Massachusetts Institute of Technology

March 19, 1986 Volume 30, Number 25

# Faculty meeting

A regular meeting of the faculty will be held today (Wednesday, March 19) at 3:15pm in Huntington Hall (Rm 10-250).

Agenda items include: —A resolution on the death of Profes-sor Thomas B. King by Professor Nicholas J. Grant.

-A discussion of physical changes at MIT and its environs by Vice President William R. Dickson.

-The report of the Committee on International Institutional Commitments by Professor Jack Ruina.

### Fitness tests

Body fat and flexibility assessment tests will be offered by the Department of Athletics early next month.

The body fat assessments will be held Wednesday and Thursday, April 2 and 3, 11am-12:45pm in the du Pont coed athletic training room. A low back/hamstring flexibility assessment program will take place Tuesday-Thursday, April 8-10, 11:30am-1pm, also in the training room. You can sign up for either program at the du Pont Equipment Desk. An athletic card is required.

Meanwhile, the general fitness testing program for members of the community will end Wednesday, April 30. Appoint-ments for this may be made by calling x3-4908 Monday-Friday, 3-6pm.

# Greeting 1990

In an effort to encourage MIT students to extend a warm welcome to those who have been admitted, the Admissions Office will make available the Freshman Admitted List. Lists will be available to authorized groups beginning at noon Thursday, March 20, in the Admissions Office, Rm 3-108.

### Music note

A few string positions are still open for experienced players to perform in a con-cert of Schubert opera. The concert, to be held Saturday, April 19, in Kresge Auditorium, provides an opportunity to perform a rarely heard work. Interested players are asked to call conductor Roland Vazquez, x3-4742, or the Music Office, x3-2906 immediately.

# Colloquium call

Faculty nominations are being sought for a new chairman of the MIT Collo-quium Committee. Nominations may be submitted to Professor Frank Morgan, the present chairman, Rm 2-181, x3-3665,



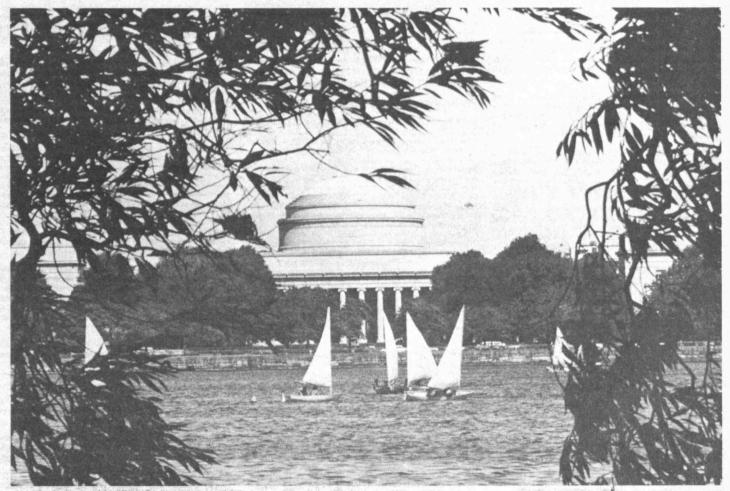


Photo by Calvin Campbell has become almost as familiar to Tech Talk readers as the masthead itself over the past dozen or so years. If you've ever wondered which pictures Cal himself likes best, you'll have a chance to find out at an exhibit of some 30 of his photographs opening Friday, March 21, at the MIT Museum. This picture, known in the News Office as "Tilted Triangles," is one of them. It was made eight or ten years ago and has adorned more

MIT publications than any other picture he has shot. He went back across the river to reshoot the picture a year or so ago and discovered that the tree whose leaves frame it had been cut down. Mr. Campbell, for 30 years a photojournalist at the Boston Herald Traveler, has been at MIT since 1974 and plans to retire at the end of March. We will miss him.

# Colloquium to focus on US, Japanese economy

Lester C. Thurow, Gordon Y Billard Professor of Management and Economics, will be the featured speaker at the next MIT Colloquium, Friday, April 4, at 3:15pm in Hunting-ton Hall (Rm 10-250). The colloquium title is "Can We Keep up with Japan? Building a World-Class US Economy."

Like its predecessors, the colloquium will be followed by informal discussions in campus houses and evening workshops devoted to aspects of the general topic. Colloquium activities are open to all members of the commun-

ity who are interested and participants may feel free to drop in on house activities.

The informal discussions are scheduled 5:15-6:30pm in 500 Memorial Drive, Baker House, and McCormick and Random Halls. Faculty members so far scheduled to participate include Professors John Kassakian of electrical engineering and computer science; Garth Saloner and Danny Quah of economics; Richard Valelly of political science, and Michael Scott Morton of management. Patricia Gercik of the MIT-Japan Program also will take part.

Are We Losing the Technology Race? will be the workshop topic in Ashdown House (Crafts Lounge). Speakers will be Dr. George Kenney of the Materials Processing Center, Professor Joel Moses, head of the Department of Electrical Engineering and Computer Science, and Dr. James Womack of the Center for Transportation Studies.

In Talbot Lounge of East Campus the topic will be Does the Japan Comparison Make Sense? with Professor Paul Krugman of economics and Professor Richard Samuels of political science as the speakers.

The colloquium is sponsored by the MIT Colloquium Committee. Program chairman for this—the last for this year—one is Profes-sor Paul R. Krugman of economics. It is being coordinated by Peggy Richardson of the Office of the Dean for Student Affairs. Accist of the Dean for Student Affairs. Assisting are Anne E. Armitage of the Integrated Studies Program and Judy Douglis, also of ODSA.

### Research suggests volcanos caused extinction of dinosaurs that volcanic eruptions indeed caused the By HOWARD M. LOREE II

News Office Intern

dinosaurs to perish. The extinction of the dinosaurs occurred about 65 million years ago during a short time period that marks the boundary between the Cretaceous and Tertiary periods. Scientists have found great numbers of fossils in the thin geological strata called the K-T boundary that was laid down during this period. Interestingly, they have also found high concentrations of several trace elements that are rare in strata directly above and below the (continued on page 8)

or to Ann Page in the Provost's Office, Rm 3-234, x 3-1916. Volunteers to run next year's colloquia also are needed.

# Meeting cancelled

The brown-bag lunch session on Working in Conference Planning at MIT sched-uled for Thursday, March 20, in the Mar-lar Lounge, has been cancelled because some of the presenters will not be available. The session, part of the Careers at MIT series, will be rescheduled later.

### Lunch dates

Each noontime during April, Information Systems will offer a free seminar on some aspect of computing open to novices and experts alike. The presentations will be informal with ample opportunity for questions. Seminars will begin at noon and last an hour. Topics and locations are listed in the Institute Calendar as well as in the IS Spring Course Brochure. Bring your lunch and nourish your mind as well as your stomach.

Could volcanos have cau sed the extinction of the dinosaurs? Many Hollywood movies depicting early civilization have shown dinosaurs perishing during violent volcanic eruptions, but that has been more a layman's scenario than a scientist's theory.

Dr. Ilhan Olmez of the Nuclear Reactor Laboratory now has found strong scientific evidence-based on studies of gases erupted from Hawaii's Kilauea volcano-suggesting

# **Graphic Arts** names Snover to new post

Janet Snover, communications manager of the MIT Communications Office since 1981,

has been named to the new post of manager of customer relations and services at Graphic Arts. Her appointment, an-

nounced by William R. Dickson, senior vice president of MIT, was effective Monday, March 17.

"Ms. Snover will serve as the key liaison between customers and the various Graphic Arts departments," Mr. Dickson said. "Her duties will include responding to



customer problems, consulting with those who need printing, publication, photo and audiovisual services, and educating customers on (continued on page 8)

# Shanty town removed; 8 arrested The MIT administration removed on Fri-day, March 14, the shanty town that had been put up March 2 on Kresge Plaza by members of the MIT condition A control of the state of the stat

of the MIT Coalition Against Apartheid.

Eight people-seven students and one former student-were arrested for trespassing after they rejected a request by Campus Police to step aside so that Physical Plant workers could safely remove the shanties. When the request was rejected, Senior Vice President William R. Dickson gave a formal trespass notice to the students, some of whom had climbed to the roof of a shanty. After a 10minute wait and a second notice by Mr. Dickson, Campus Police removed and arrested the students who were taken to court. Later that day two of those arrested requested trials, which were scheduled for April 22. Six cases

the court records sealed if there are no criminal charges in the intervening period. The latter case involves a senior scheduled to graduate in June, Campus Police said.

Commenting on the decision to remove the shanties, Mr. Dickson said that the MIT administration supports the right of the Coalition Against Apartheid to express its views, but noted that the coalition had been the occupant for 12 days of one of the most heavily used public spaces on the MIT campus. The shanties were removed, he said, to ensure that other groups and individuals can also continue to have full access to Kresge Plaza. (continued on page 8)

INSTITUTE NOTICES

 Open to public
Open to MIT Community only
Open to merchanistic - Open to members only

#### Announcements

Medical School Applicants '87 - Deadline for April 19 MCAT administration is March 21. Packets can be picked up in Rm 12:170. Meeting on the Application Process, Thurs, April 10, 10am, Rm 4-370. Details will be discussed about services and procedures of the Preprofessional Advising Office. Info: Ann, x3-4737 or come by Rm 12-170.

Graduate Women Students - Are invited to an informal meeting with Dean Jackie Simonis and Lynn Roberson of the Office of Student Affairs, March 19, 4pm, Rm 10-340. Come talk about your research and dissertation writing, social and work relationships, or. . .? For info, call x3-4861.

Survey of Majors Panel Discussion<sup>\*</sup> - Society of Women Engineers Program to help freshmen choose a major, Thurs, March 20, 5pm, Rm 4-163, with Prof David Housman, biology; Prof Susan Carey, psychology; Dr. Linda French, earth, at-mospheric & planetary sciences; Prof Theo Theoharris, literature. Refreshments served.

MITWellesley Exchange Program - Current MIT par-ticipants will discuss the program, Wed, March 19, 4pm, Rm 6-321. Refreshments served. Applications and additional info: Wellesley-MIT Exchange Office, Rm 7-108, x3-1668. Deadline for applications: Mon. March 31.

The Undergraduate Seminar Program - Recruitment for Fall Term '86 seminars has begun. Deadline for seminar pro-posals is Fri, March 28. A letter has gone out to all faculty from associate provost Samuel J. Keyser containing details, or you can call Peggy Richardson, x3-3561 for more information

Career Planning and Placement Company Recruitment - Palantir, March 19, 7-9pm, Rm 4-149. Presentations\*\* General Computer Corporation, March 24, 7-9pm, Rm 4-153.

John Asinari Award for Undergraduate Research in the Life Sciences - For undergraduates in Course VII, VII-A and VII-B. Deadline: April 25. For details see Tom Lynch, x3-4711, Rm 56-524.

International Careers Forum - UN Association of Greater Boston/Office of International Student Affairs/Office of Career Services Forum, April 5, 8:30am-5pm, Rm 26-100. Explore careers in the international finance, business, law, health, etc. Register by picking up registration form at Office of Career Ser-vices, Rm 12-170.

Talbot House Available - 4DA01Applications for the month of May are now being accepted in Rm 7-103. Ap-plication deadline for May weekends is March 31. For uestions or applications, call Sharon, x3-4158.

Serials in the MIT Libraries, 27th Ed - Microfiche listing published three times a year, of approximately 22,000 titles, in-cludes information on holdings, dates, call numbers, and title changes. The 27th edition contains over 100 new titles and is published in two sections: 1) alphabetical list (8 fiche); 2) keyword index (8 fiche). *Prepayment required*. Price: \$20; \$5/MIT staff & students. Send check payable to MIT to Office of the Director, Rm 14S-216.

Free Museum of Science Admission for MIT Students -With MIT student ID, provided by MIT chapter of Tau Beta Pi, the Engineering National Honor Fraternity. Also, reduced admission to special exhibits

MIT Hunger Drive Food Drive - We need non-perishable, unopened foods for Boston's less fortunate. Ongoing collection all day and night at drop-off boxes in Lobby 7, Walker, McGregor desk

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

Nightline\*\* - a student run hotline open every evening of the term, 7pm.7am. If you need information about anything or you just want to chat, give us a call. We're here to listen. x3.7840.

Faculty Members - Technology Review would like to hear about books being published by MIT faculty members. Please notify us, as far in advance as possible, of your upcoming book. Technology Review, Rm 10-140, x3-8250.

#### Club Notes

WMBR\*\* - is looking for students interested in radio and technical work. Contact Eli Polonsky, x3-4000. Leave name and phone number.

MIT Hobby Shop\*\* - Complete supervised facilities for wood-working and metalworking, Rm W31-031, M-F, 10am-6pm; Wed, 10am-9pm. Fees: \$15/term students; \$25/term community. Info, x3-4343.

MIT Yoga Club<sup>•</sup> - Rejuvenate your mind and body with Kun-dalini Yoga, the science of awareness, M-TW, 5:15pm, Burton Dining Hall. Beginners welcome. Th Seminar Class with Dr. Gurucharan Singh Khalsa, 5pm, Rm 24-624. Info: Fred Martin or Jeff Tollaksen, 247-0506 or x3-3157.

MIT Aikido Club\*\* - meets Mon-Fri, 5:30pm, DuPont exercise room. Aikido is a non-competitive Japanese martial discipline. Beginners welcome.

MIT Wu Tang Club\* - teaches northern Chinese kung fu, Tues & Thurs, 8pm, Burton Dining Hall; Sat, 10am, Athletic Center. Beginners welcome. For info call Meilin Wong, x5-8713

MIT Tae Kwon Do Club\*\* - Tae Kwon Do is a Korean martial art. Meets Sun, 4pm, TClub Lounge; M/W, 6pm, Burton Dining Hall; Fri, 6pm, TClub Lounge. For info call In Ho Kim, 266-2827

MIT Wonhwa-do Club<sup>\*</sup> - A synthesis of karate-do-type and judo-type martial arts. Meets MWF, 7-8:30pm, DuPont Exercise Rm. Beginners welcome. Info: Victor Lin, x5-8264 dorm or Karl Gemperli, 536-1300.

Scuba Club\*\* - The club sponsors dives throughout the term. Call scuba locker (x3-1551) for info and equipment rentals. For more info contact Dave Summa, x3-6464 or Mike Fox 492-4407.

MIT Guild of Bell Ringers\* - meets Mondays, 6:30-9pm, 2nd floor Lobby 7, for change ringing on handbells. We also ring the tower bells at Old North Church, Beginners are welcome. Contact Steve Costenoble, x3-3664 for more information.

#### **Religious Activities**

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

Christian Science Organization at MIT\* - Weekly my Meeting, Thurs, 5:45pm, Rm 4-145

Tech Catholic Community\* - Holy Week Services: Palm Sun-Tech Catholic Community<sup>\*</sup> – Holy Week Services: Faim Sun-day Masses, March 23, 9am & 12noon; Tues, March 25, no Mass; Holy Thursday Mass, March 27, 8pm only (no 5:05pm Mass); Good Friday Service, March 28, 3pm only (no noon service); Easter Vigil, Sat, March 29, 11:30pm; Easter Sunday, March 30, Charal 12noon Mass only. All Holy week services in MIT Chapel. Regular Mass schedule: Sun, 9am, 12noon, & 5pm; T/Th, 5:05pm; Fri, 12:05pm resumes April 1. All services in MIT Chapel. Morning Prayer: M-F, 8:15am, Chapel Basement. Bible Study: Sun, 10:35am, Ashdown Hulsizer Rm & Tues, 8pm, Chaplaincy Library. Chaplaincy Office: x3-2981.

MIT Hillel Services\* - Thurs, March 20: Hamentaschen Sale in Lobby 10.

Lutheran Ministry and Episcopal Ministry\*\* - Weekly ser-vice of Holy Communion: Wed, 5:10pm, MIT Chapel. Supper following at 312 Memorial Drive. For further info, call x3-2325/2983.

Baptist Chapel\* - Baptist Student Fellowship Services, Suns, 7pm, MIT Chapel.

MIT Islamic Society\* - Daily prayers, Ashdown House (base-ment), 5 times a day. Call x5-9749 dorm, for schedule. Friday prayer, Ashdown House 12:30-1pm, Khutba starts at 12:30pm, ngregation at 12:55pm.

Meditation and Discourse on the Bhagavad Gita<sup>•</sup> – Swami Sarvagatananda, MIT Vedanta Society/Ramakrishna Vedanta Society of Boston, meets Fridays through May 23, 5:15pm, MIT Chapel

United Christian Fellowship\*\* - MIT Chapter of Inter-Varsity Christian Fellowship, weekly meetings: large group for worship and sharing from God's word, Fri, 7pm, Student Ctr Mezzanine or Ctr Lounge; small group meetings for Bible Study and sup-port, weekly at different times. For more info, call Chiu-Oan, x5-6123 dorm

MIT Graduate Christian Fellowship\* - Come meet other Christian faculty, staff and grad students: weekly lunch gather-ings, Weds, 11:55-12:55, Student Ctr Twenty Chimneys; info John Ivan, x3-3880. A fellowship group also meets for a time of prayer and sharing for faculty, staff and graduate students in Sloan School, Thurs, 12noon, Rm E51-024. Contact Andy Hamlin, 926-8472.

MIT Seekers Christian Fellowship\* - Park Street Church Seekers Teaching and Worship Time, Sundays, 9:15am, enjoy our biblical teaching, worship and sharing at Park Street Church, right in front of the Park Street T stop. MIT Seekers leave from McCormick at 8:30am. Come join us.

Campus Crusade for Christ\*\* - Family time, 7:15pm, Fri, eves, Rm 37-252. Fellowship, scripture teaching, prayer, singing, refreshments & fun. Tues, prayer time, 7:30-9am, W20-441, Stu-dent Center. Call x5-9153 dorm.

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

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

Noon Bible Study\* - Every Wed, Rm E18-465, bring lunch. Ralph Burgess, x3-2422. (Since 1965).

Edgar Cayce Study Group\* - Tuesdays, 6:30-9pm, Edgar Cayce's Search for God material will be used as the basis for group discussion & meditation. For info: Douglas McCarroll, 497-0819 12-9pm or Scott Greenwald, x3-7423.

#### **Graduate Studies**

#### International Opportunities

The following is a list of opportunities available to foreign nationals. For more information on these, please see the Interna-tional Jobs notebook in the Office of Career Services, Rm 12-170.

Morgan Grenfell Inc, in New York, a U.K. merchant bank based in London, seeks fluent Japanese speaking students with an in-terest in pursuing a career in international finance. Openings exist in their branches in Tokyo, London and New York.

Norton Company in Worcester, Mass has one opening for a technical sales engineer in their Abrasive Marketing Group in Saudi Arabia. Candidates should have fluency in both verbal and written Arabic and prior living experience in Saudi Arabia is required.

#### Internships

The following is the list of internships received this week. For more information please see the Internship Information notebook in the Office of Career Services, Rm 12-170. NOTE: The Office of Career Services has added a new directory

to their Career Library: Getting Work Experience, the College Students' Directory of Summer Internship Programs that Lead to Careers. It can be found in the Reference section of the Career Services Office

#### Internships Offering a Stipend:

The Center for Auto Safety in Washington, DC seeks engineering students to perform research and analysis in many areas of vehicle and highway safety. Internship is full time for the summer with a 10 week stipend of \$1,500. Application deadline: April 15.

EIP/Northeast has announced their 1986 Self-Initiated Projects Program which gives students the opportunity to create their own summer position involving environmental issues. EIP will provide matching grants to students who design innovative research and action projects while working for a private, govern ment or nonprofit organization; the organization you work for will provide supervision and match the EIP grant. Project proposal deadline: April 25.

French-American Chamber of Commerce in the US, Inc, in New York is again sponsoring the Visitor Exchange Program for students interested in working in France for the summer or up to one year. This organization arranges internships with French corporations that may be involved in banking, engineering, sciences and related fields, telecommunications, business ser-vices, shipping, and the food industry. Salaries are determined by the employer. The summary process requires a resume in by the employer. The application process requires a resume in French and English, recommendations from a language instruc-tor and someone associated with your professional area, a state-ment of purpose written in French and English and an applica-tion. Deadline to send in these materials is May 15.

The Gillette Company in Boston annuonces two openings for The Gillette Company in Boston annuonces two openings for financial srevices interns for the summer. They seek students who have completed their sophomore year with a major in ac-counting and finance. Students will be interning in several cor-porate accounting areas including Accounts Receivable, Credit, Collection, Adjustments, Promotional Payments, Accounts Payable, and Financial Controls. The salary \$287/wk.

The South Street Seaport Museum in New York has summer in-ternships available in the Education Dept and Visitors' Services Dept. Applications must be submitted by April 11.

#### Student Jobs

There are more job listings available at the Student Employment Office, Rm 5-119.

MIT Lincoln Laboratories Personnel Office seeks a data entry clerk. Will do data entry, xeroxing, filing, etc. Hours are 2-7/wk (flexible) at \$5.87/hr, or negotiable Contact: Linda Hanson, 863-5500, x7058

IBM's marketing office in Boston is looking for 3-4 good bright ibms marketing unter in Boston is too may be a students with computer skills and a good way with people to work part-time (about 20 hrs/wk, possibly full-time during sumwork part-time (about 20 hrs/wk, possibly full-time during sum-mer) teaching customers and retail outlets what IBM software can do. Pay is \$3-10/hr. Car is necessary, and previous PC expe-rience is a plus. Also helpful to have an engineering background. If interested, send resume to, or call: Courtney Grey, Basic Systems, IBM Corporation, One Copley Place, Boston, MA 02117, 638-2521.

sembler needed to build wire-wrap of 6.111 music Electronic as project. Work with original builders of project at Artificial In-telligence Lab; doing parts layout, construction, and testing of demonstration version. Approximately 40 hours of work total between now and end of term. Salary negotiable. Contact: Fred Martin, x3-3157 days, or 247-0506 eves.

Student needed to operate the MIT Nuclear Reactor. Must be able to pass the NRC Reactor Operator's License Exam and handle 20 hrs/wk of work during semesters beginning Sept, nancie 20 nrswk of work dring seniesters ogenining cept, 1996. Full-time training must begin no later than June 1, 1986. Part-time training available earlier if feasible. Applicants must be MIT students, completing their freshman year at least, and be at least 18 years old as of June 1986. Salary information available upon request. Contact Mr. Kwan Kwok, Rm NW12-116, x3-4211.

#### UROP

MIT and Wellesley undergraduates are invited to join with faculty members in pursuit of research projects of mutual fascina-tion. Undergraduates are also urged to check the Undergraduate Research Opportunities Program's bulletin boards located in the main corridor of the Institute and in the UROP Office. Faculty supervisors wishing to have projects listed should send project descriptions to the UROP Office. Questions? Contact us, x3-5049, Rm 20B-141.

Eloranta Summer Fellowship Program. Several \$4,000 research fellowships for MIT undergraduates will be awarded this spring for work to be done during the summer. Areas of study may be in any field: science, engineering, humanities. Travel is encouraged. Originality is rewarded. Deadline is March

# 8th district candidates to speak

Several candidates in the race for the eighth congressional district of Massachusetts are scheduled to speak on issues of star wars and research priorities at a series of rallies on March 31, April 1 and April 2 at the main Institute entrance on 77 Massachusetts Ave. at 12:30pm.

Candidates so far scheduled include George Bacharach, March 31; Carla Johnston and Thomas Gallagher, April 1; and James Roosevelt, April 2. Several MIT professors will also participate.

The appearances are sponsored by the MIT Science Action Coordinating Committee.

#### Mexican official visits

Roberto Eibenschutz, undersecretary of urban development in the Ministry of Hous-ing and Development, Mexico City, will give a lecture Thursday, March 20, at 6:15pm in Rm N52-492. He will be at MIT in connection with a workshop series sponsored by the School of Architecture and Planning's Special Interest Group in Urban Settlements in Developing Countries. The workshops, being held all this week, are concerned with the aftermath of the Mexico City earthquake disaster.

#### Cable Television Schedule

MIT Cable Television serves the MIT campus. For connection and programming information, call x3-7431.

### Wednesday, March 19

Channel 9: 9-10:30am - 12.524 High Frequency Seismology. 2-3:30pm - 13.862 Ocean and Seabed Acoustics II.

Channel 10:  $10{:}30\,\mathrm{am}{\cdot}12\,\mathrm{noon}$  – Live coverage of the MIT Optics and Quantum Electronics Seminar.

Thursday, March 20 Channel 9: 9-10:30am – 12.524 High Frequency Seismology.

Friday, March 21

**Channel 9:** 10:30am-12noon - 12.806 Instability and Turbulence in Geophysical Systems.

#### Thursday, March 27

6pm - 8.02 Help Session #7. Program will repeat until 4pm, 4/1.

Friday, March 28

Channel 8: 8.02 Help Session #7. Program will repeat until 4pm, 4/1. Saturday, March 29

**Channel 8:** 8.02 Help Session #7. Program will repeat until 4pm, 4/1.

Sunday, March 30 Channel 8:

8.02 Help Session #7. Program will repeat until 4pm, 4/1. Monday, March 31

**Channel 8:** 8.02 Help Session #7. Program will repeat until 4pm, 4/1.

2-3:30pm - 13.862 Ocean and Seabed Acoustics II. Live from WHOI.

Tuesday, April 1 Channel 8.02 Help Session #7. Program will repeat until 4pm.

3-5:30pm - Live Coverage of the MIT VLSI Seminar.

Channel 11: 10:30am-12noon - 12.806 Instability and Turbulence in Geophysical Systems. Live from WHOI.

Wednesday, April 2

Channel 9: 9-10:30am - 12.524 High Frequency Seismology. 2-3:30pm - 13.862 Ocean and Seabed Acoustics II.

Channel 10: 10:30am-12noon - Live coverage of the MIT Optics and Quantum Electronics Seminar

Thursday, April 3 Channel 8: 6pm - 8.02 Help Session #8. Program will repeat until 4pm, 4/8

Channel 9: 9-10:30am - 12.524 High Frequency Seismology.

Friday, April 4

MIT Student Cable Programming Group\*\* - Looking for students interested in programming the MIT Cable Television channels, Contact Randy Winchester, x3-7431.

Tool & Die - MIT's humor magazine\*\* - meets every Weds, 7pm, Rm 50-309 (Walker). Everyone welcome

Student Center Committee (SCC)\*\* - Has fun every Sunday, 7pm, Student Ctr Center Lounge. Do you? Call x3-3916 anytime for more info

Animal Rights Forum\*\* - Meets 2nd & 4th Weds each month, 5pm, Rm 8-105.

MIT Student Duplicate Bridge Club\* - Bridge games every Sat. 7pm: every Thur, Sun & Mon, 6:30pm, \$.75 entry fee, Rm 407 Student Center Lessons free w/entry at 6:15pm from Bridge Senior Masters. No partners necessary, all welcome

MIT/DL Bridge Club<sup>•</sup> - Duplicate bridge, Tues, 6:30pm, Stu-dent Center Rm 349. ACBL masterpoints awarded; come with or without partner, newcomers always welcome. Special touror without partner, newcomers arways wercomer operate our naments monthly. Handicap game, 3rd Tues every month. Info call Gary Schwartz, x8-2459 Draper, or Mark Dulcey, 272-8428. on: \$1/students, \$2/non-students.

MIT Outing Club\* - Camping, cycling, climbing, canoeing, cabins: meets M/Th, 5-6pm, Student Center Rm 461. Also, see our bulletin board in "Infinite Corridor" next to Athena.

MIT Table Tennis Club\*\* - Meets Fri, 8-10pm; Sat, 6pm, T-Club Lounge. Info: Hoang Do, x3-2843.

MIT Go Club\*\* - Meets M/Th, 5-7pm, Rm NE43 3rd flr Playroom. Play the ancient oriental game of skill. Knock to get in if the door is locked.

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Unless otherwise indicated, contact Dean Jeanne Richard at the Graduate School Office, Rm 3-136, x3-4869 for further information.

Carroll L. Wilson Awards. Awards of \$5,000 given to one or more undergraduate and/or graduate student in any MIT department based on competitive evaluation of proposals. The aim of the Wilson awards is to provide opportunities for MIT students to pursue a challenging activity which would have excited the interest and enthusiasm of Carroll Wilson, Applications for the Wilson award can be obtained Linda Peterson, Office of the Dean of Graduate School, Rm 3-134A. Deadline: March 31, 1986.

Boston Chapter of Links, Inc. Awards for Black Graduate Students in Need of Financial Aid. Awards averaging approx-imately \$1,000 for Black graduate degree candidates in need of financial aid who are pursuing a course of study at an accredited college or university, not limited to a particular field of study. Applicant must be a legal resident of the Greater Boston area (registered voter), or have grown up in the area and attended Boston schools. Applications available from Linda Peterson, Rm 3-134A. Deadline: April 1, 1986.

Foreign Languages and Literatures Section of the Humanities Dept Student Exchange Program with the Ecole Normale Superieure in Paris, France, 1986-87. MIT student selected will be provided, free of charge, with a private room and breakfast in the school and will have free access to the Ecoles libraries, classes, and seminars. As a student at the Ecole, he/she is entitled to register at any of the institutes of higher learning affiliated with the Ecole, to work under the Supervision of some of Paris' most distinguished professors. Graduate students and graduating seniors in the areas of modern history, economics, urban geography, sociology, archaeology, literary and cultural studies, philosophy, and linguistics are invited to apply. The candidate must be competent in the French language. Application deadline: April 11. Application forms available in the Foreign Languages and Literatures Office, Rm 14N-207. Information: x3-4771.

31, 1986. Contact the UROP Office for more details. Carroll L. Wilson Awards. See Graduate Studies listing. Nuclear Engineering UROP Awards. Several awards are given to encourage research with faculty in the Nuclear Engineer-ing Dept. Freshmen are encouraged to apply. Contact: Prof Ronald Ballinger, x3-5110, Rm 24-215 for more details.

Energy Efficient Buildings Program. Mechanical Engineering Dept student to design and construct an experimental room for a heat transfer modeling study. Experience in carpentry and basic building construction techniques desirable. Contact Becky Thatcher, x3-7080. Faculty supervisor: Dr. Leon Glicksman, x3-2233

Department of Mechanical Engineering Research. UROPer needed to work on research to determine a mixture of freon (R-12 and R-22) mixed and unmixed with Helium sufficient to lift a series of balance beams through solar radiation, and to determine a counterweight sufficient to maintain a vertical position of the balance beam in windy conditions. Four units available for testing; two more can be made available. Faculty supervisor: Prof Ernesto Blanco, x3-2304.

High Sp eed Data Acquisition System. The Geotechnical group of the Civil Engineering Dept is developing a centrifuge facility to perform experiments within a high gravitational field. The purpose is to help develop the software to drive the system. Specific tasks include writing subroutines to take high-speed readings, etc. Programming experience, familiarity with Fortran and with basic electronics necessary. Faculty supervisor: Dr. J.T. Germiane, x3-7113, Rm 1-343.

Hacker Heaven-Lab for Computer Science. Summer pro racker reaven Lab for Computer Science, Summer pro-gram designed for freshmen & sophomores interested in expand-ing computer skills through research projects. Students work with research supervisors preparing UROP proposals based on current projects. Full time summer; p/t fall. Informational meeting on Fri, April 11, 3:30pm, Rm NE43-512A, or obtain in-formation packet after that date from Rm NE43-501. Contact Pat Anderegg, x3-5828.

sion #8. Program will repeat until 4nm. 4/8 8.02 Help S

#### Channel 9:

10:30am-12noon - 12.806 Instability and Turbulence in Geophysical Systems.

Saturday, April 5 **Channel 8** 8.02 Help Session #8. Program will repeat until 4pm, 4/8.

Sunday, April 6

Channel 8: 8.02 Help Session #8. Program will repeat until 4pm, 4/8.



March 19, 1986 Volume 30 Number 25

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# ←Here & There→

It was in 1954 that Dr. Helen L. Thomas came to MIT's Research Laboratory of Electronics as editor of publications, and a year later that she entered a contest sponsored by Trans World Airlines asking people to predict what air travel would be like in 1985

She retired from MIT in 1971, and stayed on at RLE as a part-time consultant until 1977, and had managed in the interval to forget all about the airline contest. And then, out of the blue last month, came the announcement that she, among 13,000 contest entrants, was the winner of the \$50,000 prize



It turned out that the words she had written in 1955 were remarkably prophetic, speaking of commercial aircraft powered by bypass jets that would cruise at close to 700 miles per hour, carry about 300 passengers and have a range of 5,000 miles.

In a telephone conversation, Dr. Thomas, now 80 and living in Cambridge, said she didn't get any specific help from those she worked with at MIT, but that most of her adult life had been spent among engineers and scientists, which obviously was a help. Her closest brush with aeronautics, she said, was when her late husband worked at the United Aircraft Research Division.

And, too, she was a trained historian, having become the first woman in America to receive a PhD degree in the history of science in 1948. She earned that at Harvard, the first university to offer the degree.

Actually, Dr. Thomas worked twice at MIT, the first time during World War II, from 1942 to 1946, as assistant historian at the Radiation Laboratory, where radar was developed. She and Dr. Henry Guerlac, the laboratory historian, later prepared a two-volume, 1,000-page history of the laboratory's work, which is in the US Archives, she said. A microfilm copy exists at MIT's Barker Engineering Laboratory, she believes

Between her two stints at MIT, she worked for the Raytheon Company, where she became head of the documents and research information section of the Equipment Engineering Division. She returned to MIT, she said, when she "got tired of classified work."

Had she really forgotten about the TWA contest? "Completely," she answered, which probably made the moment when she learned of her windfall all the sweeter.

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Guy Guillet, a graduate student in Film/Video enrolled in the Master of Science in Visual Studies program, won the 1985 National Video Festival Student Competition of the American Film Institute. Guillet's Creation Film, chosen from 350 entries, looks at the life of an alienated man whose reality transpires in one claustrophobic room, with only a computer for outside contact.

A 1985 calendar designed by Diane Jaroch, design manager of the MIT Press. has won an award in the "miscellaneous ephemera" category of a competition organized by the New England Museum Association of the American Association of Museums. Ms. Jaroch designed the calendar, featuring 20 photographs of his-torical Woods Hole, for the Bradley House Museum of Woods Hole.

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By our calculation, it's now just 23 days off-but have you learned to pronounce it yet? If not, this phonetic rendering might help: qwahs'-qwee-centennial. And when does MIT's quasquicentennial begin? On April 10, the anniversary of the day 125 years ago-in 1861-that the Institute was granted its charter. All together now: qwahs'-qwee-centennial.

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#### PRESS CLIPPINGS:

-MIT's Enterprise Forum, through which young companies get management advice in presentations before a panel of experts, got a big play in The Wall Street Journal. Under the headline, "At MIT, Small Firms Recruit Board of Directors for the Night," the story—on the front page of the newspaper's second section—traced the Forum's growth from its inception in Cambridge in 1978 to its present structure with chapters in a dozen cities. It also quoted Paul E. Johnson, the director, on the purpose of the Forum: "We're trying to help companies grow and emerge successfully

-Boston Globe economics writer David Warsh, in a column on Latin America economic policies, noted that the policy mak ers there "tended to have gone to school" at MIT, Harvard and BU because of the concentration of leading international economists at the Boston area schools. Among those he named at MIT were Professors Rudiger W. Dornbusch, Paul R. Krugman, Stanley Fischer and Charles P. Kindleberger. But none has been more influential, he said, than MIT's Lance J. Taylor, "an enthusiastic, rumpled advocate of aggressive government management of developing economies" whose book Structuralist Macroeconomics, is a bestseller in South American universities. Warsh quoted Professor Taylor as saying: "It's true that all these guys [engaged in stablization in Latin America] are my students, but they all think for themselves...



Governor Michael Dukakis signs Chapter 803, anti-arson legislation researched and written by Ken Sparks '86, second from left, for Rep. Peter Vellucci. Standing, from left: Rep. Vellucci, 29th Middlesex district; Donna Hunt, House staff; Norma McGavern, UROP associate director; and Clifford Truesdell, Rep. Vellucci's aide.

# Student is author of arson law

#### By SHARON DAVIS Staff Writer

Ken Sparks '86 may be a chemistry major, but his heart lies in political science.

That enthusiasm heightened when a bill he researched, then wrote for Rep. Peter A. Vel-lucci (29th Middlesex district), was signed into law January 10 by Gov. Michael Dukakis. The law, Chapter 803, acts of 1985, estab-

lishes a disqualification system for the sale of certain city and town properties. It forbids the sale of municipality tax-foreclosed property to persons convicted of arson and/or arsonrelated crimes, and who are tax-delinquent to that municipality.

Ken interned for Rep. Vellucci under Under-graduate Research Opportunities Program (UROP). For his work, the Anniston, Ala., native received a Class of 1972 Award.

He noted that the first step in an arson for profit scheme is to acquire cheap property. (Tax auctioned property is often suitable.) Arson profiteers often have a previous record of arson-related crimes and, since they want to maximize profit by avoiding unneccessary expenses like taxes, they are often tax-delinquent.

Ken's attraction to politics can be traced to his family. His father, the late Guy Sparks, a civil rights activist, ran against Gov. George Wallace's political machine for the Alabama attorney general post in 1962. "He was revenue commissioner in the 1950s and fought against such crimes as loan sharking and corporate corruption," Ken remembered.

His mother, Gail Sparks, the former Alabama secretary for the National Organization for Women, is employed by the Community Action Agency of Calhoun, Etowah and Cherokee Counties, Inc. based in Anniston. His sister, Christie, works for Americans for Democratic Action in Washington, D.C.

But it was not until he began studying at MIT that his political interest blossomed. In his sophomore year, Rep. Vellucci requested a student with a "technical background" from UROP to continue arson for profit research another intern had begun.

When I decided to make legislation to combat arson for profit a major priority I naturally thought of UROP," Rep. Vellucci said. "The MIT campus is in my district and my legislative assistant, Clifford Truesdell, was formerly a UROP assistant director. We got in touch with UROP, and they found, and then helped fund, Ken Sparks," he said.

Ken's UROP advisor was Professor Deborah A. Stone of political science.

Said Rep. Vellucci: "Ken did a great job. He wrote four excellent bills. I'm very grateful to UROP, and of course, to Ken. The only problem is, I cannot take on another UROP student until we get more of Ken's bills passed." A second package of bills Ken wrote deals

with the use of "so-called" lie detectors. H. 987 establishes special obligations for private detectives using lie detectors. A second, H. 1123, deals with employees or job applicants being required as a condition of employment to take polygraph tests.

A summary of the bills states: "this unpleasant and un-American practice is already illegal in Massachusetts, but present penalties are so light that the law is frequently broken by employers, and there are no sanctions on persons administering the test. H. 1123 strengthens the penalties against employers, gives victims a right of action in tort with treble damages, and allows the state Department of Labor to institute its own civil action and/or to intervene in the victim's action. . H. 987 establishes criminal and civil penalties, including loss of license, for private detectives who administer illegal lie detector tests; requires that in-house personnel investigators who use lie detectors have a private detective license. . .and requires that prior to the administration of any lie detector test, a notice be read to and signed by the subject that it is illegal to administer such a test as a condition of employment. .

"A similar employer's sanction bill was passed this year. H. 1123, which establishes obligations and penalities to private detectives, will be refiled next session," Ken said.

Ken gained more experience last summer when he worked at the Center for National Security Studies in Washington, D.C.

During January's 1986 Independent Activities Period, he sponsored a joint seminar with Dr. Louis Menand III, senior lecturer in political science, entitled "Security Clearances and the MIT Student: Your Rights and Obligations.' Last year he spent two semesters at Welles-

ley College studying humanities, where, he exclaimed, "the faculty is exceptional."

Ken, who intends to start law school in the fall, has already been accepted to the University of Michigan. After law school he hopes to move back to the south. Atlanta is one possibility. "I love it there," he said.

# IBM grant to support new polymer activities

MIT has recieved an IBM grant for basic research in the materials and processing sciences.

Engineering, headed by Professor Merton C. Flemings, and the interdisciplinary Program in Polymer Science and Technology, which is

# Elkins appointed to new alumni post

Chesapeake Bay area

Webb F. Elkins, regional director for the from The American Graduate School of Inter-MIT Alumni Association in the mid-West and national Management. He received a master of science degree in management from the

for the past year and a Sloan School alumnus, has been appointed director of alumni relations and secretary of the Alumni Association.

The appointment, which took effect March was announced by William J. Hecht, executive vice president of the Alumni Association. 'The association is fortunate to have someone

with the experience in marketing and management Webb has had," Mr. Hecht said.

Mr. Elkins has more than 15 years management experience in marketing, sales and business planning. He has held posts as executive vice president of The Dow Group, and as group marketing director of both the Wilson Foods Corporation and the Kimberly Clark Corporation. His assignments with Kimberly Clark took him to Australia and France to work with international joint venture companies, as well as to Japan, Puerto Rico, Canada and western Europe.

He received a bachelor of science degree in economics from Holy Cross College in 1958 and another bachelor's degree in foreign trade Sloan School, where he was a Sloan Fellow in 1982-83.

# Filmmaker at AMT

The second speaker in the new AMT Forum series on the arts and media technology, Ed Emshwiller, will give a talk and present selections from his work this afternoon (Wednesday, March 19) at 4:30 in the Bartos Theater. Lower Level, at The Media Laboratory (E15).

Professor Emshwiller, dean of the Department of Film and Video at the California Institute of the Arts, has received numerous awards at film festivals and competitions in the US and abroad, and has had special showings at the Museum of Modern Art in New York City. His computer-generated film, "Sunstone," produced in the late 1970s, is regarded as one of the most beautiful works of the new medium of digital imagery

In his talk, "Evolution of an Image Maker," he will describe his development as an artist and filmmaker.

Other speakers in the series will include Frank Stanton, former president of the Columbia Broadcasting System, April 2, and Norman I. Badler, associate professor of computer and information science at the University of Pennsylvania, May 14.

MIT, one of a dozen institutions selected to share in a grant package totalling \$24 million nationwide, will receive up to \$1 million in cash and another \$1 million in IBM equipment and software over the next five years.

The grants will encourage research of new materials and processing techniques for use in advanced computer systems. IBM funding also will help establish or expand graduatelevel programs in the materials and processing sciences.

The MIT proposal was submitted jointly by the Department of Materials Science and directed by Professor Robert E. Cohen of the Department of Chemical Engineering. Strong participation is expected from other departments

IBM selected the 12 institutions from among 47 applicants. MIT's proposal to significantly expand its programs in this area involves committing three new faculty positions, additional research activity and the development of new curricula. The research will have particular relevance to the information processing industry and lead to new generations of computers that are faster, smaller and more efficient.

# Chinese artists to appear in Kresge

Three leading soloists from the Peoples' Republic of China will make their Bostonarea debut in Kresge Auditorium March 28, at 8pm, in a program of Western and Chinese music.

The "Medley of Song Concert" is being presented by the National Association of Chinese Americans, the US-China Peoples' Friendship Association, The MIT Chinese Students Association and the Visiting Scholars Association of the Peoples' Republic.

The performers, all prizewinners in international singing competitions, are soprano Hu Xiaoping, tenor Zhang Jianyi and baritone Fu Haijing.

Special student tickets at \$5 can be obtained from the MIT Chinese Students Association: call 536-8130 for information. Other tickets are \$20, \$12, and \$8, available at the door or from the US-China Peoples' Friendship Association at 720 Mass Ave, Cambridge. For information, call 491-0577.

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THE INSTITUTE CALENDAR

#### March 19-April 6

Freshmen are encouraged to attend departmental lectures and students one means to learn more about professional work in a department and field.

MISS THE TECH TALK DEADLINE? Put your announcement on the MIT Cable System. "To-day at the Institute" runs 24 hours a day and can be viewed in Lobby 7, Lobby 10 and anywhere the cable is connected.

Simply submit announcement in writing to Rm 9-030. We Useful also for correcting errors, notifying about

cancellations, and dealing with emergencies. Note: If you have met the Tech Talk deadline, your an-nouncement is automatically put on cable (except for exhibits and some multimeetings programs).

### **Events of Special Interest**

Tech Community Women's Spring Crafts Faire\* - Hand-made crafts including jewelry, quilts, pottery, toys and eats sold by members of the MIT community, March 19, 8:30am-4:30pm, Lobby 10.

### **Cross-Cultural Events** Seminars and Lectures Wednesday, March 19

Optical Parametric Oscillators\*\* - C.L. Tang, Cornell University, EECS/RLE Seminar on Optics and Quantum Elec-tronics, 11am-12noon, Rm 36-428.

The Noisy Quiet Building: The Paradox of Acoustics in the Work Environment\*\* – Carl Rosenberg, acoustics consul-tant, Bolt, Beranek and Newman, Inc, and lecturer, MIT Dept of Architecture, MIT Joint Program for Energy Efficient Buildings.& Systems/Laboratory of Architecture & Planning Seminar on Building Performance, 12-1pm, Rm 1-134. Bag lunches welco

A Smple Model of the Shelf/Slope Front in the Middle Atlantic Bight<sup>\*</sup> – Dave Chapman, WHOI, Oceanography Sack Lunch Seminar, 12:10pm, Rm 54-411.

Negative Experiences with an Iterative Matrix Solver for Free Surface Problems<sup>®</sup> - K. Shimada, Depts of Ocean Engineering/Civil Engineering Informal Hydrodynamic Seminar, 3-4:30pm, Rm 5-314.

Using Regulation to Stimulate Market Innovation\*\* - Prof Nicholas A. Ashford, School of Engineering, Center for Technology, Policy and Industrial Development/Whitaker Col-lege of Health Sciences, Technology and Management Program in Health Policy Seminar, 4pm, Rm E25-401. Refreshments regured 9:30m. served, 3:30pm

An Experimental Study of Constitutive Relations of Transformation Plasticity in Zirconia-Containing Ceramics\*\* - Patricio E. Reyes Morel, PhD candidate, Dept of Nuclear Engineering RST Seminar, 4pm, Rm 24-121. Refreshments served, 3:45pm.

Metals, Humates, and Oxides\*\* - Dave Dzombak, MIT, Ralph M. Parsons Laboratory Aquatic Sciences Seminar, 4pm, Rm 48-316.

Evolution of an Image Maker\*\* - Ed Emshwiller, dean, Dept of Film and Video, California Institute of the Arts, Arts and Media Technology Forum, 4:30pm, Bldg E15 Bartos Theatre.

#### Thursday, March 20

Theoretical Study of Polymer Failure\* - Dr. Yves Termonia, Central Research and Development, DuPont, Pro-gram in Polymer Science and Technology Polymer Seminar, 11-12noon, Rm 66-360. Refreshments served, 10:30am.

Indians and Sandinistas\* - Prof Martin Diskin, MIT An-thropology/Archaeology Program, 12noon, Rm 20B-136. Work-inprogress seminar.

Long Term Petroleum Price Prospects\*\* - Prof Morris A. Adelman, MIT Dept of Economics and Ctr for Energy Policy Research, Center for Energy Policy Research EnergipGLaboratory Seminar, 12-2pm, Rm E40-496. Bag

Modern Shipping Operations<sup>a</sup> - Captain Antonius H. Seesink, Reefer Express Lines, MIT International Shipping Club, 4:15pm, Rm E51-332. Refreshments served.

Sonic Art: Music in the Computer Age<sup>\*</sup> - Trevor Wishart, composer, Experimental Music Studio Music and Technology Forum co-sponsored with Sound Art at Mobius, 8pm, Wiesner Bldg Bartos Theatre.

#### Friday, March 21

Caresian Grid Finite Element Solution to the Euler Equations\*\* - Richard Shapiro, grad student, Aero & Astro, Computational Fluid Dyamics Informal Seminar, 12-1pm, Rm 33-206.

The Influence of Stress on the Stablity of Two-Phase Alloys\* - Prof William Johnson, Carnegie-Mellon Univers-ity, Ctr for Materials Science and Engineering Colloquium, 12:15pm, Rm 9-150. Lunch provided, 12noon.

Possible Causes and Solutions of the High Deborah Number Problem in Viscoelastic Fluid Flow Calculations\*\* - Robert C. King, Chemical Engineering Seminar, 2pm, Rm 66-110.

Hollow Fibers as Substitutes for Packed Towers\*\* - Prof Edward L. Cussler, Dept of Chemical Engineering, Univer-sity of Minnesota, Chemical Engineering Seminar, 3pm, Rm 66-110

Trapped Particle Instability Studies in the Columbia Linear Machine<sup>6</sup> – Dr. Amiya Sen, Columbia University, Plasma Fusion Center Seminar, 4pm, Rm NW17-218.

Reactive and Resistive Instabilities of Ageostrophic Waves\*\* - Prof William Young, MIT Ctr for Meteorology and Physical Oceanography, Ctr for Meteorology and Physical Oceanography Se minar, 4pm, Rm 54-915.

#### Monday, March 24

The MIT Arts Council\*\* - Helvi McClelland, director, MIT Council for the Arts, Women's Forum, 12-1pm, Rm 10-150.

#### Tuesday, March 25

Anti-Semitism in Today's Germany<sup>•</sup> – Hon David Ander-son, Warburg Professor of International Relations, Sim-mons College; former ambassador to Yugoslavia 1981-86; former deputy commandant of Berlin, Ctr for International Studies Seminar, 12:15-2pm, Rm E38-615. Prof Eugene Skolnikoff, CIS Director will chair.

Obesity in Pediatrics\* - Dr. William H. Dietz, MD, PhD, assistant director, CRC; assistant professor in Pediatrics, Tufts University, Clinical Research Center Seminar Series on Battling the Bulge: Science and Obesity, 4-5pm, Rm E25-401.

#### Wednesday, March 26

In Celebration of the Pioneers and Voyagers: To Jupiter, Saturn, Uranus and Beyond\*\* - Dr. William W. Wald, Lin-coln Laboratory, Psychiatric Service Seminar, 12:30pm, Rm E25-111.

Minor White: A Remembrance\* - Gus Kayafas, MIT Museum Slide Lecture, 7pm, MIT Museum

#### Thursday, March 27

Synthesis and Properties of Thermoplastic Polyurethane Elastomer Model Systems\* - Dr. C.D. Eisenbach, Universtat Karlsruhe, Germany, Program in Polymer Science and Technology Polymer Seminar, 11-12noon, Rm 66-360. Refreshments served, 10:30am.

#### Saturday, March 29

Education and Apartheid in South Africa: Guidelines for US Collegiate Responses\* - MIT African Student Assn Col-loquium, 2:30pm, Rm 10-250.

#### Monday, March 31

Nonlinear Mean Field-High Frequency Wave Interactions in the Induction Zone\*\* – Prof Rodolfo Rosales, MIT Dept of Mathematics, Applied Mathematics Colloquium, 4pm, Rm 2-338. Refreshments served, 3:30pm, Rm 2-349.

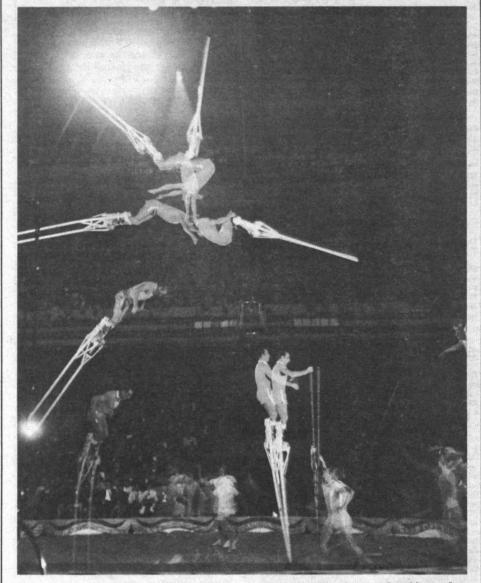
The Physics of a Cell's Fluid Environment\*\* - Keith Stolzenbach, MIT Parsons Lab, Dept of Civil Engineering Division of Water Resources and Environmental Engineering Seminar, 4pm, Rm 48-316.

#### Tuesday, April 1

Systematic Chemical Modification of Polydiacetylenes\* -Dr. Daniel J. Sandman, GTE Laboratories, Program in Polymer Science and Technology Polymer Seminar, 11-12noon, Rm E25-117, Refreshments served, 10:30am,

Synchrotron Studies of Surface Phases and Phase Transitions\*\* - Robert J. Birgeneau, MIT, Laser Research Ctr/George R. Harrison Spectroscopy Laboratory/Research Laboratory of Electronics/School of Engineering Seminar on Modern Optics and Spectroscopy, 11-12noon, Rm 37-252. Refreshments served following seminar.

# Book giveaway



Multiflash photo by Harold E. (Doc) Edgerton, shows the Russian acrobat Alexander Sazhenev performing a backflip in Boston Garden in 1963.

Institute Professor Emeritus Harold E. Edgerton will give 150 autographed copies of his book, Electronic Flash, Strobe, to MIT undergraduates in an event sponsored by the Council for the Arts Thursday, March 20, 2-5pm in the Council office at the Wiesner Building (Rm E15-205). Refreshments will be served and the paperback books will be given by Professor Edgerton himself on a first come, first served basis to undergraduates presenting their current ID's.

Professor Edgerton decided to use a portion of the McDermott Award presented to him by the Council last fall to give students copies of this particular book because "It tells them how to do it." The first sentence summarizes the intent of the 363-

#### Wednesday, April 2

High Power Coupled Carbon DiOxide Waveguide Laser Arrays\*\* - L.A. Newman, United Technologies Research Center, EECS/RLE Seminar on Optics and Quantum Elec-tronics, 11am-12noon, Rm 36-428.

Energy Monitoring and Management\*\* - India Hoesen-stein, energy manager, the Beacon Companies, Inc, MIT Joint Program for Energy Efficient Buildings & Systems/Laboratory of Architecture & Planning Seminar on Building Performance, 12-1pm, Rm 1-134. Bag lunches welcome.

The Application of Supernodal Methods to PWR Analysis\*\* - Ray Gamino, Dept of Nuclear Engineering Seminar, 34pm, Rm 24-213.

Magmatic and Tectonic Controls on the Petrogenesis of Ocean-Ridge Basalts\*\* – Prof Charles Langmuir, Lamont-Doherty Geological Observatory, Columbia University, Dept of Earth, Atmospheric, and Planetary Sciences Colloquium, 4-5pm, Rm 54-918.

Peroxide Production by Phytoplankton\*\* - Brian Palenik, MIT, Ralph M. Parsons Laboratory Aquatic Sciences Seminar, 4pm, Rm 48-316.

**Prof Franco Modi** 

has made work thrilling to generations of students.' Originally published in 1970 by McGraw Hill, the book is now in its third printing from the MIT Press.

page book as follows: "to present informa-

tion on the electronic flash system of pro-

ducing radiant energy and on its applica-

tions in science and engineering as well as

Widely known for his discoveries in stro-

boscopy and high-speed photography,

Edgerton is a professor of electrical mea-

The McDermott Award is given annu-

ally by the Council for the Arts "for major

contributions to the arts as a means of

human fulfillment." The Edgerton citation said, in part: "His flair in the classroom

in conventional and research photography."

#### Friday, April 4

surements, emeritus.

Inside Your IBM PC\*\* - Information Systems, Seminar, 12-1pm, Rm 13-1143.

Free Surface Flows of Viscoelastic Fluids\*\* - Minas Apelian, Chemical Engineering Seminar, 2pm, Rm 66-110.

Effects of Pressure on Soot Formation in Laminar Diffu sion Flames\*\* - Prof Craig Bowman, Dept of Mechanical Engineering, Stanford University, Chemical Engineering Seminar, 3pm, Rm 66-110.

Can We Keep Up With Japan? Building a World-Class Economy\* - Prof Lester Thurow, Sloan School of Manage-ment; author, The Zero Sum Society and The Zero Sum Solution, MIT Colloquium Committee Seminar, 3:15pm, Rm 10:250. Followed by pre-workshop activities in Baker, McCor-mick, 500 Mem Dr, Random Halls, 5:15-6:30pm, and by metholases in Ashdawn and Fast Campus 6:30.8pm workshops in Ashdo n and East Campus, 6:30-8pm.

# Readings

Poetry Reading\* - Stephen Rodefer, curator, Archive of New Poetry, University of San Diego; teacher, Literature Dept, MIT Writing Program reading from his recent books:

Your Leadership Role: Leadership Style; Communication Skills\*\* - Barbara Chuck, staff associate, Campus Ac-tivities Office, MIT Leadership Education and Development (LEAD) Program exploring the skills needed by effective leaders. 3pm, Student Ctr Center Lounge, or 6:30pm, Rm 10-280.

The Future in High Energy Physics\*\* - Prof Samuel C.C. Ting, MIT, Physics Colloquium, 4pm, Rm 10-250. Refreshm served, 3:30pm, Rm 10-250 lobby.

Poly (N-blocked Hydroproline Ester): A Novel Class of Bioerodible Polyaminoacid for Controlled Drug Release\* - H. Yu, Dept of Applied Biological Sciences Seminar, 4pm, Rm

Electronic Publishing: The CD-ROM Option\* - Linda Moulton, Comstow Information Services; Julie Schwerin, InfoTech: David Roux, Datext, Communications Forum Seminar, 4-6pm, Wiesner Bldg Bartos Theatre, Rm E15-070.

Immigration and Earnings: The Case of Canada\* - Prof David E. Bloom, Harvard University, MITHarvard Research Seminar on Migration and Development, 4-6pm, Harvard Ctr for Population Studies, 9 Bow St.

Artificial Joint Design: Generic or Customized\* - Peter S. Walker, PhD, director, Orthopedic Biomechanics, Brigham and Women's Hospital; director, Clinical Bioengineering Lab. W Roxbury Veterans Administration, Harvard-MIT Division of Health Sciences and Technology Seminar, 4:10-5pm, Rm E25-117. Refreshments served, 4pm.

Writing Introductions and Conclusions\*\* - Writing and Communication Center ESL Writing American English Workshop, 4:15pm, Rm 14N-317.

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Nanostructures: A New Dimension in Electronics Research\*\* - Richard E. Howard, AT&T Bell Laboratories, Holmdel, NJ, VLSI Seminar, 4pm, Rm 34-101. Refreshments rved. 3:30r

Step Response Bounds for Large Scale Linear Systems Governed by M-Matrices, With Application to Timing Analysis of VLSI Circuits\*\* - Prof John L. Wyatt, Jr, MIT EECS Laboratory for Information and Decision Systems (LIDS) minar, 4pm, Rm 9-150. Refreshments served, 3:30pm

Treating the Seriously Overweight Patient: Approaches, Hazards, and Benefits\* - Robert A. Hoerr, MD, assistant director, CRC, Clinical Research Center Seminar Series on Battling the Bulge: Science and Obesity, 4-5pm, Rm E25-401

Stall Phenomena in Multistage Compressors\*\* - Dr. W.G. Steenken, GE, Aircraft Engine Group, Dept of Aeronautics and Astronautics Gas Turbine Laboratory Seminar, 4:15pm, Rm 35-520. Refreshments served, 4pm.

The Management of the Large Real Estate Development Company<sup>\*\*</sup> - Bernard I. Ghert, president & chief ex-ecutive officer, The Cadillac Fairview Corporation Ltd, Toronto, Center for Real Estate Development Hahn Lecture, Company\*\* 6pm, Rm 9-150.

Working, Living, and Pursuing Professional Study in Japan<sup>••</sup> - Panel Discussion, MIT-Japan Science and Technology Program/International Human Resources Institute Forum, Academic Living in Japan - Linda Salter; Women Working in Japan - Jennifer Falk; Studying an Aspect of ulture and How to Survive without a Prearranged Job - Nelson Segelman; Setting Up a Household in Japan: School, Children, and Making a Living Meaningful -Debra Samuels, 7:30pm, Rm E51-329.

vinner, 1985 Nobel prize in economics; MIT Institute Professor, Killian Award Lecture, 4:30pm, Kresge Auditorium.

#### Thursday, April 3

Introduction to the MIT Microcomputer Center\*\* - Information Systems Seminar, 12-1pm, Student Ctr West Lounge.

Expert Systems in Production Environment\*\* - Dr. Petros Pappas, Westinghouse Productivity Center, Pittsburgh, Laboratory for Manufacturing and Productivity Seminar, 3-5pm, Rm 35-250. Refreshments served.

Keeping Members Happy: Recruitment, Retention and Motivation, and Delegation and Supervision\*\* - Barbara Chuck, staff associate, Campus Activities Office, MIT Leadership Education and Development (LEAD) Program exploring the skills needed by effective leaders, 3pm, Student Ctr Center Lounge, or 6:30pm, Rm 10-280.

Effects of High Technology Facilities on Building Technology\* - William L. Maini, president, Symmes, Maini & McKee Associates, Inc., Construction Engineering and Management Seminar, 4pm, Rm 1-190

Navigating the Public Domain\* - Richard M. Stallman, founder, GNU Project; Douglas Chamberlain, Boston Com-puter Society; Stanley Doherty, Scholastechs, MIT Comnunications Forum Seminar, 4-6pm, Wiesner Bldg Bartos

Clinical Biomotion Analysis\* - Patrick O. Riley, PhD candidate, medical engineering/medical physics, Harvard MIT Division of Health Sciences and Technology Seminar, 4:10-5pm, Rm E25-117. Refreshments served, 4pm.

English Verb Tenses\*\* - Writing and Communication Center ESL Writing American English Workshop, 4:15pm, Rm 14N-317.

Plane Debris, and Four Lectures (winner, 1983 Annual Book Award of the American Poetry Center), March 20, 8-10pm; Rm

### Community Meetings

Alcoholics Anonymous (AA)\*\* - Meetings every Tues, 12-1pm, Rm E23-364. For info call Ann, x3-4911.

- Meetings every Fri, noon-1pm, Health Education Conference Rm E23-297. The only requirement for membership is that there be a problem of alcoholism in a relative or friend. Call Ann, x3-4911.

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

Narcotics Anonymous<sup>•</sup> – Meetings at MIT, every Mon, 1-2pm, Rm E23-364 (MIT Medical Dept), Call 569-8792.

Overeaters Anonymous\* - Meetings every Mon, 12-1pm, Rm This is not a lunch time m E23-297 ting, so please bring any food. For info call Judy, x3-2481.

MIT Faculty Club\*\* - The Club is open Mon-Fri. Lunch hours: noon-2pm; dinner hours: 5:30-8pm. For dinner and private party reservations, call x3-4896 9am-5pm daily.

Commodore Users Group\*\* - meets monthly at noon time. For more info, call Gil, x8-3186 Draper.

MITLUG. The Greater Boston DEC User's Group\* - Meets for questions, answers & discussion of DEC hardware, operating systems (except VMS) and site management (peripherals, service, vendors, etc), sponsored by Plasma Fusion Ctr, March 19, 1:45pm, Nr NW16-213. Narrative/Slide Presentation of Extended Trip to Africa and Egypt\* - Bernard and Teri Whiteman, retired MIT staff, AARP meeting, Tues, March 25, 5:15pm, Student Ctr Mezzanine Lounge. Coffee served, 4:30pm.

Wives' Group\*\* - Morning Group: March 19, Museums on Brattle Street inc Longfellow House, Brattle & Hopper Lee Nichols House; info - Haruyo Sakuma, 494-5492 or Gerda Van Thieler, 923-0616. April 2, Newbury St art galleries; info -Hyeyon Kim, 227-1526 or Mireille Chabaud, 776-7533. Meet at 9:15am, Eastgate. Children welcome. Afternoon Group: March 19, Emily Dickinson: An American Poet - Prof Cynthia Griffin Wolff. MIT Literature faculty. March 26, Decorating Easter Eggs - European members of Wives' Group. There will be a small charge for the eggs & materials. All meetings 3-5pm, Student Ctr Rm 491. Babysitting provided in Student Ctr Rm 407.

Craft Group\*\* - sponsored by Wives' Group, meets every Thurs, 2-4pm, Student Ctr Center Lounge or Student Ctr Rm 407. Please call x3-1614 to check on location of meetings.

The Language Conversation Exchange\*\* – sponsored by the Wives' Group, seeks persons interested in practicing languages with a partner. Many international students and spouses wish to practice English with a native speaker. If you are willing to help an international visitor practice English and/or interested in practicing or learning a foreign language with a native speaker, call the secretary to the Wives' Group, x3-1614.

Feminist Reading Group\*\* - Meets every Wed, 12-1pm, Rm E51-310. Info: Sharon, x3-3622.

MIT Women's League Informal Needlework Group\*\* – Wednesday lunchtime gatherings, 9:30am.1:30pm, Rm 10-340. Bring sack lunch, projects, swap ideas. Coffee & tea served. Meeting dates: March 26, April 9, 23, May 14, 28. For more info, call Lillian Alberty (491-3689), Nancy Whitman (x3-6040) or Beth Harling (749-4055).

# Alumni Activities

The Puzzling Issues Raised by the Strategic Defense Initiative (Star Wars)\*\* - Prof Jack Ruina, MIT Ctr for International Studies, MIT Club of Boston luncheon and talk, March 20, 11:45am, MIT Faculty Club. Cost: \$12/Club members & guests; \$15/non-members. Reservations: call x3-2000.

### **MIT Activities Committee**

MITAC, the MIT Activities Committee offers discount movie tickets for General Cinema, Showcase and Sack (USA Cinemas) Theaters (\$3 ea). Tickets are good 7 days a week, any performance.

performance. Tickets may be purchased at MITAC Office, Rm 20A-023 (x3-7990), 10am-3pm. Mon through Fri and Lobbies 10 and E18 on Fri, 12-1pm. Lincoln Lab employees may purchase tickets in Rm A-270 from 1-2pm, Tuesday through Friday only. Check out our table of discounts for camping, dining, musical and cultural events available to you through MITAC and MARES (Mass Assoc of Recreation and Employee Services).

All American Dance. Fri, April 4, 8pm, Wang Center. A trio of thrilling performances by the Boston Ballet: Agnes DeMille's *Fall River Legend*, a suspenseful adaption of the tale of Lizzie Borden; Balanchine's *Square Dance*; and *Pipe Dreams*, choreographed by Boston Ballet's new Artistic Director Bruce Marks. Tickets: \$21.50 (reg \$23.50) available in Rm 20A-023.

Little Shop of Horrors. Thurs, April 10, 8pm, Charles Playhouse. The place: a skid row flower shop. The main character: a man-eating plant named "Audrey II" and the young man who takes care of it and other assorted greenery. The plot: bizarre. The spoof: a satire on horror movies. Don't miss this zany triple award-winning musical. Tickets: \$16 (reg \$19.50), available in Rm 20A-023.

Mandala Folk Dance Ensemble. Sat, April 12, 8pm, John Hancock Hall. Kick up your heels to life, dance, culture and music from around the world. Celebrate a Serbian village wedding, a Brazilian carnival, a frantic Rumanian men's dance, Appalachian fiddling and clogging and more. Tickets: \$13.25 (reg \$15) available in Rm 20A-023.

Juilliard String Quartert. Fri, April 25, 8pm, Jordan Hall. The "first family of chamber music" perform their fifth concert devoted to the quartets of Beethoven: D Major, Op. 18, No. 3; F Minor, Op. 95, *Serioso*; and B Flat Major, Op. 130. Tickets: \$15 (reg \$16.50) available in Rm 20A-023.

White Water Rafting Weekend. Fri-Sun, June 20-22. Spend 2 days rafting and camping on the Rouge River, 81 miles north of Montreal in the Laurentian Mts. Price includes round trip transportation, campsite, 2 days of rafting, 2 full breakfasts, 2 barbeque dinners, and 2 high-energy snacks on the river. All for the river-bottom price of \$128/pp. Leave MIT, Fri, June 20, 12:30pm; return Mon, June 23, 12am. Important: In order to get this great deal we must have all reservations by April 18. Make reservations in Rm 20A-023.

**Council for the Arts Museum Passes.** On campus, there are 10 passes employees may borrow for free admission to 'the Museum of Fine Arts. To check on availability, call x3-5651. At Lincoln Lab, passes are available in the Lincoln Lab Library, Rm A-150.

Museum of Science Tickets. Available for only \$1. Pay another \$1 at the door, for a total savings of \$3/pp/adult; \$1/pp/child (reg \$5/pp/adult; \$3/pp/child).

City Books are here! Only \$.75 (reg \$7.50).

Ski-Key Books. Containing valuable discount lift ticket coupons for the greater New England area are here! Only \$9 ea (reg \$25).

New! The Greater Boston '86 Books are here! 2-volume, 820-page discount coupon book offer discounts on fine and casual dining, theatre, comedy shows, opera, ballet, museums, hotels, car washes, cleaners, and more. . . for the greater Boston area and beyond (inc areas in the Metro West, South Shore, North Shore & north of Boston). A limited supply now available for only \$20 ea (reg \$30 ea).

Important! To avoid disappointment, purchase tickets and make reservations early as we are limited by ticket availability and transportation. All MITAC events and ticket purchases are nonrefundable due to the non-profit nature of our organization.

# Social Activities

Japanese Table\*\* - MIT-Japan Science and Technology Program/Wellesley-MIT Exchange Program lunch table, every Tues, 1-2pm, Student Ctr Center Lounge. Bring bag lunch; all levels of Japanese welcome.

Hebrew Table\*\* - MIT Hillel Hebrew Table to practice your Hebrew, every Tuesday at 5:30pm in the Kosher Kitchen (Walker Rm 50-007). Dinner available for \$5.75.

GAMIT Sunday Discussion Meeting\* - Gays at MIT, Suns, 5pm, GAMIT Lounge, Walker Memorial Rm 50-306. Dinner served at 6:30pm.

GAMIT Study Break\* - Gays at MIT, Thurs, 9pm, GAMIT Lounge, Walker Memorial Rm 50-306.

Lesbian Lunch Group\* - LAMIT, (part of GAMIT) meets alternate Thursdays. Staff, faculty & students welcome. Info: contact Lesbian Lunch Group, c/o Rm 50-306 or call x3-5440.

### Movies

The Great Escape\*\* - LSC Movie, March 21, 8pm, Kresge Auditorium. \$1/MITWellesley ID.

Butch Cassidy and the Sundance Kid\*\* - LSC Movie, March 22, 7&10, Rm 26-100. \$1/MITWellesley ID.

A Funny Thing Happened on the Way to the Forum\*\* -LSC Movie, March 23, 6:30&9pm, Rm 26-100. \$1/MITWellesley ID.

Three Days of the Condor\*\* - LSC Movie, March 28, 7&10, Rm 26-100. \$1/MITWellesley ID.

Twilight Zone: The Movie\*\* - LSC Movie, March 29, 7&9:30, Rm 26-100. \$1/MITWellesley ID.

Arsenic and Old Lace\*\* - LSC Movie, March 30, 6:30&9:30, Rm 26-100. \$1/MITWellesley ID.

Rebecca\*\* - LSC Classic Movie, April 4, 7:30pm, Rm 10-250. \$1/MIT:Wellesley ID.

The Big Chill\*\* - LSC Movie, April 4, 7&9:30, Rm 26-100. \$1/MITWellesley ID.

Cocoon\*\* - LSC Movie, April 5, 7&10pm, Kresge Auditorium. \$1/MITWellesley ID.

West Side Story\*\* - LSC Movie, April 6, 6:30&10, Rm 26-100. \$1/MITWellesley ID.

# and Music

MIT Student Chorus – Premiere Performance: An Hour of Music for Small Chorus<sup>•</sup> – John Oliver, director, presents works by Brahms, Debussy, Tallis, Gibbons and Barber, Wed, March 19, 8pm, Kresge Auditorium. Free.

Noon Hour Chapel Series\* - Boston Viol Consort, Thurs, March 20, 12:05pm, MIT Chapel. Free.

MIT Affiliated Artist Series\* - Paul Orgel, piano, Thurs, March 20, 8:30pm, Kresge Little Theatre. Free.

Noon Hour Chapel Series\* - Alan Goldspiel, guitar, Thurs, March 27, 12:05pm, MIT Chapel. Free.

Noon Hour Chapel Series\* - Primipara Consort perform "Songs of Renaissance Women," Thurs, April 3, 12:05pm, MIT Chapel. Free.

Guest Artist Series<sup>•</sup> – Mendelssohn String Quartet, performs Mendelssohn and Shoenberg, Fri, April 4, 8:30pm, Kresge Auditorium. Free.

MIT Gospel Choir\*\* - Meets every Sat, 11am. Welcomes new members, visitors - if you feel shy about singing, we need help with lighting, audio, design & arrangements for the spring con-

# Doherty Professorships are awarded to Drs. Fitts and Karr

lied biological sciences, and Dale G. Karr, assistant professor of ocean engineering, have been awarded 1986 Henry L. Doherty Professorships in Ocean Utilization. The announcement was made by Kenneth A. Smith, associate provost and vice president for research. Dr. Fitts will hold the chair for two years. During that time she will work toward devising a new biological monitor for coastal water contamination. Her approach will be to iso-late DNA probes and develop a hybridization assay for E. coli and other coliforms-bacteria that are normally found in sewage. Dr. Fitts' research will be based upon her own exciting discovery of gene sequence in Salmonella which is unique and specific to all members of the genus, but not to other bacteria. This opens up a whole new field of microbiology research. Knowledge of the sequence has already had applications in the food industry in shortening testing procedures of potentially contaminated foods. In the marine field, currently used microbiological assays are insensitive, laborious and time consuming. A faster and easier diagnostic test could lead to a more thorough surveillance program and greater protection for the public. There may also be future uses in monitoring shellfish as a safeguard against paralytic shellfish poisoning and the Hepatitis A virus.

Renee A. Fitts, assistant professor of apped biological sciences, and Dale G. Karr, ssistant professor of ocean engineering, have through the Induscert scheduled April 26. Rehearsals: March 22 - Student Ctr Rm 491; March 29 - Student Ctr Center Lounge; April 5 - Student Ctr 491; April 12 & 19 - Student Ctr Center Lounge; April 26 - Student Ctr Rm 491; May 3 - Student Ctr Rm 491. Info: x5-8645 dorm, x5-7531 dorm, or x5-6312 dorm.

Chinese Intercollegiate Choral Society\* - Meets Suns, 3-5pm, Rm W20-491. Currently rehearsing Chinese folk songs. Free voice lessons and music theory class, 1pm.

#### Theater

Tech Show '86: On the Rocks' - MIT Musical Theatre Guild original musical comedy, written and directed by students, April 4-5, April 11-12, 8pm, Student Ctr Sala de Puerto Rico. Admission: \$3/MIT students; \$4/students & seniors; \$5/MIT staff; \$6/general.

# Dance

MIT Ballroom Dance Club Workshops\* - March 23: Beginning Foxtrot, 12:30-1pm; Intermediate Swing, 1:30-2:30pm; Advanced Waltz, 4:5pm. April 6: Beginning Tango, 12:30-1pm; Intermediate Foxtrot, 1:30-2:30pm; Advanced Swing, 4:5pm, Burton Dining Hall. All classes at Student Ctr Sala de Puerto Rico unless otherwise indicated. Admission: Beginning -\$.25/members, \$.50/non-members; Intermediate - \$.50/members, \$.40/members, \$.40/members, \$.21/mon-members; Advanced - \$2/members, \$.30/non-members; Advanced - \$2/members, \$.30/non-members] https://doi.org/10.100/members.

Western Square Dancing<sup>\*</sup> – Tech Squares Club Level dancing and rounds, Tues, 8-11pm, Student Ctr 2nd Floor. Dennis Marsh, club caller & instructor; Veronica McClure, club cuer. Recorded info: x5-9126 dorm.

MIT Dance Workshop Classes\*\* – Beginning Modern Dance Technique, M/W, 3-5pm, DuPont TClub Lounge; Intermediate Modern Dance, T/Th, 5:30-7pm, Walker 201; Improvisation, Th, 1-3pm, Walker 201.

MIT Contemporary Dance Club\* - Cynthia Mallick, instructor, Aerobix, M/W, 6:30-7:30pm; Jazz I/II, M, 7:30-8:30pm; Stretch, W, 7:30-8:30pm; Rep, M/W, 9-10pm. Classes at: M, 6:30-8:30pm, McCormick Gym; W, 6:30-8:30pm, W31; M/W, 9-10, T-Club Lounge. Fee: \$3/single class, \$4/non-MIT. Info: call 723-7081.

Children's Dance Classes\*\* - Pamela Day, instructor. Creative Movement/Modern Dance classes for children ages 3-8, Fri: Ages 3-4, 2:30-3:15pm; Ages 5-8, 3:30-4:30pm, West Campus location. Great for boys & girls; excellent opportunity for non-English speaking children. For info & registration, call Pamela, x3-5791, T/Th mornings or 648-4834 eves/wkends.

MIT Folk Dance Club\* – weekly dancing-Sundays, International Dancing, 7:30pm, Student Center Sala de Puerto Rico; Tuesdays, Balkan and Western European Dancing, 7:30pm, Rm 407 Student Center; Wednesday, Israeli Dancing, 7:30pm Sala de Puerto Rico.

Rhythmic Gymnastics Classes for Women\*\* – MIT Women's League classes, Fri, 12-1pm, Rm 10-340. Info: Helena, 596-2396.

Yoga\* - ongoing classes in traditional Hatha and Iyengar style. Beginners: Mon, 7:20pm; Intermediates: Mon, 5:45pm. For information call Ei Turchinetz, 862-2613.

# **Exhibits**

COMMITTEE ON THE VISUAL ARTS Albert and Vera List Visual Arts Center Jerome & Laya Wiesner Building 20 Ames Street

Hayden Gallery – Alvar Aalto: Furniture and Glass. The 40 pieces of furniture, 25 glass objects and 35 drawings on view demonstrate Aalto's sensitivity to individual materials, respect for regional traditions and simple timeless forms in an integration of architecture and design. Through April 13.

David and Sandra Bakalar Sculpture Gallery - Alexander

Calder: Artist and Engineer, through April 13.

The Reference Gallery – Alternatives to Modernism. Exhibition surveys the work of Portuguese architect Alvaro Siza who works outside of mainstream postmodernist trends. Through April 6.

#### THE MIT MUSEUM

MIT Museum Bldg – Calvin Campbell: A Photographic Perspective of MIT, Retrospective show commemorating the retirement of MITs News Office photographer for the past 12 years, March 21 through July 31. A Continental Eye: The Art and Architecture of Arthur Rotch, 166 watercolors in which the 19th-century Boston architect recorded his impressions of Europe and the Near East between 1871 and 1892, through April 5. Sculpture by Beverly Benson Seamans, through July 26. Three Photographers, photos by Linda Cuccurullo and Gordon Thomas (MIT Libraries staff), and Carolina Salguero (formerly of MIT Dept of Architecture), through April 19. Minor White: Photographs, 102 prints dating from the 1930s to 1965. through March. Ongoing exhibits: Gjon Mili 27: A Tribute, Born in Rumania, world famous photographer Gjon Mili studied electrical engineering at MIT and pioneered in the use of electronic flash and multiple exposure photographs. In 1938 he began doing stories for Life magazine. Of Aerostatic Machines: Early Ballooning in France and Britain, Prints from MIT's Vail Collection illustrate the development of ballooning as a science and sport including fanciful inventions for steering balloons, and aerial views of Paris and other cities. Light Sculptures by Bill Parker '74, A synthesis of scientific knowledge and artistic composition gives expression to these changeable, touchable plasma sculptures. Hours: Weekdays 9am-5pm, Saturdays 10am-4pm.

Compton Gallery - Nihonga: Contemporary Japanese Paintings in the Traditional Style, Representative works by 48 contemporary Japanese artrists, March 31 through June 14. Opening Reception, March 31, 4.7pm. Hours: Weekdays 9am.5pm, Saturdays 10am.4pm.

Hart Nautical Gallery

Ongoing exhibits: Currier & Ives Prints From the Hart Nautical Collections – Colored lithographs of sailboats, steamboats, clipper ships and whalers. George Owen '94: Yacht Designer – Line drawings and half-models designed by one of the early professors of naval architecture at MIT MIT Seagrant – A review of MIT ocean research; Collection of Ship Models – Half-models and drawings. Historical view of the design and construction of ships.

Edgerton's Strobe Alley – Exhibits of high speed photography. Main corridor, 4th floor.

**Corridor Exhibits** 

Corridor Exhibits: Building 1 & 5, 2nd floor: John Ripley Freeman Lobby, Building 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. Building 6: Laboratory for Physical Chemistry. Building 8:

#### OTHER EXHIBITS

Institute Archives and Special Collections – Planning the New Technology. Part Two: Constant Desire Despradelle. Part two of a three-part series about the relocation of MIT from Copley Square to Cambridge portrays the impressive design of architect and teacher Despradelle. Though he died before the project began, several of his ideas were incorporated into the ultimate plan by his successor, William Welles Bosworth. Hall exhibit case across from 14N-118.

People of Monhegan - through March. Monhegal Still Lifes - April through May. Architecture & Planning Computer Resource Laboratory sequential exhibit of photographs by S. Leland Smith, teacher of filmmaking and photographic darkroom skills at the MIT Student Art Association. Hours: M-F, 9am-5pm, Rm 9-514.

Jerome B. Wiesner Student Art Gallery – for 1986 scheduling, any MIT student or student group interested in showing or performing art in the Gallery, call Andy Eisenmann, x3-7019 in Rm W20-429, M-F, 9-5.

# Sports

HOME EVENTS: March 22: W's Crew vs Conn College, RI. March 29: W's Crew vs WPI; Sailing, MIT Invitational, 12noon. March 30: Sailing, Northern Series I Regatta, 10am. March 31: Golf vs Clark, Suffolk, 1:15pm. April 1: Baseball vs Suffolk, 3pm; Lacrosse vs Westfield State, 3pm. April 2: W's Softball vs Clark, 3:30pm; M's Tennis vs Bowdoin, 3pm. April 3: W's Softball vs Harvard, 3pm. April 4: M's Tennis vs Colby, 3pm. April 5: Baseball vs Dartmouth, 1pm; M's Hwt Crew vs Columbia; W's Crew vs New Hampshire, Northeastern, Radcliffe, Lacrosse vs Nichols, 2pm; Sailing, Northern Series II Regatta, 12noon; M's Tennis vs Dartmouth, 1pm. April 6: Baseball vs Tufts (2 games), 1pm; Sailing, MIT Invitational, 10am; M's Tennis vs Penn State, 2pm.

# Wellesley Events

Jewett Arts Center<sup>\*</sup> – African Art of the Dogon, Selections from the Hans Gugenheim Collection symbolizing the complementary duality of natural and social order in Dogon culture, through March 23. Nic Nicosia: Recent Photographs, Includes selections from his most recent series, *The Cast*, through March 23. Clay, Paper, Fabric and Glass Workshop Experiments, Examination of selected works produced in contemporary workshops by leading artists, through March 23. Contemporary Arts: An Expanding View, Selected works by contemporary artists which transcend the historical concept of craft, through March 23. Recent Acquisitions and Alumnae Gifts, March 29 through June 8. Major Drawings From an Alumna Collection, recent acquisitions from the collection of Dorothy Braude Edinburg '42, March 29 through June 8. Contemporary Prints from the Permanent Collection, continuing.

Women's Non-Traditional Careers; A Non-traditional Examination\* - Lilli S. Hornig, visiting research scholar, Ctr for Research on Women Luncheon Seminar, March 20, 12:30-1:30pm. Bring a bag lunch; coffee provided.

\*Open to the public \*\*Open to the MIT community only \*\*\*Open to members only

Send notices for Wednesday, April 2 through Sunday, April 13, to Calendar Editor Rm 5-111, before noon, Friday, March 28.



Dr. Karr will hold a one-year Doherty appointment. The chair will allow him to contrial Liaison Program. At present, ice is the dominant constraint for all engineering activities in the Arctic including mineral development, transportation and national defense. Dr. Karr will monitor the growth of defects in ice by relating measured acoustic emission to changes in microstructure.

Microscopic cavities develop within the crystalline structure when ice is loaded externally by, for instance, a moving ship, offshore construction or drilling, or other human activities on the ice cover. Under the continuing effect of a load, the cavities may grow and coalesce, effectively weakening the polycrystalline structure of the material. Dr. Karr will quantify the relationship between cavity growth, local stress state, and the emitted sound field. He will in part be working with MIT's large Arctic acoustic program, led by Professor Ira Dyer in the Department of Ocean Engineering.

The Doherty chair, awarded in 1985, will be held again this year by Professor Triantaphyllos R. Akylas, assistant professor of mechanical engineering. Dr. Akylas is characterizing long period edge waves and related flow patterns to develop an accurate nearshore wave model. His work is of immediate importance in proposing measures to avoid beach flooding and erosion.

The Henry L. Doherty Professorships, ad-

Associate Provost Kenneth A. Smith congratulates new Doherty Professors Dale G. Karr and Renee A. Fitts.

ministered by the MIT Sea Grant College Program, support young, promising faculty members whose research interests focus on contemporary problems in ocean science and use. The professors remain affiliated with their academic departments during the appointment, but receive \$25,000 for each year to conduct research under the aegis of the MIT Sea Grant Program. Recipients are selected by a committee which includes the associate provost, dean of science, dean of engineering, chairman of the Sea Grant faculty committee, and the Sea Grant director.

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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. MIT-owned equipment may be disposed of through the Property Office, x3-2176.

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

Deadline is noon Friday before publication.

#### For Sale

Hvy-dty pwr supply for IBM-PC or PC/XT, \$70; colr mionochrome Everex video brd for IBM PC, PC/XT or AT, \$200. Michael, 494-0467.

NCAA hcky final 4 tckts in Providence, eithr 3/27 or 3/28. John, x8-2001 Draper.

NEC APC HO3 colr mntr, 128K, 2 8" floppy dsk drvs, CPM86, Wordstar, DBase II, Microplan, floppy dsk case, 20 floppies, prntr cbl, \$1,500. Norma, x7062 Linc.

CCM Mustang skts, sz 9, \$120 value, \$30; Regina elec broom \$18; Norwegn hndmd sweatrs, \$25 & \$50; brwn cord 3-pc suit, usd 2X, sz 38-40, \$50; antq oil Imp, \$30; sm elec appl, \$5-15; Indian rug (tbl or wall), \$10; SCM mnl typwirtr w/case, \$15; qrtz htr, \$18; Kodak inst camra w/flash & case, \$20; cheap furn, hooking rug w/yarn, \$100 value, \$30. Call 3-3175 or 332-8251.

Henredon sofa, hi-qlty, v comfrtbl, 6% L, bge w/peach floral pttrn, 5 yrs old, \$100, cannot delivr. Joe, x293 Bates Linac or 269-1866 & ly mssg.

Cmplt sailbrd outfit: windsrfr Std A brd w/adjatbl mast, boom & daggrbrd, footstraps, 2 sails, 15m & 10m, harness, car rfrck, usd 4X, askg \$800. Gail, x3-0892 or 924-8870 aftr 7pm.

2 snw mobiles & trailr, '80 blck 3500 dbl; '81 yellw 4500 sgl, Skidoo Citations, \$2,300. Pat, x8-3944 Draper.

6' trestl tbl, solid pine, 1½" thck, 1 bnch, refnsh & it will look like nw, \$100 or bst. Carol, x3-3500.

Tl prgrmmbl calcltr w/Program cards, library module, instrctns, \$125; SR56 ' prgrmmbl calcltr w/chargng unt & instrctn book \$35; some scarcely usd suits, sz 40. Jim, x3-8941 or 547-3590.

M's ovrcoat, 100% cashmere, like nw, \$45. Anne, x3-7494.

Nikon FM-2 w/50mm lens & flash, 1/4000 secnd titanium shuttr, suprb perf, askg \$300 must sell; HP-41CX w/Advantage Pac, does evrythng, nw, in bx, w/warr. Al, x5-6452 dorm late night.

Cabnts, hvy dty particle wd, 4 shlvs, 60Hx30Wx15D, in fctry cartns, nd assmbly, \$30 ea. Call x3-6092 or 491-2856.

Pianola playr piano w/bnch & 20 rolls, nw, walnt finsh, all wd hnd carving on sides, \$1,800. Dave, x3-2546.

Sm fridge, approx 2x2x2', almost nw, w/örig packng & 4-3/4 yrs manuf warr, Coop price \$120, my price, \$89 or bst. David, x5-9787 dorm or x3-7646.

Fresh NH mapl syrp, by the pt, qt or 1/2 gal; 4' pwr sweepr broom for frnt of gardn tractr. Call x3-7235.

Attn alums: Bill Hanes coaching boat, 252 Dag Ford 55HP diesl eng, 26'x5'10" w/trailr mahog & cedar, partly restrd, bst offr ovr \$2,000. Bob, x3-2250/2215.

Zenith Zt-1 series trmnl, blt-in 300 baud modm, NEC mntr, 25 line screen, exc cond, \$200; cube fridge, gd cond, \$40. Bernard, x3-4990 or 497-5122.

Red Sox tekts, lwr box, 1 pr, \$22/pr: 4/20

75 Gr Torino 351-W, auto, pb, ps, a/c, exch mech & elec, \$550. Anatole, x3-8623 or 254-0590.

75 Plymouth Duster, silvr, 80K, 6 cyl, exc cond, grt dpridbl trnsprtn, can be seen in Watertown. Grace or John, 263-1237 eves or 923-9865 days.

76 Dodge Aspen, mid-szd, 4-dr, 86K, 6 cyl, auto, AM/FM, nw trans, brks & strtr, dnts, relbl, \$400. Call by 3/20, Ishii, x3-5019 or 641-0692.

76 Datsun F-10 2-dr htchbck, 5-spd, 83K, AM/FM, nw batt, alt, exh sys, reg gas \$450 or bst. Jon, x8-4871 Draper.

'76 Toyota Corona wgn, lotsa rst (cosmetic) but rns like nw, \$250. Call x3-4061.

'77 Datsun 810 wgn, 4-spd, 92K, dpndbl trnsprtn, nds bdy wrk, \$500 or bst. Ray, x8-3783 Draper.

'78 Cadillac DeVille, askg \$2,000 or bst, nds lttl wrk. Carol G. x3-6286.

'79 Ford Pinto, 54K, some bdy rst, std, nds wrk, \$600 or bst. Denise, x3-6286.

'79 Peugeot 504 diesl sdn, pb, ps, auto, AM/FM/tape stereo, sunrf, CA car, 5 yrs, gd cond, well maint, \$2,500 or bst. Call 729-4216, 8am-10pm.

79 Honda Civic CVCC htchbck, wh w/tan int, auto, 75K, no rst, always rns, gd mpg, rear defog, \$1,500. Leanne, x3-4141 or

577-8450. '80 AMC Spirit Dlx, 2-dr, 4-spd, 80K, ps, pb, AM/FM stereo, exc mech cond, bdy dentd but evrythng wrks grt, \$995. Karem, 876-8148.

'80 Camaro, V6, 3-spd, mnl trans, 94K, v gd cond, \$2,500. Call 986-6554 aftr 6pm.

'80 Toyota Tercel SR5, del, 2 dr htchbck, 5-spd manl, a/c, rear defog, AM/FM, rad trs, exc cond, 46K, 1 ownr, \$3,400 or bst.

Call 876-3983. '80 Mazda 626, auto, AM/FM stereo, nw batt, dealr maint, rstprfd, 56K, exc cond, \$3,400. Call 497-1479 aftr 5pm.

'82 Subaru wgn, 53K, AM/FM/cass dck, a/c, pw, 5-spd, \$3,450 or bst. Sandi, x3-4444 or 321-9082.

82 Honda GL 500, too mny featrs to descrb, mst be seen, askg \$1,600; '69 T. Bird, all pwr, nw trs, a'c, nwly paintd, exc cond, askg \$4,000. Jos, x3-2114 or 324-1711.

'82 Plymouth Reliant, a/c, ps, pb, AM/FM stereo, Michelin trs, v gd cond, 63K, \$2,995. Dana, x4580 Linc.

'86 or '87 nw Volvo Turbo, pickd up by bonded MIT grad stdnt doing resrch in Sweden, save \$1,500-2,500. Call 484-1399.

#### Housing

Lrg 3BR furn hse, Colnl styl for summr rnt, 6/1-8/31, priv beach, exc locatns of Arlington, \$1,600. Call 641-2005 eves/wkends.

Malden, 3BR, mstr BR w/wlk-in closet, 2nd flr, tile bth, sun prch, pntry, W/D hookup, w/w carptng, on T, \$700+ utils. Call x3-5124 or 321-6420.

Concord, furn 6 rm, 3BR solar hse, nr.etr & train, 2b, lrg ktchn, frplcd LR & sun/DR, 2 car grg, avlbl 6/1, 1 yr lease, \$1,200/mo+ utils. Call x3-7121.

Spacious rm to rnt nr Arlington Ctr, bus & T line, furn, htd, \$350/mo. Call x3-2895 or 648-7034.

Tech Sq contemp twnhse, 2BR & stdy, all conveniences, patio, prkg, \$1,200, avlbl 5/1. Jack Ruina, 491-4258 eves.

Sunny contemp twnhse, 2/3BR, 1½b, D/D, wshr/dryr hookup, sm priv fencd yrd, Indscapd & patio dck, conv to MIT, Tech Sq & Kendall Sta, \$1,200/mo. D. Whiddon, x3-4339 or 868-5132 eves.

Mashpee, lux Cape Cod condo & resort facilts for rnt, wk of 4/26-5/3/86, sleeps 6, 2BR, LR, DR, ktch, 2b, frple, patio, bckyrd, 2 tvs, stereo, dshwsh, wshr/dryr, indr/outdr tennis courts & pools, \$400+ \$100 rtrnabl sec dep. John, x3541 Linc or 862-4809 eves/wkends.

Bass River, Cape Cod, 4BR, mod hm, 3 blcks to beach on Nantucket Sound, avlbl 6/21-8/16, \$625/wk. Stanley, x3-4288 or 643-0771.

Concord, MA, 5BR country hm on 2 acres, adjoins twn wds, nr train, swim, & tennis, furn - \$2,000; unfurn - \$1,500; + utilities,

yrd care inc. Call x3-6033 or 354-0410. Concord. Elm St. nwly remdld. 68; split

w/skylghts thru-out, uniq blt-ins, 4BR, 2b, BH&G greenhse kit, solr h.w., 2 car grg, 3/4A, avlb1 5/1 for 2 yrs or lngr, \$1,600/mo. Call x3358 Linc or 369-1529.

#### Surplus Property

The Property Office has the following excess MIT equipment for transfer within MIT. Unless noted, items are at the Equipment Exchange 224 Albany St, open Tues & Thurs, 11am-3pm. After 30 days, items are sold to individuals Where noted, bids and offers go to Thm Donnelly, Property Disposal Officer, E19-429, x3-2779, with envelope so marked. Always reference case number on envelope. MIT reserves the right to reject any and all bids.

Case 1659A - For sale by sealed bid. Bids to be received by 4pm EST, 3/28/86. To inspect call Mario DaSilva, x3-4573: South Bend lathe, mdl A.

Case 1659B - For sale by sealed bid. Bids to be received by 4pm EST, 3/28/86. To inspect call Mario DaSilva, x3-4573: DeWalt tbl saw.

Case 1659C – For sale by sealed bid. Bids to be received by 4pm EST, 3/28/86. To inspect call Mario DaSilva, x3-4573: Norton surface grinder.

Case 1685 – To inspect call Paul Gabriel, x3-4505: Troglia metal lathe, 15" swing.

Case 1692 - To inspect call Priscilla Cobb, x3-5997: Epson dot matrix printer, mdl MX-80F/T.

Case 1677: Tektronix oscilloscope, mdl 360; Tektronix lab generator, mdl 162; Granville-Phil manometer; LFE microwave device; Polaroid service generator; Leeds & Northrup recorder; Esterline-Angus recorder; Hewlett-Packard amplifier; Tektronix plug-in, mdl 1A1; Optics Tech laser, mdl 191; Quantum Physics laser; Ballantine Lab meter.

Case 1662: Diablo terminal.

Case 1643: Bytre EDP switch, mdl SB-12A.

Case 1682 - To inspect call Lynne Rachlin, x3-3091: yellow sofa; Steelcase grey chair.

Case 1683: Steelcase storage cabinet

Cae 1686: Black lounge chairs.

Case 1689: Electronic Designs, Inc voltmeter/ohmeier.

Cae 1690: International clinical centrifuge respirometer, mdl P-900; Sartorius balance scale, mdl 2602.



It is Institute policy not to discriminate against individuals on the basis of race, color, sex, sexual orientation, religion, handicap, age, or national or ethnic origin in the administration of its programs and activities.

This list includes all nonacademic jobs currently available on the MIT campus. Duplicate lists are posted outside the offices of the Special Assistant (10-215) and in the Personnel Office (E19-239).

Information on openings at Lincoln Laboratory (Lexington, MA) is available in the Personnel Office.

Persons who are NOT MIT employees should call the Personnel Office on extension 3-4251.

Employees at the Institute should continue to contact their Personnel Officers to apply for positions for which they feel they qualify.

they feel they quality.	
Ken Hewitt	3-4267
Dick Higham	3-4278
Virginia Bishop Appointments:	3-1591
Therese McConnell	3-4274
Oveta Perry	3-1594
Kenneth W. Chin	3-4269
Sally Hansen	3-4275
Appointments:	3-4268
Maureen Howard	3-4268
Kim Bonfiglioli	3-4076
Appointments: Nancy Collins	3-4077

Systems Programmer III, Sloan School of Management, to provide primary systems support at the Sloan School Computer Facility for the following small computer systems: Xerox workstations (25) running three operating systems (Star of fice automation system, Xerox Development Environment, and Interlisp-D), as well as Xerox file, print, etc., servers; IBM RT PC's and AT&T 3B2's running versions of Unix; and IBM PC XT's running PC-DOS, Will also serve as small system resource to Sloan School and will provide solutions to individual problems in such a way as to promote a networkwide level of coherence between disparate systems. Ability to communicate well with both novices and experts and to adapt to a rapidly changing technical environment essential. BA or equivalent and several years programming experience. At least one year experience with one of the following operating systems: PC DOS, Unix, or Interlisp-D as well as programming experience ince or more high level languages such as REXX, C, FORTRAN, PASCAL, or LISP required. A86-691

Associate Bursar/Student Accounts, Bursar's Office, to manage the Student Accounts Section of the MIT Bursar's Office. Will be responsible for about 9,000 accounts, totaling \$115 million last year, and supervising eight MIT employees. Will function as chief liaison on student matters with the Student Financial Aid Office, the Registrar's Office, and Deans Offices. Will exemplify and instill in staff an attitude of caring, helpfulness, and col-legiality, without loss of efficiency and effectiveness. Ensure consistency and fair-ness of policies and procedures, develop and implement written communicat with students and parents, other MIT of-fices, and outside sponsoring agencies. Handle those inquiries and complaints which are special cases with potential im-pact on Bursar's Office policies or "image". Regularly review the status of financial delinguencies, and develop and implement procedures for minimizing them. Counsel students with financial problems. Master's degree or equivalent combina-tion of education and experience required. Exceptional communications and human relations skills; extensive experience anagerial vorking with students; strong m experience necessary. A facility and accuracy with numbers and knowledge of basic accounting needed. Experience with computer systems and personal computers is highly desirable. A85-642

Supervisor of Mechanical Services, Physical Plant (third shift), to supervise all building operations tradesmen during the third shift operation. Will be responsible for the supervision of up to fifteen hourly employees and the day-to-day implementation of Institute policies as related to attendance, discipline, and safety. Makes recommendations to the Manager of Mechanical Services for hiring hourly personnel in approved vacancies. Ability to evaluate situations that might develop during the shift and take appropriate action necessary. Three to five years of experience repairing and maintaining building heating, ventilating and air-conditioning systems and three to five years experience as a mechanical supervisor or equivalent required. High school diploma and technical school training in HVAC required. A86-692

Systems Programmer I, Sloan School of Management, to provide primary systems support at the Sloan School Computer Facility for the following small computer systems: Xerox workstations (25) running, three operating systems (Star office automation system, Xerox Development Environment, and Interlisp-D) as well as Xerox file, print, etc., servers; IBM RT PC's and AT&T 3B2's running Versions of Unix, and IBM PC XT's running PC-DOS. Will also serve as small system resource to Sloan School and will provide solutions to individual problems in such a way as to promote a network-wide level of coherence between disparate systems. Ability to communicate well with both novices and experts and to adapt to a rapidly changing technical environment essential. BA or equivalent and at least one year of experience with one of the following operating systems; PC DOS, Unix, or Interlisp-D as well as programming experience in one or more high level languages such as REXX, C, FORTRAN, PASCAL, or LISP required. A86-691

Director of the Master's Program, Sloan School of Management, to direct the activities of the Sloan Master's Pro gram. Will participate in the making of policies relative to the curriculum monitor program quality and develop remedial action as required, counsel pro-spective and current students, register Master's students, direct the preparation of academic information about the Pro gram, and participate in the evaluation of applications for admissions. Thorough understanding of Master's programs in management and ability to i eract effec tively with faculty and students and effect tively represent school in written and oral communications essential. Particular in terest in working with students and advocating their interests and concerns nec essary. SM in M quired. A86-690 SM in Management or MBA re-

ing decisions of Women's Studies steering committee. Will also perform other administrative, financial, secretarial and clerical duties as necessary to support own or others' activities in the Program. Extensive experience in office administration in a post-secondary education environment, editing and production experience with printed office publications and organizing the publicity, administering and coordinating of multidisciplinary projects, special events, as well as curricula and drafting grant proposals desirable. Sustained interest in women's issues and experience working with undergraduates needed. Knowledge of MIT preferable. A86-687

#### Sponsored Research Staff

Administrative Officer, Center for Space Research, to be responsible for all operational functions of the Center for Space Research including administrative financial, contractual and personnel Special emphasis on monitoring federally Special emphasis on monitoring rederally sponsored space research projects, which are sensitive to cost and schedule fluctua-tions. Will supervise the Center's Pur-chasing and Financial Officers; par-ticipate in the development and im-plementation of the Center's policies and plans; and interface with other Institute offices and departments, as well as with sponsors and other outside agencies in the conduct of the Center's business. Will also manage administrative aspects of the space research activities of some twenty faculty members (involving approximate-ly 100 accounts). Requires a minimum of years administrative experience (including some experience with government contracts). A BS/BA degree, or an equivalent combination of experience and education required. Direct supervisory ex-perience, experience in a research en vironment, and experience in personnel administration are preferred. Familiarity with MIT's administrative structure and with spreadsheet and/or computerized financial accounting techniques highly desirable. R86-933

Postdoctoral Associate, Division of Comparative Medicine. Postdoctoral training program for veterinarians seeking careers in comparative pathology and laboratory animal medicine. Program emphasizes research training and in-depth clinical investigations. Additional training will include clinical rotations in research institutions affiliated with the Division. Previous experience in the field is desirable, but not mandatory. Eligibility credit earned toward board certification by ACLAM and/or ACVP. D.V.M. reouired. R86-931

Postdoctoral Research Staff, Francis Bitter National Magnet Laboratory (2 yr. position). Physiologist to participate in biomagnetism research in the Low-Field Group, particularly in the use of the magnetoencephalogram. Studies will be made of the normal brain, and of epileptic patients. PhD in physics or bioengineering required. Must have experience in electrophysiology and/or electromagnetism, with a good physics or bioengineering background. R86-930

Program Manager, Sloan School of Management, responsible for the ongoing management of \$1.4 million/year multisponsored research program. Will initiate and maintain contact with sponsors to facilitate appropriate and continuing involvement with the program; will com-municate sponsors' viewpoints to Re search Director and Program Director, anticipating opportunities and problems related to research efforts; will serve as a resource to faculty with regard to ongoing research questions; will be responsible for the articulation of the program to external constituencies; will assist the Director in the preparation of management briefings and will be responsible for all ad ministrative management including bud-gets, steering committee agendas, etc. Solid analytic abilities, excellent interper sonal and communication skills, and several years professional experience either in the computer industry or in management consulting required. Some project management experience highly desirable. Sufficient knowledge of man agement information technology issues to permit effective communication with onsors at senior and middle management levels, and sufficient understanding of related academic disciplines to effectively communicate between sponsors and faculty project directors essential. R86-928

Research Associate, Earth, Atmospheric, and Planetary Sciences, to conduct independent research programs on the characterization of seismic sources using teleseismic data and on the nature of intraplate deformation and the tectonics of plate margins. PhD in geophysics required. Preference will be given to applicants with experience in earthquake source studies using body waveform data and in the application of numerical models of stress in the lithosphere to test hypotheses for tectonic processes. R86-926 logue records based on cataloguers' written instructions; participate in maintenance of the Libraries' database; type charge cards and book pockets; perform auxiliary aspects of cataloguing based on cataloguers' written instructions; remove and correct cards in the Institute Libraries Catalogue; and perform other assignments as required. Accurate typing (40 wpm) and attention to detail essential. High school graduate or equivalent with minimum of one year direct/related experience required. Experience using CRT terminal desirable. Will work Monday through Friday from 9:00 am -12:30 pm, negotiable. L86-288

Library Assistant III – Circulation Assistant, Hayden Library (part-time evenings, 17.5 hours), to have responsibility for Hayden Circulation on Thursday and Friday evenings to perform all circulation desk functions. Will register and issue Consortium cards, and take applications for "S" cards. Will also provide directional and information assistance to library users. Will be trained to do desk functions online and perform other duties as assigned by Circulation Librarian. Will perform general stacking routines on all levels of the Hayden Library; shelfread in Science Library; participate in shifts of material; search for missing materials; and participate in closing routines. May be required to train and monitor evening students. 40 wpm typing skills required. Attention to detail and ability to work without supervision necessary. Tact in dealing with users and ability to turction efficiently under pressure essential. Physical stamina for stacking important. Minimum one year direct/related experience required; post-high school education may count toward experience. Previous library experience desirable. Will work Wednesday, 6:30 pm to midnight; Thursday, 6:00 pm to midnight; and Friday, 1:00 pm to 7:00 pm. Flexibility of scheduling possible. NON-SMOKING OFFICE. L86-292

#### Secretary/Staff Assistant

Sr. Staff Assistant, Clinical Research Center, to provide administrative and sec retarial support for research group con ducting several human research projects on food intake and mood. Required duties include extensive telephone interviews with prospective subjects including des-cribing the study and eliciting informa-tion from subject as to his/her suitability; writing and placing advertisements for subjects; scheduling appointments; keeping records; typing correspondence and oc casional grant proposals; and performing other clerical and administrative duties as required. Must have excellent tele phone skills in communicating effectively with subjects on research study. Accuracy and attention to detail important. Must be able to function well in a busy environ ment and with frequent interruptions. Must have willingness to learn new skills, especially in the area of data analyses. equires good typing skills and knowl-R edge of word processing. Minimum of 2-3 years direct/related experience necessary. B86-300

Sr. Secretary, Sloan School of Manage ment, to support Director of Master's Ad-missions in Sloan Master's Program Office. Will interact with and respond to in-ternal and external community, which requires setting priorities and effectively determining the needs of a variety of per-sons. Will supervise and direct activities of part-time and/or temporary staff, prosecretarial support (typing corre dence and other program materials from rough draft); monitor large and complex mailings; collect and prepare information for reports; maintain thesis records; schedule complex apointments and meet-ings; answer phones; and perform other reception duties as needed in a busy, service-oriented office. Accurate typing strong con mmunication and organiz skills, and ability to work well in a fastpaced environment required. Familiarity with Wang word processor preferred. Min-imum 2.5 years direct/related experience required. NON-SMOKING OFFICE.

Sr. Secretary, Lowell Institute School, to provide data processing and secretarial support for the Director and the Administrative Assistant at the Lowell Institute School. Will maintain student records on IBM PC, including preparation of tuition statements, ID cards, class roll sheets, grade reports, certificates and various mailing lists. Will also reserve class-rooms, order textbooks, and handle distribution of this information to students. Additional duties include typing corresp dence; making travel arrangements; pre paring travel vouchers; maintaining files; cheduling appointments; answering telephone; processing mail; and performing general office record keeping. Will have considerable interaction with students both in person and on the telephone which requires good judgment, patience, tact and understanding. Minimum of 5 vears experience preferred, including per sonal computing or word processing with excellent keyboard skills. Shorthand helpful but not necessary. Familiarity with IBM PC and willingness to learn ele ary programming necessary. Must Must have an excellent command of the English language, including spelling, grammatical, and verbal skills. Must be able to work with frequent interruptions in a busy atmosphere under high pressure. Accur and attention to detail important. Ability to organize work, set priorities and work towards deadlines with minimal supervi-sion essential. NON-SMOKING OFFICE. B86-293

Chi; 5/4 Oak; 5/18 Tex; 6/15 Milw; 7/6 Sea; 8/31 Clev; 9/7 Minn; 9/28 Tor. Call 1-877-9518.

1-way Midway Airlines tckt to Chi, 3/21, deprts Logan 1:10pm, bst offr. Eric, x5-7368 dorm.

Wd brning stv, Sears, frnt load, gd cond, \$95. Alan, x3941 Linc or 358-7615 eves.

4' walnt cffee tbl, \$15; sm Tamrac camra bag, nvy, br nw, \$12; Shetland air freshnr, \$10; 2 sm wickr chrs, \$10 ea. Linda, x3-1782.

#### Vehicles

'66 BMW 2000 CA cpe, fully restrd to mnt operatng cond, 4 pass, bdy by Karmann, metlle silvr w/bl int inc lthr & walnt detailing, pw, auto, Koni shcks, Vrederstein rad trs, halogen Imps & mch more, a classe btfl auto for relbl transprtn. Call x3-7802.

'71 VW Bug, relbl, \$700. Teri, x3-3087 M-W, 729-3388 Th-Sun & eves.

73 VW Bug, rns well, some wrk nded, may be seen on campus, \$200 or bst. Call x3-0967 or 737-3728.

75 Chevy Impala, 4-dr, bl, nw brks, trs, gd cond, askg \$550. Joe, x3-4723 or 628-6875.

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# Wanted

Furn studio/1BR apt, 5/1-9/30/86, for Stanford vistr, conv to MIT. Call x3-2888 or 491-2921 eves.

Nice 2BR apt frm May-Sept onward, pref Camb & above grnd fir. Send cmptr mail to MMCunny or call Michele, x3-8922.

Vistng prof frm Paris w/3 chldrn sks sabbatical housing, 9/86-6/187. Prof John Negele, x3-7077.

Sofa, in gd cond. Kris, x3-4291.

Apt/hse swap: acadmc fmly of 3 w/Brookline hse desires summr exchng for your apt/hse in England or Israel, dates nego during July/Aug 1986. Stephan, 232-7797.

World Book Encyc, not oldr than '80 ed. Tom, x4212 Linc or 245-9187 eves.

#### Roommates

Medford, 1BR in 6BR hse to sublt, shr w/1F, 4M, 1 cat, lrg ktchn, 1½b, LR, DR, laid-bck atmos, grad/prof pref. Carlene, x3-8242.

#### Miscellaneous

Thesis editng & consultatn, 12 yrs exp. MaryEllen Beveridge, Rm E53-488, x3-6639 til 1pm wkday, or 576-1730 aftr 1pm & mssg.

#### Administrative and Academic Staff

Assistant to the Vice President, for Information Systems. Three positions to be filled as a team reporting to the Vice President and Secretary of the Corpora tion, Senior Vice President, and Vice President for Financial Operations, to serve as principal focus in administrative areas for implementation of the adminis-trative information systems strategic plan. Will be responsible for planning budgeting, measurement, and reporting for all information systems activities within the organization. Will also imple-ment Institute-wide policies, procedures and standards for information systems. In addition, will advise Vice President and line managers of computing options and strategies: function as a consultant to Vice President and line managers, as nec essary, regarding their information sys tems needs; and consult with information onsumers to identify and resolve problems associated with information needs and data requests. Excellent written and oral communication skills and willingness to assume responsibility required. Demonstrated effectiveness in team oriented work necessary. Prior manage-ment experience, knowledge of university environment, and familiarity with micro computers and/or mainframe technologies necessary. Management experience at MIT highly desirable. Bachelor's degree or equivalent combination of education and experience necessary. A86-695

Manager of Training, Information Services, to manage and coordinate training programs in computing provided by Information Systems to the MIT community and internal to Information Systems. Will consult with MIT departments to determine computer training needs; administer and participate in developing and teaching seminars and short courses, or recommend use of outside agencies; and participate in developing training advertisements. May implement computer-based or videotaped training. Bachelor's degree and extensive experience in using computers and developing and teaching courses and some supervisory experience is required. Some marketing experience is desirable. A86-688

Coordinator, Women's Studies Program, to direct the administrative operation of the Program and coordinate the development of Women's Studies research and teaching resources. Duties will include preparing the budget and authorizing personnel, materials, and services expenditures; drafting funding requests for special projects; drafting publicity releases and program information; counseling students; maintaining files of Women's Studies curriculum development materials; and recording and implement-

Technical Assistant, Center for Cancer Research (half time), to prepare tissue culture and specialized media for group of four to five laboratories. Will prepare, sterilize, and test solutions to specification with stringent quality control. BS in chemistry or biology required, previous laboratory experience preferred. Must be able to work independently. R86-920

Research Specialist, Chemistry, to operate Chemistry Department Mass Spectrometers. Will run service operation for low and high resolution samples. Will also be responsible for routine upkeep of expendables for the instrument. Techniques include GC/MS, FAB and CI. BS in Chemistry required, and experience with analytical instrumentation preferred. Good interpersonal skills important. R66-916

### Library Support Staff

Library Assistant III, MIT Libraries, Catalogue Department (part-time mornings, 17.5 hours/week), to work under the direction of the Head, Database Maintenance Section. Will input catalogue records on the OCLC terminal from work forms prepared by cataloguers; edit online contributed and Library of Congress cataSr. Secretary, Aeronautics and Astronautics, to support three faculty members in the Fluid Dynamics Lab. Will type correspondence, reports, and class notes; answer telephones and take messages; and arrange meetings and travel. Will prepare travel vouchers and copy billing vouchers. Good typing and interpersonal skills required. Ability to work independently and familiarity with or willingness to learn word processing desirable. Minimum 2.5 years direct/related experience required. B86-291

Sr. Secretary, Treasurer's Office, to cover the full range of secretarial duties and general support of a two-person office. Will transcribe, type, file, and screen telephone calls. Task projects include secretarial administration of the faculty second mortgage program. Must have a demonstrated capability to interact comfortably within and outside MIT, to work indepen-dently, to organize office activities and to establish priorities of work flow. Must be comfortable with legal, financial, and in-vestment terminology. Excellent secrevestment terminology. Excelent secto-tarial skills including machine transcrip-tion required. Demonstrated ability to work well under pressure, maturity to make decisions, and poise to effectively and diplomatically represent the office with senior staff offices and external legal and business offices essential Familiarity and business offices essential. Familiarity with modern office equipment preferred. College education with a minimum 2.5 rears direct/related experience required. B86-190

Sr. Secretary, Civil Engineering (part-time, 20 hours/week), to provide part-time secretarial support of Division Adminis-trative Assistant and various faculty members. Duties will include typing of class notes, exams, technical reports (which involve typing of mathematical equations) on A.B. Dick Magna SL Word Processing System; answering phones and photocopying. Duties also include responsibility for Division's Research Library: assigning order number; updat-ing report listings; keeping library up to date and in order; processing interdepartmental and outside requests for publica tions (which involves maintaining ac-counts payable and receivable records). Efficient and accurate technical typing skills as well as organizational skills and the ability to work well with minimum supervision are essential. Knowledge of MIT and word processing skills preferred. Minimum 2.5 years direct/related experience required. B86-289

Sr. Secretary, Civil Engineering, to perform secretarial duties for one professor in Ralph M. Parsons Laboratory. Will use MICOM word processor to generate corre-spondence, technical manuscripts, grant proposals and course material; make travel arrangements; schedule appointments; monitor research accounts; answer phone; process mail; and maintain files and reference room. Will perform other duties as required. Technical typing and word processing experience or willingness to learn required. Good organizational skills, ability to work independently, and ability to prioritize work load important. Minimum 2.5 years direct/related experience required. B86-287

Sr. Secretary, Office of the Dean for Stu-dent Affairs, to provide support to the Associate Dean and the Executive Officer of the Undergraduate Academic Support Office. Will support the Undergraduate Seminar Program and the Course Evaluation Process, help with the Freshman Ad-vising Program and new student orientation, and respond to questions from students, faculty, and staff. Will interact with MIT community, both in person and over the phone. Familiarity with MIT helpful. Excellent interpersonal and orga-nizational skills essential. Experience with and/or willingness to learn word pro-cessing necessary. Minimum 2.5 years ex-perience required. NON-SMOKING OF-FICE B86-285

Sr. Secretary, Civil Engineering (part time, 20 hours/week), to provide secretari-al support for one faculty member. Will type class notes, exams, technical reports and proposals on A. B. Dick Magna SL word processing system; photocopy, and perform other general clerical/administra-tive duties. Efficient and accurate typing, proofreading skills, and ability to manage detailed workloads and deadlines in a hectic situation with minimal supervision are essential. Word processing, technical typing, and knowledge of MIT adminis-tration procedures helpful. Minimum 2.5 years direct/related experience required. B86-283

Sr. Secretary-Technical, Chemistry, to provide support for one professor. Will type and proofread correspondence, technical manuscripts and grant pro-posals; answer telephones; arrange ap-pointments and travel; monitor research accounts; and file. Excellent typing and proofreading skills, experience with dicprovince and word processing experience with ac-taphone, and word processing experience or willingness to learn required. Excellent interpersonal skills and ability to work well under pressure essential. Accounting experience and familiarity with MIT highly desirable. Minimum 2.5 years di-rect/related experience required. B86-281

Sr. Secretary, Laboratory for Nuclear Science (part-time, 20-25 hours/week), to provide secretarial support to Laboratory Director, Associate Director, and Headquarters secretarial staff. Will perform varied duties related to the administration of the Laboratory: maintain office files, type correspondence, assist with in-ternal and external reports, set up meetings, answer telephones, order supplies and perform other general office func-tions. Will also assist with processing personnel matters, visas, and travel vouchers. Excellent organizational, in-

MIT faculty and staff; arrange for com-pany research briefings including room scheduling, catering and audiovisual equipment; make travel arrangements, obtain travel advances, prepare travel expense vouchers, and maintain files. Assist with coverage of telephones in working group suites and answer inquiries related to servicing the member companies of the Program. Will independently reply to correspondence when appropriate, reproduce reports and manuscripts and perform other duties as assigned. Will assist when needed at occasional office-sponsored symposia and seminars. Computer input and retrieval on various member company statistics and requested publication information. Must have excellent secretarial and organizational skills as well as strong interpersonal skills. Flexibility important and initiative desirable. Must have ability to work as a strong member of a team to work as a strong member of a team. Familiarity with MIT helpful. Will be trained on DEC computer system. Mini-mum 2.5 years direct/related experience required. B86-215

#### **Technical Support** Staff

Technical Assistant, Center for Cancer Research, to be involved in the operation and managing of a DNA synthesis facility. Duties include handling chemicals; operation of a computer controlled DNA synthesizer (Autogen 6500); processing of synthesized oligo-nucleotides; teaching customers the various aspects of using synthetic oligo-nucleotides; and handling paper work with cost involved in the syn-thesis. Will also be assisting principal in-vestigators study the mechanism of Tlymphocyte antigen recognition which in-cludes experiments in molecular biology, cellular biology and protein chemistry. BS in Chemistry or Biochemistry is required. Understanding of organic chemistry is also required as well as some experience in synthetic organo-chemistry. Capacity to work with precision and stability is essential. Agility and willingness to learn various aspects to modern biology are highly welcome. T86-299

#### Office Assistant

Administrative Assistant, Resource Development, to compile and summarize background information on foundations, corporations and individuals for faculty, deans and Resource Development staff. Will maintain, in conjunction with senior research assistant, a donor relations tickle system for notifying faculty, staff, and others when reports are due to donors. Duties will include a close review of files and references, including electron-ic databases, of foundations, corporations, and individuals for faculty and staff; sum-marizing and interpreting information, prepared by senior research assistant; and computation of individuals' known wealth. Will research MIT's interaction with foundations, corporations, and in-dividuals as background for clearance decisions concerning appropriateness of fundraising approaches. Will respond to requests for information from faculty and staff about foundations, corporations and individuals by consulting files, reference books, electronic databases and alumni database. Will oversee, with staff, the maintenance of files in all areas; and will supervise senior research assistants in file maintenance. High school graduate with a minimum of 4.5 years direct/related ex-perience required. Post-high school education will count toward experience. Strong writing skills, organizational skills, and interpersonal skills necessary. Should have a thorough understanding of grammar and punctuation. Ability to analyze and correctly interpret information from files and reference books necessary. Should also have ability to meet dead-lines, work with a group, get along well with others, and be able to supervise. Familiarity with computers and data-bases, or an interest in learning, helpful NON-SMOKING OFFICE. S86-269

Sr. Office Assistant, Office of the Dean for Student Affairs, to work in Under-graduate Academic Support section. Will help with the Freshman Advising Program and new student orientation; pro-duce a monthly Freshman Newsletter. respond to questions from students, faculty, and staff; and provide general secre tarial support. This position is part of a busy undergraduate information and advising center and involves a great deal of interaction with the MIT community, both in person and over the phone. Fam iliarity with MIT helpful. Excellent in terpersonal and organizational skills essential. Experience with and/or will-ingness to learn word processing necessary. Minimum 2.5 years experience re-ouired. NON-SMOKING OFFICE NON-SMOKING quired.

received. High school graduate with a minimum of 2.5 years direct/related expe-rience required. Post-high school education will count toward experience. Strong organizational and analytical skills, good typing skills (40 wpm), and an interest in word processing and other computer skills necessary. Knowledge of grammar and spelling also important. Requires re-sourcefulness and an ability to manage time in order to meet deadlines as well as a pleasant telephone manner and an ability to get along well with others. NON-SMOKING OFFICE. S86-270

Office Assistant, Medical Department, to perform various activities involved with health insurance in the MIT Health Plans Office. Will process applications and claims, input, modify, and verify in-formation on three on-line computerized data bases; and assist with special proj-ects. Good typing skills and ability to or-ganize a wide variety of tasks and handle detail with accuracy essential. Familiar-ity with IBM PC or willingness to learn preferred. Minimum one year experience and one year commitment required NON-SMOKING OFFICE S86-282

Office Assistant, Political Science (part time, 20 hours/week), to assist ad-ministrative secretary in the support functions of ongoing research projects on Communication Policy. Will order books and supplies, handle mail and telephone, type correspondence, do word processing, file, make travel arrangements, and per-form occasional messenger service. Abil ity to do word processing on personal com-puter (WordStar on Apple, Wang, IBM PC) necessary. Minimum 1 year experience in office setting required. Busin school background helpful. S86-277

#### Service Staff

Bus Person, Faculty Club (part-time, 20 hours/week), will perform such duties as may be necessary to the effective operation of the dining facilities, including but not limited bo serving banquets, bussing dishes to and from the kitchen and dining room, unloading dishes into the racks for the dish machine, polishing copper and assisting waitresses when necessary Must have ability to read and speak English. Experience in service oriented environment preferred. Must be 18 years old. H86-354

Houseman/Housekeeper, Housing, responsible to the House Manager or his/ her designated supervisor. Perform all duties associated wth general cleaning in housing facility. This includes cleaning and waxing floors, washing of wall surfaces and windows (inside), vacuuming of floors, carpets, drapes and upholstery and dusting. Will spot clean carpet and up holstery as directed by supervisor. Will clean bathrooms, showers and kitchen appliances. Will service rooms when neces sary including the making of beds, empty waste baskets and distribute soap and towels. Strip, refinish and buff floors uspower equipment. Dispose of trash rubbish. Must be physically able to perform tasks outlined above and be familiar with the use of cleaning equipment both power and hand. H86-353

The following positions were still available at **Tech Talk** deadline. Complete descriptions of all available posi-tions are posted in the Personnel Office (E19-239), and at locations listed at the beginning of Positions Available section.

ADMINISTRATIVE AND

- ACADEMIC STAFF: A86-682, A86-683, District Director,
- Resource Development/Leadership Gifts C86-173, Postdoctoral Associate, Applied
- **Biological Sciences**
- A86-675, Sr. Analyst Programmer, Ad-ministrative Systems A86-675, Assistant to the Department
- Head, Applied Biological Sciences A86-674, Senior Technical Writer, Infor
- mation Services
- A86-672, Supervisor, Mechanical Ser-vices, Physical Plant A86-671, Analyst Programmer II, Ad-
- ministrative Systems A86-655, Communications Officer, Media
- Laboratory A86-666, Technical Writer, Project
- Athena A86-662, Systems Programmer I, Infor-
- mation Systems A86-653, Facilities Coordinator, Division
- of Comparative Medicine C86-171, Librarian I/II, MIT Libraries C85-170, Chief of Environmental
- Medicine A85-650, Medical Director and Department Head, Medical Department
- A85-527, Systems Programmer II, Information Systems
- Assistant Manager A85-516. Maintenance, Housing and Food
- C85-169, Postdoctoral Associate, Applied Science

# Osgood, O'Brien take new posts

Former Northeastern standout Leo Osgood has been named head men's basketball coach at MIT, Athletic Director Royce N. FLippin Jr. has announced. Mr. Osgood succeeds Fran O'Brien who retired from basketball after 14 years as head coach to become assistant director of athletics at MIT. Mr. O'Brien will continue as head baseball coach and associate professor of physical education.

Mr. O'Brien was selected as the 1980 NCAA Division III Northeast District Coach-of-the-Year by the National Association of Basketball Coaches (NABC) after guiding the Engineers to a 13-9 record for their first winning season in seven years.

In 1981, he coached the New England Division II-III all-stars against the Division I stars in the annual NABC senior all-star game in Manchester, N.H. The following year Mr. O'Brien's squad received the Schoenfeld Sportsmanship Award presented by the Collegiate Basketball Officials Association for showing the highest degree of ethics and sportsmanship in the conduct of its basketball games.

Mr. O'Brien's biggest thrill came in January of 1984 when he led his team on a twoweek, nine-game tour of India which included a visit to the Taj Mahal and a meeting with the late Prime Minister Indira Gandhi.

One of the most highly respected coaches in New England, Mr. O'Brien served as the assistant basektball coach at MIT for four years before being named head coach in 1972. He was the head basketball coach at Stonehill College from 1959 to 1966.

A resident of Reading, Mr. O'Brien is a 1955 graduate of Tufts University where he was captain of the Jumbo baseball and basketball teams, and was selected as the Tufts athleteof-the-year his senior year. In 1984, Mr. O'Brien received an award from the Jumbo Club for outstanding contributions to Tufts athletics.

Mr. Osgood has been the assistant basketball coach at MIT for the past eight years. He joined the MIT staff on a full-time basis in 1983 as an assistant dean for student affairs and assistant basketball coach. He previously served as the director of social services for the Suffolk County Jail for three years and was a

of Comparative Medicine C85-137, Postdoctoral Associate, Harvard-

- MIT Division of Health Sciences,
- Technology C85-136, Postdoctoral Associate, Applied **Biological Sciences**
- A85-513, Secretary of the Alumni Association, Alumni Association
- A85-512, Systems Programmer, Informa-
- tion Systems A85-500, Director of the News Office, News Office C84-130, Postdoctoral Associate, Nutri-tion & Food Science
- C84-129, Postdoctoral Associate, Nutri-
- tion & Food Science C84-128, Nurse Practitioner (pt), Medical
- C84-126, Nurse Practitioner, Medical Department
- SPONSORED

RESEARCH STAFF: R86-925, Technical Assistant, Applied

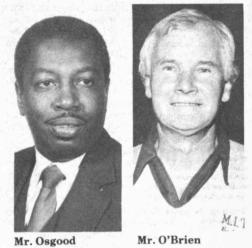
**Biological Science** R86-924, Research Staff, Haystack

Observatory R86-923, Research Technical Staff, Fran-cis Bitter National Magnet Laboratory

- R86-922, Research Scientist, Research
- Laboratory of Electronics R86-921, Technical Assistant, Applied **Biological Sciences**
- R86-919, Research Specialist (Process Development), Electrical Engineering
- and Computer Sciences
  - R86-917, Research Associate, Materials Science and Engineering R86-912, Research Scientist, Research
  - Laboratory of Electronics R86-909, Research Engineer, Laboratory
  - for Electromagnetic and Electronic Systems R86-908, Research Associate, Laboratory
  - for Information and Decision Systems R86-905, Research Staff/Microprocessor
  - Programmer, Haystack Observatory R86-900, Technical Assistant, Psychology and Brain Science
  - R86-885, Research Associate, Center for Technology, Policy and Industrial
  - Development R86-897. Technical Assistant, Psychology
  - and Brain Science R86-893, System Manager, Center for

probation officer for the Boston Municipal Court from 1975 to 1979.

A 1970 graduate of Northeastern University in business adiministration, Mr. Osgood was the MVP of the Huskies basketball team in 1967 and 1969. He also served as captain of the 1968-69 squad which posted a 16-5 record. He was a 13th round draft choice of the Milwaukee Bucks in 1969 and was one of the final players released in rookie camp. Among the



rookies in camp with him were Kareem Abdul-

Jabbar and Bob Dandridge. A resident of Boston, Mr. Osgood was the head basketball coach at Chamberlain Junior College in 1977-78 leading his team to a 17-7 record. He has been a long-time basketball official for the City of Boston high school and community youth programs

Mr. Osgood also received his master's degree in education from Northeastern. He is beginning his first term on the NU Executive Committee as the representative from the Boston-Bouve College of Human Development Professions. He also is a founding member and first president of the Black Alumni Association at Northeastern and has served as the alumni representative to NU's Excellence in Teaching committee and as a member of the University's task force on minority student attrition.

Supplies

Research

Engineering

T86-245, Dental Assistant T86-235, Medical

Department (part-time)

munications Systems OFFICE ASSISTANT

and Engineering B86-176, Sr. Secretary, Bursar's Office

B86-153, Sr. Secretary, Humanities

History (part-time) B85-144, Sr. Secretary, Center for Space

B85-138, Sr. Secretary, Mechanical

Engineering B85-024, Sr. Secretary, Treasurer's Office

T86-273, Reactor Operator, Nuclear Reac

tor Laboratory T86-258, Technical Assistant, Civil

(Obstetrics/Gynecology), Medical

Department T86-199, Assistant Communications Con-

sole Operator III, Physical Plant T86-155, Technical Assistant, Medical

T85-121, Architectural Designer/Drafts-person, Physical Plant T85-088, Sr. Technical Typist, Chemistry

(part-time) T85-971, Ophthalmic Assistant, Medical

T85-621, Technical Assistant, Telecom

S86-275, Administrative Assistant, Alum

ni Association S86-269, Administrative Assistant,

Resource Development S86-274, Sr. Office Assistant, Foreign Language and Literatures Section S86-270, Sr. Office Assistant, Resource Development to the section of the s

Assistant

B85-133, Secretary, Media Laboratory TECHNICAL SUPPORT STAFF

- mation Systems Research R85-711, Research Staff, Haystack B85-984, Secretary, Earth, Atmospheric, and Planetary Sciences (part-time) B85-617, Sr. Secretary, Biology B85-128, Secretary/Receptionist, Purchas-ing and Stores, Office of Laboratory Observatory R85-681, Research Scientist, Plasma Fusion Center
- R85-645, Principal Research Scientist, Materials Processing Center R84-475, Postdoctoral Associate, Energy
- B86-178, Administrative Secretary Laboratory B86-178, Administrative Secretary, Chemistry
  B86-187, Sr. Secretary, Biology (part-time)
  B86-181, Sr. Staff Assistant, Nuclear Engineering
  B86-180, Sr. Secretary, Materials Science
- R84-549, Research Scientist, Energy Laboratory R84-492, Research Associate, Energy
- Laboratory R84-433, RF Engineer, Plasma Fusion Center
- R84-426, Research Scientist, Plasma Fusion Center R84-381, R84-383, R84-384, SRS Postdoc-
- toral Positions, Spectroscopy Lab R84-373, Research Engineer, Aeronautics
- & Astronautics R84-333, R84-332, R84-331, Research
- Staff and Principal Research Staff, Electrical Engineering and Computer
- R83-135, Research Scientist, Earth, Atmospheric & Planetary Sciences R83-988, Experimental Physicist, Center
- for Space Research

LIBRARY SUPPORT STAFF:

- L86-229, Library Assistant IV, MIT Libraries · Catalogue Department (temporary)
- SECRETARY/STAFF ASSISTANT
- B86-193, Administrative Secretary, Office of the Dean for Student Affairs
- B86-267, Sr. Secretary, Urban Studies &
- Planning B86-234, Sr. Secretary, Materials Science
- and Engineering B86-268, Secretary/Receptionist, Office of the Dean for Student Affairs B86-265, -- Secretary, Mechanical
- Engineering
- B86-263, Sr. Secretary, Educational Council
- B86-261, Sr. Secretary, Biology (part-time) B86-259, Sr. Staff Assistant, Center for Advanced Engineering Study
- B86-257, Sr. Secretary, Center for Materials Research B86-256, Sr. Secretary, Electrical

terpersonal, and secretarial skills neces sary. Knowledge of word processing (Mass11) or willingness to learn required. Knowledge of MIT personnel and payroll procedures desirable. Minimum 2.5 experience required. NON-SMOKING OFFICE B86-280

Sr. Secretary, Sloan School of Management (part-time, 25 hours/week), to pro vide secretarial support for two members of the Management Information Systems Group. Will type and proofread correspon-dence, course materials, and manuscripts; maintain calendar and schedule appointments; make travel arrangements; answer phones; interact with students and outside visitors; process mail; monitor accounts, and order supplies. Must be willing to assume responsibility and work under minimal supervision, handle con-fidential material, work under pressure and be responsible for accuracy of materials. Excellent typing and organizational skills required. Knowledge of technical typing, word processing, and IBM PC, or ess to learn, desired. Knowledge of MIT preferred. Minimum 2.5 years s retarial experience required. NON-**SMOKING OFFICE B86-276** 

Sr. Secretary, Industrial Liaison Program, to handle various secretarial duties for two Liaison Officers. Responsibility will include extensive contact with co porate members of the ILP and Institute faculty and staff. Duties will include the composition and typing of correspondence, reports, visit and travel agendas. Will assist in the scheduling of appointments between company representatives and

Sr. Office Assistant, Office of the Secretary of the Corporation, to report directly to the Assistant Secretary of the Corporation. Will be responsible for mailings to the Corporation; arranging meetings, hotel reservations, and travel ex-penses, and maintaining meetings and correspondence files, financial records, etc. Will work closely with the offices of the President and Chairman as well as with members of the Corporation. Excellent proofreading skills, organizational skills, and the ability to work independently and with others necessary. Ex-perience with or willingness to learn DECmate II word processor required. MIT experience helpful. Minimum 2.5 years experience required. S86-284

Sr. Office Assistant, Resource Develop ment, to assist in the compilation and maintenance of background information on gift prospects and donors. Also re-quires maintenance of Development Of reference materials. Duties will include composing written reports as needed, compiling information from print-outs and data base, and other related duties. Will respond to miscellaneous written and telephone requests from senior officers about corporations, founda-tions and individuals through various means. Will also organize and maintain reference materials used by the Development Office staff including proxy state ments, annual reports, and standard ref-erence sources. In addition, will imple-ment mailings for reorder of reference materials and file new materials as

A85-647, Assistant Bursar/Information Systems, Bursar's Office A85-646, Assistant to the Bursar/Loan Collection, Bursar's Office A85-642, Assistant Bursar/Student Accounts, Bursar's Office C85-168, Librarian IV, Head, Engineer ing Libraries, MIT Libraries C85-167, Librarian III, MIT Libraries Preservation and Collections A85-638, Analyst Programmer I, Administrative Systems C85-166, Librarian I, MIT Libraries (Assistant Librarian for Technical Pro-cessing Rotch Library for Architecture and Planning) Project Archivist, C85-165, chival/Manuscript Specialist, MIT Libraries (temp. 2 yrs) 85-164, Archival A C85-164. Assistant, chival/Manuscript Specialist, MIT Libraries (temp. 2 yrs) A85-631, Sr. Editor, Alumni Association C85-163, Assistant Acquisitions Librarian I, The Libraries C85-161, Postdoctoral Associate, Applied Biological Science C85-159, Records Management Officer, The Libraries A85-583, Director-Graduate Alumni Programs, Alumni Association C85-152, C85-153, Postdoctoral Scientist, Spectroscopy Laboratory A85-553, Sr. Analyst Programmer, Comptroller's Accounting Office C85-147, Academic Staff-Technical In-structor, Electrical Engineering C85-146, Postdoctoral Associate, Applied Biological Sciences C85-139, Clinical Veterinarian, Division

Cognitive Science R86-891, Research Speciali for Electromagnetic and Electronic R86-887, Staff Engineer, Harvard-MIT **Division of Health Sciences** R85-880, Research Engineer, Earth, Atmospheric, and Planetary Sciences R85-879, Research Engineer, Earth, Atmospheric, and Planetary Sciences R85-861, Research Scientist, Earth, Atmospheric, and Planetary Sciences R85-854, Research Associate, Earth, At-mospheric, and Planetary Sciences **R85-846**, Manager of Computer Services (Research Engineer), Aeronautics and Astronautics R85-844, Research Engineer, Energy Laboratory R85-839, Technical Assistant-Molecular Biology, Applied Biological Sciences R85-831, Research Specialist (temp-lyr), Materials Science & Engineering R85-822, Research Scientist, Research Laboratory of Electronics R85-796, Research Scientist, Laboratory for Electromagnetic and Electronic Systems R85-776, Research Staff, Francis Bitter National Magnet Laboratory R85-770, Research Specialist, Center for Materials Science and Engineering R85.743, Assistant Group Leader Diagnostics, Plasma Fusion Center R85-731, Research Engineer, Aeronautics and Astronautics R85-727, Research Associate, (temp. 3 mths), Research Laboratory Electronics R85-723, Scientific Research Staff, Center for Space Research

Engineering and Computer Science (part-time) B86-243, Staff Assistant, Personnel-**Benefits** Office B86-239, Sr. Secretary, Sloan School of Management B86-236, Sr. Secretary, Medical Department B86-178, Administrative Secretary, Chemistry B86-217, Administrative Staff Assistant, Research Laboratory of Electronics (pt) B86-232, Sr. Secretary, Laboratory for Manufacturing and Productivity (pt) B86-231, Sr. Staff Assistant, Sloan School of Management B86-221, Sr. Secretary, Center for Space Research B86-218, Sr. Secretary, Chemical Engineering B86-215, Sr. Secretary, Industrial Liaison Program B86-214, Sr. Secretary, Mechanical Engineering B86-207, Sr. Secretary, Energy Laboratory B86-194, Sr. Secretary, Sloan School of Management B85-906, Sr. Staff Assistant, The Libraries-Administration B85-115, Sr. Secretary, Fiscal Planning and Budget B85-114, Sr. Secretary, Whitaker College B85-057, Sr. Secretary, Chemical Engineering B85-038, Sr. Secretary, Electrical Engineering and Computer Science B85-024, Sr. Secretary, Treasurer's Office B85-020, Sr. Staff Assistant/Assistant

Production Manager, Center for Ad-vanced Engineering Study B85-862, Sr. Secretary, Center for Infor

Development S86-246, Office Assistant, Office of the Registrar S86-244, Office Assistant, MIT Libraries Administrative Services S86-242, Office Assistant, Office of the Registrar S86-195, Office Assistant, Cell Culture Center S86-262, Receptionist, Alumni Association S86-249, Receptionist, Center for Real Estate Development S86-272, Office Assistant, Physical Plant S86-189, Administrative Assistant, Biology S85-123, Administrative Assistant, Urban Studies and Planning S86-200, Office Assistant, Provost's Office S85-143, Head Custodian, Endicott House SERVICE STAFF H86-350, Carpenter, Physical Plant H86-345, Audiovisual Operator B, Graphic Arts Service H86-348, 2nd Class Engineer, Day Crew Maintenance, Physical Plant H86-336, Instrument Systems Worker, Automatic Temperature Controls, Physical Plant H85-313, Technician B (E-M), Plasma Fusion Center H85-242, Technician A (Electronic), Francis Bitter National Magnet Laboratory H85-241, Sr. Technician (electronic) Laboratory for Manufacturing and Productivity H85-173, Technician B (electronics), Plasma Fusion Center H85-161, Technician A (E-M), Energy Laboratory

Tech Talk, March 19, 1986, Page 7

# Research suggests volcanos caused extinction of dinosaurs

#### (continued from page 1)

K-T boundary. These elements include iridium, arsenic, selenium and antimony. Iridium, however, shows the greatest enrichment-about 30 times the average concentration in adjacent layers.

A widely held theory that links the rapid dinosaur extinction with the presence of the trace elements involves the collision of an asteroid with earth. This theory, first described in 1980 by Dr. Luis Alvarez and others at the University of California at Berkeley, is based on the fact that asteroids are rich in trace elements of the platinum group: iridium, platinum, osmium, and rhodium. According to the theory, an asteroid at least 10 kilometers (6.2 miles) in diameter collided with the earth, exploded and released a large quantity of ash-like debris into the atmosphere.

In such an event, the debris would probably have been dense enough to block sunlight from reaching the earth's surface for several years. Photosynthesis would have stopped, causing most of the earth's food chains to collapse. Large terrestrial herbivores and carnivores, including the dinosaurs, would have been exterminated because they depended on land vegetation. As the asteroid debris gradually settled from the atmosphere, the ash with its trace elements would have been distributed uniformly across the earth's surface, leaving the evidence on which the asteroid theory is based.

Dr. Olmez, however, believes that the extinction and K-T boundary enrichment are best explained by ancient volcanic eruptions which filled the atmosphere with dust and ash, much as Dr. Alvarez's theoretical asteroid collision would have. He bases his theory on his analysis of gas samples that he collected from Kilauea's three cooling vents during late April and early May, 1983. Dr. Olmez's study produced the first solid scientific evidence of iridium enrichment in volcanic emissions: more than 100,000 times the concentration of iridium normally found in volcanic rock

Iridium enrichment of volcanic emissions was first noticed in January 1983 by Dr. William Zoller and his coworkers at the Mauna Loa Observatory. Dr. Zoller was sampling gases at Mauna Loa, a volcano located only 50 kilometers from Kilauea, to aid research of the global circulation of atmospheric particles. Since only one of Dr. Zoller's samples showed a high concentration of iridium, some scientists doubted that the gases were truly enriched. Rather, they felt that the one sample had been contaminated during the study.

Kilauea is a "hot-spot" volcano that draws molten rock from the earth's magma or core. Therefore, it provided samples of the earth's undepleted magma, the same material that would have erupted from ancient hot-spot volcanos

According to Dr. Olmez, volcanic eruptions of 65 million years ago would have been akin to that of the May 1980 Mount St. Helens eruption, which subtly affected climates around the world. Eruptions of much larger volcanos have profoundly changed climates. The 1982 eruption of El Chichon in Mexico altered the temperature zones in the Pacific Ocean, which has changed weather patterns across North America. When the Krakatoa volcano in the Indian Ocean erupted in 1982, airborne ash noticeably reduced the intensity of sunlight around the globe.

To be sure that volcanos could have distributed the estimated 30,000 tons of iridium that are in the K-T boundary, Dr. Olmez had to perform some clever analysis. He looked at what is believed to be the remains of a large hot-spot eruption that dates back to the time of the K-T boundary: the Deccan flood basalts in India. The Deccan contains approximately 10 million cubic kilometers of volcanic debris. Scaling the enrichment of iridium found at Kilauea with the Deccan eruption volume gives just a little less than the estimated quantity of iridium in the K-T boundary. For this reason, Dr. Olmez thinks that just a few large eruptions could have accounted for the iridium enrichment.

Dr. Olmez argues that asteroids could not have been the direct cause of the extinction. although they could have played an indirect role. He believes that a large asteroid hitting the earth's surface would likely have caused widespread volcanic eruptions.

The first problem he finds with the asteroid theory is that not all of the trace elements enriched in the K-T layer could have come from an asteroid. Study of meteorites reveals enrichment of iridium but no enrichment of arsenic, selenium, and antimony. Therefore, debris from an asteroid that entered the earth's atmosphere and exploded on its surface would probably not be rich in these elements.

Second, Dr. Olmez asserts that an exploding asteroid could not have distributed iridium as uniformly as it is found in the K-T boundary. As in other explosions, most of the debris would have landed near the point of impact. Therefore, the enrichment of iridium should be highest near the crater and decrease with distance from the impact site: a feature not observed in the K-T boundary.

Finally, he points out that a 10 kilometer wide asteroid falling on land or into a five kilometer deep ocean would probably have left some visible remains. None have been found.

ments in his Kilauea samples, Dr. Olmez used a technique called neutron activation analysis (NAA). It is one of the most sensitive methods of trace element analysis yet invented, detecting iridium at concentrations as low as 6 billionths of a gram per cubic meter of atmosphere. In NAA, the sample is bombarded with neutrons, making some of the isotopes in the specimen radioactive. These radioactive isotopes decay at a known rate: emitting alpha, beta or gamma rays with energies that identify the elements in the

research reactor. This is because a powerful source of neutrons is needed. Such reactor facilities can supply both the source of neutrons to irradiate the sample and the highly sensitive detection equipment to record the emissions from the irradiated sample. NAA is a very flexible technique, allowing analysis of liquid, gas or solid samples.

Dr. Olmez is a senior scientist in the field of nuclear chemistry at the MIT Nuclear Reactor Laboratory. He began his work with neutron activation analysis 16 years ago at the Ankara Nuclear Research and Training Center in Turkey, later moving to the University of Maryland. Since his arrival at MIT six months ago, he has been developing facilities for NAA, as well as seeking new applications for the technique.

spheric pollution, finding ways to trace airborne particles back to the coal- and oil-fired power plants that emitted them.

Dr. Olmez is now developing new techbody fluids. He has characterized normal sal-Washington, D.C. Similarly, he is working

#### eastern University in its Graphic Arts Management Program, taking courses in printing

To analyze the concentrations of trace ele-

sample.

NAA can only be performed with a nuclear

Dr. Olmez has used NAA to study atmo-

niques of medical diagnosis that will be based on the concentrations of trace elements in iva and will be comparing it with the saliva of patients at the Georgetown Medical Center in with researchers at MIT and the Rensselaer Polytechnic Institute on cancer research. There are already indications that trace element concentrations in humans may be correlated to conditions of health or disease.

#### Graphic Arts names Snover (continued from page 1) fundamentals of paper. publications work, on both a one-to-one basis

and by continuing to teach her Publications Production Workshop sponsored by the Personnel Development Program.

James W. Coleman, director of Graphic Arts, said Ms. Snover will provide a bridge between Graphic Arts and the rest of the Institute. "She will be involved in the planning of reproduction needs for all of the departments at MIT that use Graphic Arts' printing, illustration, phototypesetting, copying or mailing services," Mr. Coleman said. "With an eye toward increasing efficiency and lowering cost, Ms. Snover will pay particular attention to those reproduction needs that recur annually, consulting with departments so that typesetting, printing or other reproduction work is not needlessly repeated from year to year."

Ms. Snover's office is in the Graphic Arts building, N42, which is at 211 Massachusetts Ave. She will be at MIT four days each week, Monday through Thursday. Her phone is x3-4765.

A graduate of Simmons College (1975) where she double majored in communications and English, Ms. Snover also studied at Northproduction management, art preparation for printing, printing estimating procedures, fundamentals of lithography, book publishing and She was president of the New England Col-

lege Publications Association from 1977 to 1980 and was a member of the Executive Board of the New England District of the Council for the Advancement and Support of Education in 1982

She joined MIT in March 1975 as production manager for the MIT Bulletin. In September 1975 she became editor as well as production manager for the MIT Bulletin. In August of 1981 she was promoted to communications manager of the MIT Communications Office. In that post she managed the writing, editing, production and distribution of nine annual MIT publications and several special projects each year for the Office of the President. In addition, she provided consulting services to MIT offices about their publications projects.

In 1981 she originated and began to teach the Publications Production course given annually to MIT employees through the Personnel Development Program.

Before coming to MIT she was assistant editor of Simmons Review, her alma mater's alumnae magazine; a staff reporter at the Quincy Patriot Ledger, and a news intern at Channel 7.

Ms. Snover is married to Dr. James Stansfield, formerly a researcher in MIT's Artifical Intelligence Laboratory. They live in Winchester.

# Japanese paintings in Compton By CHINA ALTMAN

#### Staff Writer

A major exhibition of paintings by 48 contemporary Japanese artists working in the Nihonga (Japanese-style) mode will be presented in the Compton Gallery of the MIT Museum, April 1-June 14.

This is the first time such an exhibition had gone outside of Japan. Beginning last April it as at the Pavillon des Arts in Paris and then at the Barbican Art Gallery in London.

A reception on March 31, 4-7pm, is open to students and all members of the MIT community; the public also is welcome.

'Nihonga" is a generic term referring to all Japanese paintings which draw from the aesthetic traditions of different eras in Japanese history, while at the same time absorbing various influences from Chinese and European painting. The exhibition is entitled NIHONGA: Contemporary Japanese Paintings In The Traditional Style.

It presents the work of 48 living artists of widely varying ages, including both men and women; their birthdates extend from 1950 back to 1889, with a total of three born in the 19th century.

All work with brushes on various forms of silk or paper, using rock pigments based on natural minerals. Their subject matter falls into three broad categories: landscape, flowers-and-birds," and the human figure.

The color most typical of Nihonga is ultramarine, made by pigments prepared from malachite. Nihonga hues and colors generally are obtained by using various sizes of grains in minerals.

Another distinguishing characteristic of this style of painting is the use of gold and silver powder prepared from shredded foil.

A 36-page catalog published to accompany the exhibition includes an essay on Nihonga by Takeo Uchiyama, chief curator of the Art Division of the Kyoto National Museum of Modern Arts.

In describing the theme of "flowers-and-birds" or "kacho-ga," Mr. Uchiyama said "It might be seen as an attempt by the artist to portray the beauty that he discovers in his own soul through...communion with nature.' Kacho-ga emerged during the Six Dynasties Period, 222-589, he said, and now it also can include kaki-ga-only flowers-and sochu-ga in which butterflies or other insects are portrayed instead of birds. In another subcategory there also can be paintings of animals as well as birds.

Discussing the landscape category, the curator explained that while Japanese art today is pervaded by Western concepts of space and mass, Nihonga landscapes have not yet lost the essential Japanese quality that derives from a perception of nature marked by feeling and emotional idealism. Nihonga paintings reveal perceptions of space that differ completely from those found in Western art, according to scholar Takeshi Umehara, whose writing also appears in the catalog. "In Japanese paintings the blank spaces are more important than the painted areas," he said, "since they contain a profoundly rich emptiness wherein all things can

be found. "The key to understanding Japanese painting, therefore, lies not in the artists' reasons for portraying flowers or birds and so on, but rather in their reasons for leaving these (empty) spaces within their works," Mr. Umehara said.

When asked what constituted the ideal painting, Taikan Yokoyama (1868-1958), dean of modern Japanese painting, replied, "A painting to which the only possible response is a sigh

The Nihonga school flourishes in contemporary Japan, according to art scholars, existing alongside Western-style painting and also an independent Japanese form of contemporary art, which responds to new trends emerging in European and American art.

All the paintings on view were commissioned for this exhibition. NIHONGA: Contemporary Japanese Paintings In The Traditional Style is sponsored by the Wacoal Corporation and the Kyocera Corporation. The following excerpt from a statement by Wacoal president Koichi Tsukamoto and Kyocera president Kazuo Inamori explains their purpose in organizing the exhibit:

'We are businessmen, but[we]firmly believe that the foundation for true international understanding, of the kind which bridges the gaps between different cultures, must be found on artistic and cultural bases, which permit a high level of communication, as much as on economic exchanges. .

They also said, "We in Japan are blessed with a good standard of living and a highly developed economy, but at the cost of frequently being criticised for our economic power. A major cause of this criticism is lack of international understanding about Japan, its history, culture and national character. .

"By presenting this exhibition overseas, it is our fervent hope that knowledge will be gained of the fine arts in contemporary Japan, and that a small contribution will have been made to international cultural exchange.

The Nihonga exhibition is supported by the Embassy of Japan, the Japan Foundation and the City of Kyoto.

# Orgel to give recital

# Modigliani to give two Killian Lectures

Professor Franco Modigliani will focus on one of the economic theories that earned him the 1985 Nobel Prize in economic science in his two Killian Award lectures on April 2 and 9. The lectures will explore aspects of his theory of the determinants of individual thrift and national wealth, which has come to be known as the Life Cycle Hypothesis of Saving.

The first lecture, "The Life Cycle Hypothesis," sets out the basic model and shows how it has helped to understand many aspects of individual and aggregate saving behavior. In the second lecture, "Application of the

Life Cycle Hypothesis to Policy Issues," he demonstrates that the model has clear implications for a number of significant policy issues, first among them the current debate over the economic consequences of a large public deficit.

Both Wednesday lectures will be given at 4:30pm, the first at Kresge Auditorium and the second at Huntington Hall (Rm 10-250). They are open to the MIT community.

Professor Modiglinai is the 14th James R. Killian Jr. Faculty Achievement Award recipient. The award was established by the faculty in 1971 as a tribute to Dr. Killian,

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members of the faculty.

# Shanty town (continued from page 1)

"Coalition members themselves were originally talking about dismantling the structures on March 13," Mr. Dickson said.

Stephen D. Immerman, director of West Campus operations, said that the coalition had shown concern on the access question in its original proposal to build the shanties on March 2 and take them down on March 13. That end date was part of the coalition's request for the use of Institute space, which members filed with Mr. Immerman the week of February 24.

However, coalition members later withdrew their request, indicating their intention to maintain the shanty town indefinitely and not to go along with several safety guidelines the MIT administration sought for the structures, Mr. Immerman said. The students were asked to agree, among other things, that no one would sleep in the shanties and that someone from the coalition would be on the site at all times to help protect against van-dalism. Two Campus Police officers were stationed at the Kresge Plaza each night for that purpose.

# Developers to talk

Bernard I. Ghert, an international developer who is president and chief executive officer of the Cadillac Fairview Corporation Limited of Toronto, Canada, will give the second of the Center for Real Estate Development's 1986 Hahn Lectures on Tuesday, April 1, at 6pm in Rm 9-150.

His topic will be, "The Management of the Large Real Estate Development Company." Cadillac Fairview has a staff of 2,000 and assets of \$3.5 billion.

Two of Ghert's colleagues will share the podium with him: D. Miles McMenemy, senior vice president of corporate affairs at Cadillac Fairview, and James W. Westcott, an industrial psychologist who is president of James W. Westcott & Associates, Ltd., Toronto.

The final lecturer in the series, which brings nationally known developers to MIT, will be Kent Colton, chief executive officer of the National Association of Home Builders. He will speak May 6.

MIT Affiliated Artist Paul Orgel will present a piano recital featuring works by Schubert, Haydn, Janacek and Faure, Thursday, March 20, at 8pm in Kresge Little Theatre. Admission is free and the public is welcome.

The program will begin with a little known work of Schubert, the Grazer Fantasie. The piece was composed in 1817 but not discovered until 1969. Second will be the Sonata No. 62 in E-flat Major of Joseph Haydn. A rarely heard piece, Janacek's Sonata (1905) will end the first half of the program.

After intermission, Mr. Orgel will play Faure's Barcarolle No. 5 in F-sharp Minor, Op. 66, followed by Schubert's Wanderer Fantasy.

After his 1985 New York recital debut, Mr. Orgel was described by The New York Times as "...a thoughtful and serious young pianist; his interpretations are invariably clean, un-mannered and deeply calculated...Mr. Orgel well understands Janacek's austere impressionism and made each composition an epic miniature. . . The Schubert adagio sang with rare pathos

Orgel is a visiting teacher of piano for the Music Department of Wesleyan University and senior resident artist at the Yellow Barn Chamber Music Festival in Vermont. Next season he will perform at the Kennedy Center in Washington and at the 92nd Street Y in New York.