, so we've got a coach."

Professor Ham said he would be approaching the Athletic Department about organizing a club team in croquet, open to any member of the MIT community. It only takes about four people to get a team going, although about 20 would be ideal.

It's also feasible to play indoors in the winter, using special equipment and a carpet-like surface that could be put down on the hockey rink.

Professor Ham asks any who are interested to contact him at x3-2423.

Sounds like wicket fun.

■ Two students were overheard discussing Hurricane Bob and the fact that the eye of the storm passed close to Boston. "At MIT," said one, "IAP is the eye of the storm."

He was referring, of course, to the Independent Activities Period between the first and second semesters, which serves as a break from the usual whirlwind of studies and extracurricular activities.

CLIPS AND QUOTES:

—Economics professor **Robert M. Solow** told a Woods Hole audience, according to the Falmouth Times, that "sustainability," which deals with issues centering on the environment and economics, is "an essentially vague concept." He offered this thought: "It's an obligation to conduct ourselves so we leave to the future the option, capacity and capability to be as well off as we are. It's an injunction not to satisfy ourselves by impoverishing our successors."

—Professor **Michael L. Dertouzos**, director of the Laboratory for Computer Science, told The New York Times that he welcomed the appointment of Laszlo A. Belady, who worked for IBM's research division most of his career, as chairman and director of Mitsubishi Electric Research Laboratories, Inc., a new basic research laboratory set up by the Japanese company in Kendall Square: "I consider him one of the old sages of computer science. He goes beyond technology to the techno-philosophical view of the field."

Charlie Ball