

TECH TALK
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September 26, 1984
Volume 29, Number 9

No Tech Talk

Because of the Columbus Day holiday observance, Tech Talk will not be published October 10. The Institute Calendar in next week's paper will cover the period from October 3-21. The deadline for listings in the Calendar, Notices, and Classified Ads in the October 3 issue will be noon Friday, Sept. 28.

The next scheduled suspended issue will be November 21.

Forum kickoff

The surge of computers will be the topic for the Women's Forum this term. Computers in banks, stores, airports, hospitals and at MIT are part of everyone's life now and yet are not well understood by most people.

Dr. Sherry Turkle, associate professor in the Program in Science, Technology and Society, will open the series Monday, Oct. 1, at noon in the Bush Room (10-105). Dr. Turkle is the author of a new book, *The Second Self: Computers and the Human Spirit*, which has received wide critical acclaim.

Later programs will explore computerization plans for MIT, Project Athena and office automation.

Circus time

MIT will have the Ringling Brothers Barnum & Bailey Circus as a nextdoor neighbor for two weeks in October.

Conrail, which operates the railroad tracks that run east and west between Vassar and Albany Streets along the northern edge of the campus, has informed the MIT Police that the 41-car Ringling Brothers Barnum & Bailey circus train will be parked for two weeks beginning October 16 on the track starting at the intersection with Massachusetts Avenue and extending westward to beyond the Hyatt Regency Hotel.

The circus will be playing in Boston Garden October 17-28. In former years, the circus train parked in the North Station railroad yards near Boston Garden. Those yards were destroyed by fire earlier this year and Conrail elected to use the Cambridge spur line as an alternate site.

Conrail said the train will arrive October 16. Circus performers and workers will live aboard the train and commute daily to the Garden. Animals will be trucked from the rail site to Boston Garden and kept there for the run of the show, then trucked back for departure.

Except for the elephants. Too large to truck, the elephants will be walked the afternoon of October 16 from the rail site to the Garden, kept there for the run of the show, then walked back.

Erratum

The bad news is that there was an error in last week's article calling for nominations for the Doherty Professorship. The good news is that the support for the professorship is not \$20,000 as stated, but \$25,000.

Series opener

John Sculley, president and chief executive office of Apple Computer, Inc., is the lead-off speaker this afternoon for the 1984-85 Distinguished Speaker Series at the Sloan School. He will give his talk at 4:30pm in the Bowen Room (E51-329).

Harpsichord to be dedicated

By CHINA ALTMAN
Staff Writer

Two musicians from the Boston Symphony Orchestra will come to the MIT Chapel Sunday night, Sept. 30, to help Institute Organist James David Christie dedicate a new harpsichord.

The all-Bach program, beginning at 8 pm, will be performed by Mr. Christie, flutist Fenwick Smith and violinist Gerald Elias from the BSO, harpsichordist John Finney and a chamber orchestra made up of Boston-area free lance musicians. The concert is open to the MIT community and to the public, without charge.

Mr. Christie said the program has been chosen to show the versatility of the new harpsichord, made by Willard Martin and based on a design by the Parisian Nicolas Blanchet, circa 1710. "This is one of the most beautifully voiced instruments I've ever heard," Mr. Christie said.

This will be his first major recital here since he was named Institute Organist in 1981.

Featured will be the Concerto in C Minor for two harpsichords, with Mr. Christie playing the Martin and Mr. Finney on the chapel's Dowd harpsichord. The program also includes: Toccata in D Major, Sonata in B Minor for flute and obbligato harpsichord, and the Brandenburg Concerto No. 5 in D Major.

Mr. Christie recently was appointed visiting professor of music at Holy Cross College in Worcester. He has been organist with the Boston Symphony Orchestra since 1978 and, since 1981, has been chairman of the organ and harpsichord department of the Boston Conservatory of Music.

In August of 1979, Mr. Christie became the first American ever to win first prize in the Bruges (Belgium) International Organ Competition. He also was awarded the coveted "prize of the audience."

Sunday's concert will be even more meaningful for him, Mr. Christie said, because he will be playing with his BSO colleagues and also with Mr. Finney, one of his former students and a finalist at the Bruges Competition.

A family story illustrates the beginning of Mr. Christie's lifelong involvement with the organ. When he was three, his older sister



Institute Organist James David Christie.

took him to choir practice and placed him for safe keeping on the bench next to the nun who was playing the church organ. Christie thought he must have been put there to learn to play the organ. His interest never wavered; by seven he was taking piano lessons and then taught himself to play the organ.

He received the bachelor's degree in organ performance in 1975 at the Oberlin Conservatory of Music and his master's degree in organ performance at the New England Conservatory of Music in 1977. He studied with Marie-Claude Alain of Paris in 1973-74.

Mr. Christie may be booked for services in the MIT chapel by calling him at his home number: 325-3427.



IN HARMONY with the fine early fall weather are Dorlas Yao, a junior in biology from Cherry Hill, N.J., and Chavonne Yee, a junior in mechanical engineering from Phoenix, Ariz.

Hanham named Lancaster chancellor

Dr. Harold J. Hanham, who stepped down as dean of the School of Humanities and Social Science last summer after more than 11 years in the post, has been named vice chancellor of the University of Lancaster in England, effective October 1, 1985.

Dr. Hanham is currently on leave from MIT, but has remained at the Institute doing research.

In accepting the post at Lancaster, which is tantamount to the presidency of the university, Dr. Hanham is returning to a nation where he has previously studied and taught.

Dr. Hanham came to MIT in 1972 after a distinguished career in several countries. A native of New Zealand, and a graduate of the University of New Zealand, he was subse-

quently a graduate student at Selwyn College, Cambridge, where he took, his PhD degree in history. He then taught political science for ten years at Manchester University in England before becoming head of the Politics Department at the University of Edinburgh in Scotland. He came to this country as a professor of history at Harvard University before coming to MIT as dean and professor of history and political science.

Lancaster University, founded about 20 years ago, has some 4,500 full-time students. Most are undergraduates although the university does award PhDs. Lancaster has a reputation for innovative education programs.

Dr. Hanham will succeed Phillip Reynolds, who is retiring.

On NOVA: US-USSR science swap

Two MIT faculty members are among eight American and Soviet scientists whose exchange of ideas—made possible through a special satellite hookup—will be broadcast before millions of television viewers in both countries.

The teleconference, which took place yesterday (Tuesday, Sept. 25), will be broadcast as a NOVA special, "Spacebridge to Moscow," on Tuesday, Oct. 2, at 8pm on WGBH in Boston and on public television stations nationally. Soviet television also has agreed to broadcast the teleconference.

The MIT participants in the discussion are Dr. Philip Morrison, Institute Professor and professor of physics, and Dr. Alexander Rich, professor of biophysics and William Thompson Sedgwick Professor of Biology.

The two other American scientists are Harold Furth of Princeton University's Plasma Physics Laboratory and Lynn Sykes, Higgins Professor of Geological Sciences at Columbia University's Lamont-Doherty Geological Observatory.

At the conclusion of the 60-minute broadcast, two other Americans, Dr. Loren R. Graham, professor of the history of science at MIT, and Marvin Goldberg, president of the California Institute of Technology, will provide commentary.

The Soviet participants are Vladimir Keilis-Borok, a seismologist; Roald Sagdeyev, director of the Space Research Institute; E.P. Velikhov, assistant deputy of the Soviet Academy of Sciences and a specialist in fusion physics; and Yuriy A. Orshinnikov, director of the Institute of Bio-Organic Chemistry.

The American and Soviet scientists discuss their collaboration in four areas: the chemistry of life; astrophysics; controlled nuclear fusion; and the seismology of earthquakes and underground nuclear tests.

The program also examines the history, as well as some of the current problems, of scientific exchange between the two countries.

NOVA, the weekly science documentary series, is produced for the Public Broadcast System by WGBH Boston. "Spacebridge to Moscow" was produced by WGBH—the American part of the teleconference was conducted in its Cambridge studios—in collaboration with Scientific American magazine.

The program is moderated from the Moscow studio by Sergei Kapitza, editor-in-chief of the Russian-language edition of Scientific American, and Gerald Piel, chairman of the magazine.

Suh tapped for NSF

Dr. Nam P. Suh, professor of mechanical engineering at MIT and director of the Laboratory for Manufacturing and Productivity, has been nominated by President Ronald Reagan as assistant director for engineering at the National Science Foundation.

The appointment, which must be confirmed by the US Senate, will make Dr. Suh the operational head of one of the major directorates of NSF, the nation's chief agency supporting scientific and engineering research.

Professor Suh, a specialist in the field of mechanics and the processing of materials, is widely known for his research in tribology, the study of wear. A native of Korea who came to the US as a teenager in 1954, and is now a US citizen, he received the SB and SM degrees from MIT in 1959 and 1961, and PhD from Carnegie-Mellon University in 1964. He was on the faculty of the University of South Carolina before joining the MIT faculty in 1970.

He is the founder and director of the MIT-Industry Polymer Processing Program, a cooperative research program between MIT, industry and government.



INSTITUTE NOTICES

*—Open to public
**—Open to MIT Community only
***—Open to members only

Announcements

Graduate Student Council Interviews for Seats on Institute Committees**—Sept 25-26. Standing Committees of the Faculty: Committee on Discipline; Committee on Educational Policy; Committee on the Library System; Committee on Student Affairs. Committees Appointed by the President: Committee on Assessment of Biohazards; Athletic Board; Commencement Committee; Community Service Fund Board; Dining Advisory Board; Equal Opportunity Committee; Committee on Foreign Scholarships; AIP Policy Committee; Committee on International Institutional Commitments; Medical Advisory Board; Prelaw Advisory Council; Committee on Radiation Protection; Committee on Safety; Student Activities Development Board; Committee on Toxic Chemicals; Committee on the Use of Humans as Experimental Subjects; Committee on the Visual Arts; Women's Advisory Board; Advisory Committee for Women Student's Interests; Advisory Committee on Shareholder Responsibility. For further info, application forms and to schedule an interview, contact the Graduate Student Council Office, x3-2195, afternoons. All interested graduate students invited to apply.

Student Directory Official Notice—All changes in addresses and telephone numbers must be turned into the Registrar's Office Rm E19-335 by Sept 28 for inclusion in the student directory. Telephone requests not accepted.

September Degree Candidates—Post cards must be returned to Rm E19-335 to indicate whether diplomas are to be mailed, called for in person, or if attendance at Commencement, June 3, 1985 is planned.

Career Planning and Placement Company Recruitment Presentations**—United States Army Reserves, Wed, Sept 26, 9am-4pm, Lobby 13. ROLM Corporation, Mon, Oct 1, 4-6pm, Lobby 13. Central Intelligence Agency, Tues, Oct 2, 7-9pm, Rm 4-231. Schlumberger Offshore Services, Wed, Oct 3, 7-9pm, Rm 4-149. Lincoln Laboratory, Thurs, Oct 4, 7-9pm, Rm 4-149.

Army ROTC**—Want to ride in a helicopter? Army ROTC sponsored rides, Sat, Sept 29. If interested, call Major Miller, x3-4471. Regular meetings each Thursday, 3-5:30pm, Rm 20E-126. Freshmen have no obligation for future military service. For more info, call x3-4471.

International Student ID Cards—now available in Office of Career Services, Rm 12-170. The ISIC is an asset when studying or travelling abroad as it is recognized internationally and offers a multitude of discounts and benefits. Foreign students holding F-1 visas also eligible. For more info contact Marianne Ciarlo, Rm 12-170, x3-4735.

MIT Bowling Alley and Games Area**—located in basement of Student Center, open 4:11-3:00pm, Tues-Sat (closed Sun-Mon). For more info, call x3-3913.

Rune*—The magazine of literature and art at MIT is accepting submissions of prose, poetry and graphics for its 10th anniversary issue. Three copies of written submissions may be sent to *Rune*, Rm 14E-310. Special arrangements for pick-up of graphics submissions may be made with John or Millat, x5-9630 dorm. All work will be returned if requested. Deadline: Feb 10, 1985.

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, 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.

Tool & Die**—Humor magazine meets Wednesdays, 5pm, Rm W20-400. No experience necessary.

ACBL Duplicate Bridge at MIT*—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*—ACBL Open Duplicate bridge. Tues, 6pm; Novice game for newcomers to duplicate, Weds, 6:30pm preceded by intro/lecture, 6pm. MIT Student Center Rm 345. Newcomers welcome both games; come with or without partner. Info call Gary Schwartz, x8-1484 Draper, or Mark Dulcey, 576-3745. Admission: \$.75/students, \$1.50 non-students.

MIT Student Chapter of the International Cogeneration Society**—First meeting, Tues, Oct 2, 5:15pm, Walker Lounge, Bldg 66, 2nd floor. Introduction to cogeneration, the International Cogeneration Society, and discussion of student's and faculty member's particular interests, projects, etc., in the energy field; as well as future activities and goals of the chapter. Beer and munchies served. For info, call John Malloy or Prof Richard Tabors, x3-8032.

MIT Rugby Football Club**—Men: practice T/Th, 5-7pm, Field 8. Contact Mike Murphy, x3-8118 or Rich Selesnick, x3-2401. Women: practice M/Th, 5-7pm, Field 8. Contact Caroline Richardson, x3-3191. No experience necessary.

MIT Table Tennis Club**—meets Sats and Suns, 6pm, T-Club Lounge. For info call Kenny, x3-8771 dorm or David 492-4317.

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

MIT Filipino Association**—Lessons in Arnis (Philippine martial arts) conducted by George Brewster, Sats, 4-6pm, Student Center Rm 407. Lessons free, beginners welcome.

MIT Hobby Shop**—Complete supervised facilities for wood working and metal working. Hours: M-F, 10am-6pm; W, 10am-9pm. Fee \$15/per term students; \$25/per term MIT community. For info call or visit W31-031, x3-4343.

MIT Outing Club*—Camping, cycling, climbing, canoeing, cabins, meets M/Th, 5-6pm, Student Center Rm 461. Colorado White River Range—Jim Klavetter, grad student, Center for Space Research, Mon, Oct 1, 5pm. Also, see our bulletin board in "Infinite Corridor" next to Athena.

MIT Nautical Association**—Memorial Dr. opposite Walker Memorial, x3-4884. We are open 7 days/wk, 9am-sunset. There is still lots of great fall sailing left, so come join us and learn to sail! Basic Sailing Shore School, M/Th, 5:15pm; Boardsailing clinic, Tues, 5pm. Other sailing classes offered occasionally, call for schedule. Club racing, Mon eves. Membership cards available in Cashier's Office, Rm 10-180: \$5/students; \$30/staff & faculty; \$40/alumni.

MIT Hunger Action Group*—is interested in local and world hunger, poverty and development issues. We are engaged in on-campus education and local volunteer work. See our announcements outside Rm 5-106. For more info, call Parick Cheung, x5-9558 dorm or 494-8751 (massg).

MIT Women's Water Polo Club**—Women students, faculty, staff & others: Club practices M & F/5-7pm; T & Th/3-5pm, MIT Alumni pool. All levels of experience are welcome—try it, you'll like it! For more info, call Amy, 628-0821 or George, x5-9321 dorm, or just show up at a practice.

MIT Women's Soccer Club**—Play women's soccer. Beginners and all levels of experience welcome. Practice three times a week—work out all your aggressions, have fun, make friends and get exercise. For additional info: Leslie or Inge, x3-6799.

MIT Wu-Tang Club*—teaches northern Chinese martial arts Mon, 4pm, Tues & Thurs, 6pm, Burton Dining Hall. Beginners welcome.

Boston Wu-Tang Chinese Martial Arts Association**—Praying Mantis class, Mon, 8-10pm, Lobby 13, Thurs, 8-10pm, T-Club Lounge. Beginners welcome. For more info, call x5-8841 dorm or 497-4459.

MIT Tae Kwon Do Club**—Tae Kwon Do is a Korean martial art. Meetings Sundays, 4pm, T-Club Lounge; Mon-Wed, 6pm, Burton Dining Hall; Fri, 6pm, T-Club Lounge. For info call In Ho Kim, 266-2827.

Scuba Club**—The club sponsors dives throughout the year with practice sessions in the pool every other week. For further info contact Jon Powell x3-6031 or see our notice board at the pool.

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 Eric Brosius, Rm 2-270, x3-3773 for more information.

Religious Activities

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

Christian Science Organization at MIT*—Weekly Testimony Meeting, Thurs, 5:45pm, Rm 4-159.

Tech Catholic Community*—Roman Catholic Sunday Masses: 9am, 12pm, 5pm; Weekday masses: T/Th, 5:05pm, Fri, 12:05pm, MIT Chapel. Morning Prayer: M-F, 8am, Chapel Basement. Charismatic Prayer Group, Mon, 6:45pm, Rm 1-114. Prayer through Scripture Group, Mon, 8pm, Chaplaincy Library; "Exploring Catholicism," Tues, thru Nov 13, 7:30pm, Chaplaincy Basement.

MIT Hillel Rosh Hashana Services**—Reform: Wed, Sept 26, 8pm; Thurs Sept 27, 10am, MIT Chapel. Conservative: Wed, Sept 26, 6pm; Thurs, Sept 27, 8:30am & 6:15pm; Fri, Sept 28, 8:30am & 5:30pm, Student Center Sala de Puerto Rico. Orthodox: Wed, Sept 26, 6pm; Thurs, Sept 27, 8:30am & 6:15pm; Fri, Sept 28, 6pm, Student Center Mezzanine Lounge. Special holiday meals served in Kasher Kitchen, Walker Rm 007. Call x5-6750 dorm for reservations. Tickets required for Wednesday evening services; students can pick up free tickets at Hillel (W2a) or in Lobby 10, Sept 24-25. Non-students contact Hillel, x3-2982.

MIT Hillel Yom Kippur Services**—Reform: Fri, Oct 5, 7pm; Sat, Oct 6, 10am & 6:30pm, MIT Chapel. Conservative: Fri, Oct 5, Mincha-5:30pm, Kol Nidre-5:45pm; Sat, Oct 6, 8:30am & 3:45pm, Student Center Sala de Puerto Rico. Orthodox: Fri, Oct 5, Mincha-3:30pm, Kol Nidre-5:45pm; Sat, Oct 6, 8:30am & 3:45pm, Student Center Mezzanine Lounge. Pre-fast meal served in Kasher Kitchen, Walker Rm 007, Fri, Oct 5, 4:30pm—payment in validate or cash. Community break fast held in Sala de Puerto Rico. Tickets required for all Fri services; students can pick up free tickets at Hillel (W2a) by Oct 4. Non-students contact Hillel, x3-2982.

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

Meditation and Discourse on the Gita**—Swami Sarvagatnanda of the Ramakrishna Vedanta Society of Boston. Sponsored by MIT Vedanta Society. Fridays, 5:15-6pm, MIT Chapel.

Charismatic Prayer Group*—Mon eves, 6:45, Miller Rm 1-114. Pot-luck supper followed by prayer meeting, Bible sharing, music & praise. Jim Mahoney, x3-3074.

MIT Baha'i Association*—weekly discussions on the Bahai Faith and the vision of a new world order. For info call Brian Aull, x3-2112 or Roy Steiner, 868-0444.

Islamic Society*—Daily prayers, Ashdown House (basement), 5 times a day. Call 225-9837 for schedule. Friday prayer, Ashdown House 1-2pm, Khutba starts at 1:15pm, congregation at 1:45pm.

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.

United Christian Fellowship**—(MIT chapter of Inter Varsity Christian Fellowship), Campus fellowship meeting, Fridays, 7:30pm, Rm 18-290. Call Ray, x5-7560 dorm. For small group Bible study in your dorm, call Chavonne, x5-8537 dorm.

Campus Crusade for Christ**—Family time, 7:15pm, Fri, eves, Rm 37-252, (Marlar Lounge). Fellowship, scripture teaching, prayer, singing, refreshments & fun. Tues, prayer time, 7:30-9am, W20-441, Student 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, L217. Ed Bayliss, x3456 Linc.

Noon Bible Study*—Every Wed, Rm E17-438, bring lunch. Ralph Burgess, x3-8121. (Since 1965).

Edgar Cayce Study Group*—Tuesdays, 7-9:30pm, Ashdown House First Floor Lounge. Edgar Cayce's Search for God material will be used as the basis for group discussion & meditation. For info: Dave Rosenblitt, 267-7693; Douglas McCarrroll, 497-5539 or Scott Rosenwald, 494-8530.

The Church of Christ in Cambridge—Christians meet for worship, study, discussions, fellowship, Tang Hall, 1st & 3rd Sunday each month, 6:30pm. Robert Randolph, x3-4861/3-5085 or Claudia Lewis, 494-1326 (Ashdown).

Graduate Studies

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

Lady Davis Fellowship Trust. Open to seniors, graduate students, and those who have recently completed doctoral studies in any field; tenable at the Hebrew University of

Jerusalem and the Technion-Israel Institute of Technology, Haifa. Grants cover tuition, travel, and living stipends in Israel. Renewal for a second year is possible. Applications available in Rm 3-138. Deadline: Nov 30, 1984.

NATO Postdoctoral Fellowships. Approximately 50 offered for further study in the mathematical, physical, biological, and social sciences, and engineering at institutions in NATO countries outside the US. Applicants must be US citizens or nationals who have demonstrated ability and special aptitude for advanced training in the sciences and who have, or will have, earned doctoral degrees between January 1980 and September 1986 in any of the qualifying fields of science. Stipend of \$1,500/month for up to 12 months of tenure. Fellows also provided with dependency allowances. Deadline: Nov 2, 1984. Apply to: National Science Foundation, NATO Postdoctoral Fellowship Program, Directorate for Science and Engineering Education, Washington, DC 20550.

Alice Freeman Palmer Fellowship for women for study or research abroad or in the US, sponsored by Wellesley College. Fellows must be 26 or younger at time of appointment, and must remain unmarried throughout her tenure. Stipend: \$4,000. Must be nominated by undergraduate institution. Contact Dean Richard, Rm 3-138, or write directly to: Secretary to the Committee on Graduate Fellowships, Office of Financial Aid, Box GR, Wellesley College, Wellesley, MA 02181 for applications. Application must be postmarked no later than December 1, 1984.

Mary McEwen Schimke Scholarship for women, to help financially with child care and household responsibilities, sponsored by Wellesley College. Based on scholarship and need. Candidates must be over 30 and currently pursuing graduate study in literature and history. Stipend: \$500-\$1,000. Contact Dean Richard, Rm 3-138, or write directly to: Secretary to the Committee on Graduate Fellowships, Office of Financial Aid, Box GR, Wellesley College, Wellesley, MA 02181 for applications. Application must be postmarked no later than December 1, 1984.

M.A. Cartland Schackford Medical Fellowship for women for the study of medicine with a view of general practice, not psychiatry, sponsored by Wellesley College. Stipend: \$3,500. Contact Dean Richard, Rm 3-138, or write directly to: Secretary to the Committee on Graduate Fellowships, Office of Financial Aid, Box GR, Wellesley College, Wellesley, MA 02181 for applications. Application must be postmarked no later than December 1, 1984.

Harriet A. Shaw Fellowship for women for study and research in music and allied arts in the US or abroad, sponsored by Wellesley College. Candidates must be 26 or younger at time of appointment. Preference given to music candidates; undergraduate work in history of art required for other candidates. Stipend: \$2,000-\$3,000. Contact Dean Richard, Rm 3-138, or write directly to: Secretary to the Committee on Graduate Fellowships, Office of Financial Aid, Box GR, Wellesley College, Wellesley, MA 02181 for applications. Application must be postmarked no later than December 1, 1984.

Charlotte W. Newcombe Doctoral Dissertation Fellowships. Approximately 47 fellowships awarded to students enrolled in doctoral programs in the humanities and social sciences at US graduate schools. All requirements, except thesis must be completed by January, 1985. Winners will receive grants-\$8,000 for 12 months of full-time dissertation research and writing. The award does not pay for tuition and fees and MIT does not waive these charges. Deadline for request of applications: December 21 and the completed application must be returned by January 4, 1985. For further information see Dean Richard or write directly to: Newcombe Fellowship, Woodrow Wilson National Fellowship Foundation, Box 642, Princeton, NJ 08540.

NTNF Postdoctorate Fellowship Program, Approximately 20 fellowships offered by the Royal Norwegian Council for Scientific and Industrial Research. Open to candidates who wish to work in Norway for one year in technology and applied sciences. English is used on all research teams. For application forms and further information, write the Royal Norwegian Council for Scientific and Industrial Research, Sognaven 72, 0855 Oslo 8, Norway. Also see Dean Chamberlain, Rm 5-106. Application deadline, December 1, 1984.

Hertz Foundation Fellowships. The Fannie and John Hertz Foundation fellowships for students of outstanding potential in the applied physical sciences, to be used at one of 19 institutions, including MIT. Applicants must be US citizens or have documented proof of intent to acquire it; have maintained at least an A-average during the last two years of undergraduate work; and the proposed field of graduate study must be concerned with applications of the physical sciences to human problems. For 1985-86, the fellowships will cover \$6,000 toward tuition and a \$10,000 stipend for unmarried students. It is the student's responsibility to make up the difference between the cost-of-education allowance and tuition. Applications in Rm 3-138. Deadline: November 1, 1984.

Fulbright Program in Japan in Natural and Applied Sciences. For PhD students to do research in Japan, beginning on or after July 1, 1985. For info, contact the MIT-Japan Science and Technology Program (x3-5143 or x3-2449). Application deadline: October 31, 1984.

The American-Scandinavian Foundation. Awards for study in Scandinavia 1985-86, open to US citizens and permanent residents who will have completed their undergraduate education at the time this overseas program begins. Demonstrated language skills required. Contact: American-Scandinavian Foundation, 127 E 73rd St., New York, NY 10021, (212) 879-9779, or see Dean Chamberlain, Rm 5-106, Foreign Scholarship Committee. Application deadline November 1, 1984.

Robert Bosch Foundation Fellowship Program. Provides international experience through internships and training programs within German industry, business and government for 10-15 American university graduates and young professionals. Positions are on a high executive level, directly related to participant's professional interests or background in the fields of business administration, economics, public affairs, political science, law, journalism, and mass communications. For applications, contact: Ursula Hoegsberg, The Carl Duisberg Society, Inc., The Robert Bosch Foundation Fellowship Program, 425 Park Ave., New York, NY 10022, or see Dean Chamberlain. Application deadline: October 15, 1984.

Ministry of Education in the Republic of China on Taiwan Scholarship Program for American Students to Study in Taiwan. To study culture, philosophy or literature; candidates must demonstrate a good command of Chinese. For applications contact: Mr. Liu, Chia-Chih, Director, Cultural Division, Coordination Council for North American Affairs, Statler Office Bldg, 20 Park Plaza, Suite 1012, Boston, MA 02116, (617) 542-5196, or see Dean Chamberlain. Application deadline: March 1, 1985.

Other Opportunities

Visiting Scholar Exchange Program by the Committee on Scholarly Communication with the People's Republic of China National Program of Scholarly Exchanges. Exchange program providing opportunities for study and research at Chinese universities and research institutes, to make significant contributions to academic exchanges in a given discipline. The National Program consists of the Graduate Program (must have MA or equivalent, high degree of Chinese language skill, and involves minimum tenure of 1 academic year beginning Sept 1985); Research Program (support to those with PhD or equivalent, involves tenure of 3-12 months beginning Sept 1985); and Visiting Scholar Exchange Program (tenure of 1-3 months beginning Sept 1, 1985 ending no later than Aug 31, 1986). Open to US citizens and permanent residents who possess a high degree of Chinese language skill. Write: CSCPRC, National Academy of Sciences, 2101 Constitution Avenue NW, Washington, DC 20418. Postmark Mailing deadline: the Graduate and the Research Program—October 6, 1984; Visiting Scholar Exchange Program, October 29, 1984.

Harry S. Truman Scholarships—applications now being accepted. Scholarships awarded on basis of merit to current sophomores in good standing who are US citizens or nationals. Students studying history, political science, public

administration, economics and finance, and international relations are especially encouraged to apply. Awards are made to one student from each state, DC, Puerto Rico and, (as a single entity) the Virgin Islands, Guam, American Samoa, and the Trust Territory of the Pacific Islands. In addition, up to 52 Scholarships-at-Large may be awarded. Each scholarship covers tuition, fees, books, and room and board to a maximum of \$5,000 annually and is renewable for the senior year and for up to two years of graduate study. Any student wishing to be considered should contact Dr. Louis Menand III, Rm 3-234, x3-7752 no later than October 5.

Internships

The following is a list of internship opportunities. For more information and deadline dates, contact Elizabeth Reed or Diane Wilhoite, Office of Career Services and Preprofessional Advising, Rm 12-170, x3-4733.

ACCION Internation, Cambridge. Seeks a Resource Development Intern to do research and writing for the fundraising department of this organization which is dedicated to the promotion of small-scale enterprise development in low income communities of Latin America, the Caribbean, and the US, 10-20 hrs/wk, no stipend.

Blue Cross & Blue Shield of RI, Providence. Seeks intern to work as Sales Promotion Writer, prefer graduate student with academic background in communications, advertising, sales promotion and/or marketing. Hours open, no stipend.

CBS Records, Lexington, MA. Now accepting applications for College Marketing Representative to work 10-25 hrs/wk, must have car, paid position. Opportunity to get involved with many aspects of record industry.

Massachusetts Coalition for the Homeless, Boston. Offering field placements providing experience in non-profit administration, legislative networking, media & communications, organizing and coalition building. Openings for Legislative Coordinator, Community Organizer, Program Developer, and Public Education/Training Coordinator.

Massachusetts Public Interest Research Group (MASS-PIRG), Boston. Interns work under a professional staffperson on such issues as Hazardous Waste, Consumer Protection, Grassroots Lobbying, Corporate Power, Publications, Public Interest Accountants, and Public Relations and Media Coordinators.

Commonwealth of Massachusetts, Office of the Secretary of State. Volunteer interns needed for a variety of openings: Public Affairs, MA Regulations Division, Citizen Information Service, State Bookstore, Public Records, Publication/Reproduction and Corporations. Hours range from 8-20/wk.

New England Electric System, Westborough. Opening for Analyst Intern in Fuel Department to collect, analyze and report on all aspects of oil and gas exploration and fuel supply as needed. Requirements: quantitative ability; a technical or analytic undergrad degree with programming familiarity; an advanced degree in process, preferably in land management, petroleum engineering, resource economics, etc.

Student Jobs

Student, part-time, approx 10 hrs/wk to assist Arts Editor in the News Office. Will require familiarity with DECIMATE Word Processing for mailings/Calendar notices/press releases. Contact Leova, x3-2701.

Activities Director for obesity study. We need someone to spend time with subjects at the Clinical Research Center, E18 from 1-4pm Saturdays and Sundays. Activities include taking subjects for a 20 minute walk, playing board games like Trivial Pursuit, playing piano, singing and talking. Student must have engaging personality, experience working with groups (camp counselor, scouts) and interest in people. Student does not have to have musical talent. If interested, contact Judy or Sharon, x3-6737 or send description of background to Judy, Rm E25-604.

The MIT Press Bookstore is looking for a dependable student employee. Responsibilities include: ordering, stocking, customer service and sales work, store displays, cashing out, opening/closing. 10-15 hrs/wk, variable schedule. Prefer student with bookstore experience and/or knowledge of MIT Press books. Resume necessary, \$5.25/hr. Contact: Jeremy Grainger, Manager, MIT Press Bookstore, 292 Main St, E38, x3-5249.

Students for data entry. Many shifts available, all part-time: 8am-12pm, 12:40-4:30pm, 5:30-10:30pm M-Th; Fri, 6-10pm; Sat and Sun 9am-5:30pm. Must type 45-50 wpm. \$5.50/hr to start. One month review with raise to \$6/hr. Contact: Barbara McCarthy, Business Research, 1660 Soldiers Field Rd, Brighton, MA, 787-2205. Accessible by public transportation.

UROF

For more detailed information on UROP opportunities listed, MIT undergraduates should call or visit the Undergraduate Research Opportunities Program Office, Rm 20B-141, x3-5049 or 3-4849 unless otherwise specified in the listing. Undergraduates are also urged to check with the UROP bulletin board in the main corridor of the Institute.

MIT undergraduates are hereby invited to join with faculty members in pursuit of research projects of mutual fascination.

1984/85 UROP Directory which lists faculty and areas of research is available at the UROP Office and UASO (7-104).

Read the Participation section of our Directory, and then talk with Coordinators and faculty members; come to the UROP Office or call us with specific questions. Current projects will be listed in this weekly column and on the UROP bulletin boards.

Joel M. Orloff Undergraduate Research Prize. Nominations from faculty are invited. An award of \$1,000 will be presented in early October to the undergraduate who has demonstrated the most outstanding ability and creativity in physics-related research during the past summer and/or academic year. Nominations should be sent to the UROP Office by October 5.

Sea Grant UROP Awards. Grants of \$750 each will be given for undergraduate research in any area related to the study and management of the ocean and ocean resources. Proposals may come from departments throughout MIT (Wellesley students may also apply). A letter of recommendation should accompany the proposals and be sent to the UROP Office by October 10.

(continued on page 7)

TECH TALK



September 26, 1984
Volume 29 Number 9

Tech Talk is published 37 times a year by the News Office, Massachusetts Institute of Technology. Director: Robert M. Byers; Assistant Directors: China Altman, Charles H. Ball, Robert C. Di Iorio, Joanne Miller, Tech Talk editor, and Calvin D. Campbell, photojournalist; Reporter: Lynn Heinemann (Institute Calendar, Classified Ads, Institute Notices).

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Official IAP T-shirts are tried out by Eric Conley, a junior in biology, Nicole Faghin, a graduate student in urban studies and planning, and Professor Shaoul Ezekial, chairman of the IAP Policy Committee.

—Photo by Calvin Campbell

IAP T-shirt raffle is coming

A free IAP T-shirt raffle, kicking off the IAP '85 season and celebrating 15 years of Independent Activities Period, will be held Tuesday, October 2, 11:30-1:30pm, Lobby 7. Every few minutes a T-shirt will be raffled off. Winners can choose a shirt in either red or royal blue. On the front are the words, "Experience IAP"; on the back is an illustration of the "IAP Person" flying

over the Great Dome of MIT. During the raffle, a display presenting aspects of the last 15 years of IAP will be introduced. It will remain in Lobby 7 throughout October where, it is hoped, it will serve as inspiration to planners of IAP '85.

People may buy the T-shirts for \$5, either during the raffle or from the IAP Office, 7-108.

Myers named Billard Professor

Professor Stewart C. Myers, a leading contributor to the theory of corporate finance, has been named the first Gordon Y. Billard Professor of Finance at the Sloan School of Management.

Dean Abraham J. Siegel announced the appointment at the fall meeting of the Sloan faculty. "In making this appointment," Dean Siegel noted, "MIT and the Sloan School provide Stewart Myers with a recognition he richly deserves and, at the same time, honor the memory of the donor, who had long-standing interests in finance, by choosing an internationally recognized, outstanding scholar and teacher in finance."

Dr. Myers is the coauthor of the best-selling textbook in finance, *Principles of Corporate Finance*. It has been used with great success in the finance subjects of every program offered at Sloan—from undergraduate to Senior Executive—and has been adopted in all ten of the top management schools.

Dr. Myers' theoretical contributions include using time-state preference models to nail down some basic questions underlying security price evaluation; applying option pricing theory to help understand important interactions between corporate financing and investment decisions; and developing the theory of firm behavior under regulation and uncertainty. He has also conducted important applied research in the area of public utility finance and in measuring the profitability and capital costs for US manufacturing and nonfinancial firms. His stature in the field was underscored by his election two years to the presi-



dency of the American Finance Association.

Professor Myers is a 1962 graduate of Williams College and holds the MBA and PhD degrees from Stanford University. He joined the Sloan faculty in 1966 as assistant professor, and in his 18 years at MIT (excluding 1975, when he served as visiting professor at the London School of Business Studies), he has served on many School and Institute committees. Since 1982 he has been area head for the School's Applied Economics and Finance Group.

The Billard Professorship of Finance is the second professorship established under the bequest of Gordon Y. Billard, who received the SB degree from Course XV in 1924 and was a longtime friend of MIT before his death in 1983 at the age of 83. Last year, Dean Siegel named Professor Lester Thurow the Gordon Y. Billard Professor of Management and Economics. Mr. Billard's bequest to the Sloan School will permit a third chair to be established at the School later this year.

Shannon honored

Dr. Claude E. Shannon, Donner Professor of Science and professor of mathematics and electrical engineering, emeritus, at MIT, has been named winner of the 1984-85 Who's Who in America Achievement Award in the Technology, Mathematics, and the Physical Sciences category. The award includes a \$10,000 cash prize.

Dr. Shannon, founder of the basic mathematical theory of communications known as "information theory," joined the MIT faculty in 1956 after more than 15 years at Bell Telephone Laboratories. In 1948, he had given a precise, quantitative mathematical definition of the concept of information that was to have fundamental importance in disciplines involving problems of meaning, communication, language and related concepts. He retired from MIT in 1979.

A 1936 graduate of the University of Michigan, Dr. Shannon held a Bowles Fellowship at MIT in 1939-40 while earning the SM and PhD in mathematics.

He has received a number of awards and honorary degrees, and is a member of the National Academy of Sciences and the American Academy of Arts and Sciences.

Stress management program to return

The MIT Medical Department will repeat its popular Stress Management Program beginning Tuesday, Oct. 2, noon-1:30pm in Rm E23-297. The program will run for five weeks.

Participants will learn to recognize stress warning signals, to become aware of their own body's response to stress, and to use relaxation techniques that are effective for them.

Scott Borrelli, EdD, will be the group leader and will challenge participants to see how they may create stress for themselves and how their attitudes and beliefs may interfere with their own happiness and quality of life.

The fee for the program is \$45 (\$35 for students and MIT Health Plan members), including a workbook and relaxation tape. Preregistration is required. Call the Health Education Service, x3-1316, to enroll.

Susan DeFord named in treasurer's office

The appointment of Susan DeFord as assistant to the treasurer has been announced by Glenn P. Strehle, treasurer. Ms. DeFord is working with Dr. Allan S. Bufferd, associate treasurer and recording secretary, in the overall management of portions of the assets of the Institute and its pension funds.

A graduate of Mount Holyoke College, Ms. DeFord has also done coursework at Columbia University. Before coming to MIT, she was an officer of the investment management group at Citibank in New York City where she provided ongoing analysis of economic trends and their effect on certain food and restaurant companies, making recommendations for stock purchases and sales. Earlier she was vice president in the economic development department of the New York State Urban Development Corporation and assistant treasurer with responsibility for corporate lending at The Chase Manhattan Bank.

Ms. DeFord lives in West Roxbury with her husband, Stuart Offner, an attorney with a Boston firm, and their baby son, Teddy.



Cohen, Lim win Edgertons

Two young faculty members—a philosopher specializing in political philosophy and a specialist in digital signal processing acclaimed for his work in speech enhancement—are corecipients of the 1984 Harold E. Edgerton Award.

They are Dr. Joshua Cohen, 32, associate professor of philosophy and political science with a joint appointment in the Departments of Philosophy and Linguistics and Political Science, and Dr. Jae S. Lim, 33, associate professor of electrical engineering in the Department of Electrical Engineering and Computer Science.

The annual award, which was given for the first time in 1983, was established with contributions made by the faculty during the Leadership Campaign in honor of Institute Professor Emeritus Harold E. "Doc" Edgerton. It recognizes outstanding qualities of scholarship, teaching and creativity among young, untenured faculty members.

Professors Cohen and Lim, who will share the award's \$5,000 honorarium, were selected by a faculty committee made up of Professors A.P. French, Sylvain Bromberger, Richard M. Douglas and Mildred S. Dresselhaus. Professor French, who announced the selection at the faculty meeting in May, said the committee had received the names of 15 nominees from 11 different departments.

Professor Cohen graduated summa cum laude from Yale University in 1973 with a major in philosophy, and received the MA at the same time. He received a PhD in philosophy from Harvard University in 1979, the same year he became an assistant professor at MIT.

The selection committee, in its citation, included this quote from a letter it received about Dr. Cohen: "(His) singular accomplishment is to have created an intellectual and pedagogical role which integrates philosophy and political science at MIT. . . . What is especially striking and valuable is his genuine synthesis of these subjects, providing a fruitful perspective for both teaching and research."

As a scholar, the committee said, Professor Cohen "has already established a national and international reputation." His principal publication to date is the book, *On Democracy*,



written jointly with Joel Rogers. It has been praised by reviewers as an important contribution to an understanding of the nature of democracy in a capitalist society.

Professor Cohen was voted the best teacher in the Department of Political Science by the graduate students in that department, and he received the Institute-wide teaching award of the MIT Graduate Student Council in 1980.

Professor Lim was born in Korea and came to the United States in 1967. He received the SB from MIT in 1974, and proceeded via the SM and EE degrees to an ScD in 1978, the year he was appointed an assistant professor. It also was the beginning of a close and continuing association with MIT's Lincoln Laboratory.

The selection committee, in its citation, noted the abundance of testimonials to Dr. Lim's involvement in every single aspect of the academic life of MIT and noted him to be "in every respect a good citizen of the Institute." The citation included this quote from a letter it received about Dr. Lim: "(Jae) is thriving here, and the Institute is thriving with him. He injects terrific vitality into every effort he touches, and both he and everybody around him grows as a result."

Dr. Lim has worked in many aspects of digital signal processing. He is internationally recognized as a leading authority on speech enhancement, and edited a reprint book on speech enhancement, published in 1983. His expertise also includes speech processing, image processing and theories of digital signal processing. He is the author or joint author of more than 30 research papers in journals and has received paper prizes from the Boston Chapter of the Acoustical Society of America and from the IEEE ASSP Society.

"Along with this impressive productivity and achievement in research," the selection committee's citation read, "Professor Lim has earned a great reputation as a teacher of both undergraduate and graduate subjects in electrical engineering. His teaching has been marked by clarity, enthusiasm, and sensitivity to students." Professor Lim was voted the best teacher in his department by its graduate students and received the Graduate Student Council Department Teaching Award in 1984.



Press, Green celebrations set

Dr. Frank Press, president of the National Academy of Sciences, will return next week to MIT in connection with two anniversaries—one his own birthday.

At 4pm on Wednesday, October 3, Dr. Press will give the inaugural lecture in a series that will mark the 20th anniversary of the Cecil and Ida Green Building, home of the Department of Earth, Atmospheric and Planetary Sciences. From 1965 to 1977, Dr. Press headed the predecessor Department of Earth and Planetary Sciences.



The next day, Thursday, October 4, Dr. Press will be honored when scientists from throughout the world gather for a daylong

symposium on "The Science of Frank Press."

The inaugural lecture celebrating the anniversary of the Green Building will be given in McDermott Hall, Rm 54-100. President Paul E. Gray will introduce Dr. Press, whose topic will be "Science and National Policy for the 1980s."

The symposium honoring Dr. Press will begin at 9am in Kresge Auditorium. It anticipates his 60th birthday, which will occur December 4. The symposium has been arranged by the Department of Earth, Atmospheric and Planetary Sciences, headed by Dr. William F. Brace, Cecil and Ida Green Professor of Geology.

Dr. Press is internationally recognized for his research in seismology, for his study of the earth's interior, for his pioneering contributions in geophysics, oceanography and lunar and planetary science.

From 1977 to 1981 he was science advisor to President Carter.

The symposium chairmen are Dr. M. Nafi Toksoz, morning session, and Dr. Carl Wunsch, afternoon session, both of the Department of Earth, Atmospheric and Planetary Sciences.

The introduction will be given by Dr. Jerome B. Wiesner, Institute Professor and president, emeritus, at MIT.

The topics of the talks to be delivered at the symposium reflect Dr. Press' wide scientific and policy interests. Subjects include the politics of acid rain, earthquake prediction, seismology and the nuclear test ban.

TAP name change reflects scope

The Technology Adaptation Program changed its name to the Technology and Development Program, effective Sept 1.

Professor Fred Moavenzadeh of the Department of Civil Engineering, program director, said, "The new name reflects our work much more accurately. The program provides a locus for technological cooperation between MIT and institutions in developing countries. Its primary role is to share and mutually explore ways that available or new knowledge and techniques can be applied in developing countries' context."

TDP brings MIT faculty and researchers together with their counterparts in developing countries, in projects where their combined expertise will be useful in addressing issues of national importance. In its 12 years of work, TDP has undertaken major research projects in various developing countries throughout the world. These have involved more than 60 faculty members from 13 MIT departments.

The largest project has been in Egypt where TDP has cooperated very closely with Cairo University in setting up the Development

Research and Technological Planning Center, by providing technical and administrative assistance, sponsoring research, managing research projects and assisting them in identifying sources of financial support. As a result, the Center made enough progress so that it is moving toward financial and administrative self-sufficiency.

One of the most important aspects of this work in Egypt has been creating interest in, and a framework for, government-university cooperation, Professor Moavenzadeh said. Based on this success, TDP is initiating similar programs in Portugal and Turkey.

TDP has published the results of its research in a series of reports and monographs, and articles in scholarly and technical journals. The program has sponsored numerous conferences and short courses, on topics ranging from Energy and Development to plastics processing.

THE INSTITUTE CALENDAR

September 26-October 8

Seminars and Lectures Wednesday, September 26

TBA**—John Sculley, president and chief executive officer, Apple Computer Inc., Sloan School of Management 1984-85 Distinguished Speakers Series, 4:30pm, Rm E51-329.

Operational Testing of TCAS (Traffic Advisory and Collision Avoidance)**—Prof Walter M. Hollister, Dept of Aero & Astro, Aero & Astro Seminar, 4pm, Rm 33-418.

Two Navies—Ours and Theirs**—Capt. C. Graham, MIT Student Section of SNAME, 4:30pm, Rm 1-190.

Carbon Dioxide Surgery Using Infrared Fibers**—Prof Abraham Katzir, Tel Aviv University, Harvard-MIT Division of Health Sciences and Technology Seminar, George R. Harrison Spectroscopy Lab, and Wellman Labs of Mass General Hospital, 4pm, Rm E25-111.

Thursday, September 27

Fish Oil and a Healthy Heart**—Dr. William P. Castelli, Framingham Heart Study, MIT Seagrant "Coast-week in New England Seminar," 7pm, Rm 37-252.

Faraday Polarization Fluctuations of Transionospheric Propagation**—Dr. M.C. Lee, Air Force Geophysics Laboratory, Electronics Research Lab Seminar, 4:30pm, Rm 34-302.

Pronoun Reference**—Writing and Communication Center ESL Workshop, 4:15pm, Rm 14N-317.

NMR Imaging Contrast Agents**—Randall Lauffer, assistant in chemistry, MGH Dept of Radiology, Harvard-MIT Division of Health Sciences and Technology seminar, 4:50pm, Rm E25-117. Refreshments served.

The Surface of Venus**—Gordon H. Pettengill, MIT, Physics Colloquium, 4pm, Rm 26-100. Refreshments served at 3:30pm, Rm 26-110.

Migration Networks and Risk in Household Labor Decisions**—Prof Edward J. Taylor, Harvard University, MIT-Harvard Research Seminar on Migration and Development, 4:45pm, Harvard Center for Population Studies, 9 Bow St.

Friday, September 28

An Elementary Vortex Heat Engine**—Dr. Henry Melson Stommel, senior scientist, Woods Hole Oceanographic Institution, Center for Meteorology and Physical Oceanography, 6th Annual Victor Paul Starr Memorial Lecture, 3:30pm, Rm 9-150. Reception in Rm 54-927 following lecture.

Effect of Calcium on the Gasification of Carbon**—Joachim K. Floess, Chemical Engineering Seminar, 2pm, Rm 66-110.

Hydrogen Transfer from 1,4-Dihydronaphthalene to 9,10-Dimethylanthracene**—John M. Pope, Chemical Engineering Seminar, 3pm, Rm 66-110.

Quasielastic Light Scattered by Semi-Dilute Solutions at Theta Temperature**—Dr. Mireille Adam, Commissariat a l'Energie Atomique Service de Physique du Solide et de Resonance Magnetique, Center for Materials Science and Engineering Colloquium, 4pm, Rm 9-150. Coffee served at 3:30pm.

Alternative Identified Energy Functions in Thermodynamics**—Prof Paul A. Samuelson, Dept of Economics, MIT, Mechanical Engineering Colloquium, 3pm, Rm 3-133. Refreshments served at 4pm, Rm 1-114.

Monday, October 1

A Multidomain Spectral Method for Compressible Flow Computations**—Dr. David Kopriva, MIT, Applied Mathematics Colloquium, 4pm, Rm 2-338. Refreshments served at 3:30pm, Rm 2-349.

Optical Fiber Technology and Applications: Optical Detectors and Receivers**—Dr. Stewart Personick, Bell Communications Research, EECS & Communications Forum, 3:40pm, Rm 36-156.

Microsensors: A New Frontier**—Prof S.D. Senturia, MIT, Electrical Engineering and Computer Science Colloquium, 4pm, Rm 34-101. Refreshments served at 3:30pm.

Tuesday, October 2

The Mark III 20 Meter Astrometric Interferometer**—Dr. Michael Shao, Harvard-Smithsonian Center for Astrophysics, Astrophysics Colloquium, 4:15pm, Rm 37-252. Coffee served at 3:45pm.

The State of the Art and Near-Future in Bipolar Analog Circuit Design**—Barrie Gilbert, Analog Devices, Forest Grove, Oregon, VLSI Seminar, 4pm, Rm 34-101. Refreshments served at 3:30pm.

Stability Comparisons of Estimators**—Prof Don Andrews, Yale University, Statistics Seminar, 4pm, Rm E40-298. Refreshments served at 3:30pm, Rm E40-111.

Wednesday, October 3

Science and National Policy for the 1980s**—Dr. Frank Press, president, National Academy of Sciences, Inaugural lecture in series marking the 20th Anniversary of Cecil and Ida Green Building, 4pm, Rm 54-100.

The Future of the Medical Profession in a Commercialized Health Care System**—Arnold Relman, MD, editor, New England Journal of Medicine, Program in Science, Technology and Society Seminar, 4pm, Rm E51-144.

Determination of the Circulation of the North Eastern Atlantic by Inverse Methods**—Fabienne Gaillard MIT, Oceanography Sack Lunch Seminar, 12:10pm, Rm 54-915. Coffee and tea served; bring your lunch.

Thursday, October 4

Multichannel MDs: Wireless Cable**—Howard Klotz, Contemporary Communications and Peter Lemieux, MIT Information Architects, MIT Communications Forum, 4-6pm, Rm 10-105.

Ultraviolet Laser Abrasion of Animal and Human Tissue**—James J. Wynne, PhD and Ralph Linsker, PhD, MD, IBM-Thomas J. Watson Research Center, Harvard-MIT Division of Health Sciences & Technology, 4:50pm, Rm E25-117. Refreshments served.

Strange Matter**—Edward H. Farhi, MIT, Physics Colloquium, 4pm, Rm 26-100. Refreshments served at 3:30pm, Rm 26-110.

Friday, October 5

First Roman Jakobson Colloquium**—Avant-garde science of languages and literature and avant-garde art and poetry. Sponsored by the Dean of the School of Humanities and Social Sciences, 1-5pm, Rm 34-401.

Ion-Enhanced Gas-Surface Kinetics: The Si-Cl₂-Ar System**—Rebecca Rossen, Chemical Engineering Seminar, 2pm, Rm 66-110.

TBA**—Robert Prud'homme, Princeton, University, Chemical Engineering Seminar, 3pm, Rm 66-110.

Films

Rheological Behavior of Fluids and Cavitation**—Fluid Mechanics Film, Thurs, Sept 27, 4-5pm, Rm 3-270.

Low Reynolds Number Flows and An Interview with G.I. Taylor**—Fluid Mechanics Film, Thurs, Oct 4, 4-5pm, Rm 3-270.

Readings

1984 and Counting**—Gardner Dozois, author of *The Peacemaker*, Nebula Award Winner, Science Fiction Lecture, Oct 4, 8pm, Huntington Hall (Rm 10-280). Free.

Community Meetings

President Gray's Office Open Hours**—Wed, Oct 30; Thurs, Nov 29, 4-6pm; Wed, Dec 12, 4-5:30pm; Thurs, Feb 14; Tues, March 5; Wed, April 3; Wed, April 24; Tues, May 14. Open hours are 3:30-5:30pm unless otherwise indicated. Appointments for time with the president are accepted only on the day of Open Office Hours, and may be made by calling x3-4665 or dropping by the reception area in Rm 3-208.

Al-Anon**—Meetings every Tues, noon-1pm, Rm 18-290; 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 Ruth or Shirlee, x3-4911.

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

Medical Advisory Board**—Open first meeting of 1984-85, Oct 1, 12noon, Rm E23-297. Call x3-1316 if you would like to attend.

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

Commodore VIC Users Group**—meets monthly at noon time. For more info, call Gil, x8-3654 Draper.

Parent Support Group**—Medical Department sponsored meetings for parents with newborn to 2-yr-old children, Oct 9, 30, Nov 13, 27, Dec 11, 12-1pm, Rm E23-501. Expectant parents encouraged to attend. For more info, call Bette Livezey, x3-6320, Janette Hyde, x3-1744 or Medical Dept, x3-1316.

MIT Wives' Group**—Morning Group: Trip to John Hancock Tower & Copley Sq. Wed, Oct 3, meet 9:15am, in front of Eastgate (60 Wadsworth St). Children welcome; wear comfortable shoes. Afternoon Group: Getting Acquainted with Wives' Group Members in Your Neighborhood, Wed, Sept 26, 3-5pm, Student Center Rm 407. The Women's Movement Today, presented by Janet Murray, MIT School of Humanities and Social Sciences, Oct 3, 3-5pm, Student Center Rm 407. Babysitting provided in Rm 491. All women in the MIT community welcome.

The Language Conversation Exchange**—sponsored by the Wives' Group. Needs conversation partners for persons interested in practicing languages and exchanging language lessons, including practice in English with native speakers. Effort is made to match persons with similar interests and training. After they are put in contact, the partners make own arrangements. If interested, phone Julie Roberts, x3-1614.

The Second Self: Computers and the Human Spirit**—Dr. Sherry Turkle, MIT, MIT Women's Forum, Mon, Oct 1, 12-1pm, Rm 10-105.

Weekly Exercise Classes**—Tech Community Women classes taught by professional instructor Kim O'Brien, Mondays, through Dec 17, 7:30-8:30pm, DuPont Dance Studio (2nd flr DuPont Gym). Fee: \$21/TCW members, \$28/non-TCW members, 14 wks; Athletic Card required.

MIT Women's League Informal Needlework Group**—Wednesday lunchtime gatherings, 9:30am-1:30pm, Rm 10-340. Bring sack lunch, projects, swap ideas. Coffee and tea served. Meeting dates: Sept 26, Oct 10, 24 (Rm 10-344), Nov 14, 28, Dec 12.

MIT Activities Committee

MITAC, the MIT Activities Committee offers discount movie tickets for General Cinema (\$2.50), Showcase and Sack Theaters (\$2.75). Tickets are good 7 days a week, any 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 continue to purchase these discount passes from Malcolm Coley, Rm C-280, Mary Kowal, D-250, and Linda Wesley, C-447, Wed & Fri 1-3pm, 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).

Academy of St. Martin in the Field, Friday, Oct 12, Symphony Hall, 8pm. Tickets \$14 (reg \$15.50) in the MITAC Office.

Fall Foliage Tour, stopping in Amherst for lunch on your own and continuing to Mt. Greylock, Saturday, Oct 13, leave West Garage, 9am, return 6pm, \$12.50.

You Never Know, Cole Porter musical, BU Theatre, Wednesday, Oct 17, 8pm. Tickets \$12.50 (reg \$17.50) at the MITAC Office.

Ringling Bros and Barnum & Bailey Circus, Sunday, Oct 21, 11am; Tuesday, Oct 23, 7:30pm, Boston Garden. Tickets \$7.50 (reg \$9.50) at the MITAC Office. Don't miss this favorite!

Old Sturbridge Village, Sunday, Oct 28, leave West Garage, 8:30am, return to Cambridge about 5pm. Dine at the Tavern, have a lunch basket prepared or bring a picnic lunch. Tickets: \$13.50/adults, \$10.50/children.

Bella Davidovitch, Russian pianist performs program of Chopin and Schumann, Friday, Nov 9, Symphony Hall, 8pm. Tickets \$15 (reg \$16.50) available in Rm 20A-023.

Holiday Night at the Museum of Science, Nov 30, 5-10pm. Join us in celebrating our new membership. Admission and a wine and cheese party are included for \$1 (children under 12 free). Reduced parking fee with MITAC validation. Tickets must be purchased in advance!

Boston Children's Theatre Present Peter Pan, Dec 8, 2pm, New England Life Hall. Limited number of tickets available in the MITAC Office at \$3.50 (reg \$4.50).

New City Books coming in October for only \$5.00!

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 non-refundable due to the non-profit nature of our organization.



Pianist Paul Orgel will open MIT's Affiliated Artist Concert Series Friday, Sept. 28, at 8:30 pm in Kresge Auditorium. His program will include Bach's Andante in G Minor, Prelude and Fughetta in G, BWV 902, and Two-Part Invention No.10 in G, BWV 772; Schumann's *Kresleriana Fantasien* Op. 16, and Schubert's Sonata in C Minor, Opus Posthumous. Mr. Orgel is visiting professor of piano at Wesleyan University and also teaches at The Music School at Rivers in Weston, Mass.

—Photo by Clarise Snyder

Movies

Aus Einem Deutschen Leben (A German Life) (with English subtitles)**—MIT Foreign Languages and Literatures Section/Goethe Institute, Boston film series on The Third Reich in the Films of the Federal Republic of Germany, Thurs, Sept 27, 7:30pm, Rm 10-250. Free.

Mein Kampf (with English subtitles)**—MIT Foreign Languages and Literatures Section/Goethe Institute, Boston film series on The Third Reich in the Films of the Federal Republic of Germany, Fri, Sept 28, 7:30pm, Rm 54-100. Free.

Educating Rita**—LSC Movie, Sept 28, 7&10, Rm 26-100. Admission: \$1 w/MIT or Wellesley ID.

Mutiny on the Bounty**—LSC Classic Movie, Sept 28, 7:30pm, Rm 10-250. Admission: \$1 w/MIT or Wellesley ID.

Kirmes (with English subtitles)**—MIT Foreign Languages and Literatures Section/Goethe Institute, Boston film series on The Third Reich in the Films of the Federal Republic of Germany, Sat, Sept 29, 7:30pm, Rm 10-250. Free.

Vertigo**—LSC Movie, Sept 29, 7&10, Kresge. Admission: \$1 w/MIT or Wellesley ID.

Die Patriotin (with English subtitles)**—MIT Foreign Languages and Literatures Section/Goethe Institute, Boston film series on The Third Reich in the Films of the Federal Republic of Germany, Sun, Sept 30, 7:30pm, Rm 10-250. Free.

The Paper Chase**—LSC Movie, Sept 30, 6:30&9:30, Rm 26-100. Admission: \$1 w/MIT or Wellesley ID.

Die Weisse Rose (with English subtitles)**—MIT Foreign Languages and Literatures Section/Goethe Institute, Boston film series on The Third Reich in the Films of the Federal Republic of Germany, Mon, Oct 1, 7:30pm, Rm 10-250. Introduced by German film critic Wolf Donner. Free.

Die Kinder aus Nr. 67 (with English subtitles)**—MIT Foreign Languages and Literatures Section/Goethe Institute, Boston film series on The Third Reich in the Films of the Federal Republic of Germany, Tues, Oct 2, 7:30pm, Rm 10-250. Free.

All That Jazz**—LSC Movie, Oct 5, 7&10, Rm 26-100. Admission: \$1 w/MIT or Wellesley ID.

Rebel Without a Cause**—LSC Classic Movie, Oct 5, 7:30pm, Rm 10-250. Admission: \$1 w/MIT or Wellesley ID.

Unfaithfully Yours**—LSC Movie, Oct 6, 7&9:30, Rm 26-100. Admission: \$1 w/MIT or Wellesley ID.

The Odessa File**—LSC Movie, Oct 7, 6:30&9:30, Rm 26-100. Admission: \$1 w/MIT or Wellesley ID.

Music

MIT Women's Chorale**—First rehearsal, Thurs, Sept 27, 7:45pm, Rm 10-340. Get in the "sing" of things! Join us Thursdays, for 2 hours, to sing a variety of music from medieval through contemporary. Open to MIT-Harvard Community. For info, call 876-3517.

MIT Choral Society**—Open rehearsal and auditions, Mon, Sept 24, 7:30, Rm 2-190 (note date change). No preparation necessary. Fall performance of Handel's *Messiah*, Nov 30, conducted by John Oliver. For more info, call x3-2906.

Noon Hour Chapel Concert**—Susan Larson, soprano; Claudia Von Canon, soprano, Stephanie Wingfield, cello; John Finney, harpsichord, perform works of Carissimi, Scarlatti, Handel and Rossini, Thurs, Sept 27, 12noon, MIT Chapel. Free.

MIT Affiliated Artist Concert**—Paul Orgel, piano, performs Bach, Schumann and Schubert, Fri, Sept 28, 8:30pm, Kresge Auditorium. Free.

MIT Affiliated Artist Concert**—James David Christie, harpsichord, performs music of J.S. Bach, with guest soloists: Fenwick Smith, flute; Gerald Elias, violin; John Finney, harpsichord, Sun, Sept 30, 8pm, MIT Chapel. Free.

Noon Hour Chapel Concert**—Musical Offering of Boston, A Concert of Italian Baroque Music, Susan Brodie, soprano; Jane Lewis, baroque oboe; Shannon Snapp, baroque cello; Peter Sykes, harpsichord, Thurs, Oct 4, 12noon, MIT Chapel. Free.

Theater

Of Thee I Sing Auditions—MIT Musical Theatre Guild, Sept 26*(Open to Public, No MIT Students), 7pm, Student Center. Bring a prepared song; call x3-6294 for more info.

An Evening of One-Act Plays**—MIT Dramashop, Oct 4, 8pm, Kresge Little Theatre. Coffee hour critique following performances. Free.

Dance

MIT Dance Workshop**—Beth Soll, director. Workshops, Regular meetings: Beginning Modern Technique, M/W, 3-5pm, T-Club Lounge; Improvisation/Composition, Thurs, 3-5pm, T-Club Lounge; Intermediate Modern Technique, T/Th, 5:30-7pm, Walker 201.

Children's Dance Classes**—Pamela Day, instructor. Creative movement/modern dance classes for children 3-12, West Campus location; children and mothers do not have to speak English. Classes begin end of Sept. For more info and schedule, call Pamela, x3-5758.

Women's Rhythmic Gymnastics Classes**—T/Th, 5pm, T-Club Lounge. For information call Yana, x3-2427 or Helena, 526-2396.

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.

Yoga**—ongoing classes in traditional Hatha and Iyengar style. Beginners: Mon, 7:20pm; Intermediates: Mon, 5:45pm; all levels: Fri, 12:05pm. For information call Ei Turchinetz, 862-2613.

Exhibits

THE MIT MUSEUM

Flowers As Images: Abstractions Through a Macro-lens by Vernon M. Ingram. Macrophotographs in color by Prof. Ingram, MIT, through Oct. Etched in Sunlight: Samuel V. Chamberlain '18, Lithographs, etchings and photographs, through Nov 16. Weavings of Guatemala, early 20th-century ceremonial and everyday clothing demonstrates technical skill and use of color dynamics, through Feb 20. All Mankind, Photographs taken on assignment throughout the world by former Christian Science Monitor photographer Gordon Converse, through Oct 24. Kites, Expressions of kite flying, oil paintings by Ray Parks, through Oct 31. Hours: Weekdays, 9am-10pm M-F, Saturdays 10am-4pm.

Compton Gallery

RING THE BANJAR! The Banjo in America from Folklore to Factory. Robert Webb, curator. The musical, social and technological history will be shown by more than 50 instruments. Through Sept 29, 1984. Hours: Weekdays 9-5pm, Saturdays 10-4pm.

Hart Nautical Gallery

C. Allard: Artist to Dutch Merchants 17th-Century etchings depicting the watercraft and marine activities of the time. Through Jan 23, 1985.

Robert Fulton: Engineer and Artist, Fulton's patent specifications of 1809 and 1810 for his steamboat. Twenty-one drawings and one self-portrait. Through April 30, 1985.

Ongoing exhibits: **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: Rogers Building, 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: Solar Energy, Society of the Sigma Xi. Building 14N, across from Rm 14N-118. **Happy Birthday Mr. Killian**, 24 July 1904 photographic display in honor of the 80th birthday of the President Emeritus.

OTHER EXHIBITS

Institute Archives and Special Collections—Planning the New Technology. Part One: John Ripley Freeman. The first of a three-part series about the relocation of "Technology" (MIT) from Copley Square to Cambridge highlights the plans of Freeman whose ideas on interconnected buildings were rejected as "too wide a departure from accepted methods." Hall exhibit case across from Rm 14N-118.

MIT Faculty Club—Caribbean Reflections/Barbados, Photographs by Linda Accurullo, M-F, through Sept 28.

Jerome B. Wiesner Student Art Gallery—for 1984-85 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: Sept 26: Men's Tennis vs Boston U, 3pm; Women's Tennis vs Emmanuel, 3:30pm; Soccer vs Babson, 3pm. Sept 28: Baseball MIT Fall Classic (vs Brandeis), 1:30pm. Sept 29-30: Baseball MIT Fall Classic. Sept 29: Women's Soccer vs Regis, 2pm; Water Polo MIT Invitational; Men's Sailing Single-Handed Championship Elimination, 9:30am; Soccer vs Bates, 2pm; Golf vs Bowdoin, Springfield, 1:15pm; Men's Rugby vs Holy Cross, 1pm. Sept 30: Men's Sailing Northern Series I, 9:30am. Oct 2: Women's Soccer vs Wellesley, 3:30pm; Women's Tennis vs Clark, 3:30pm; Soccer vs Brandeis, 3pm. Oct 4: Women's Tennis vs Babson, 3:30pm; Baseball vs Mass Bay CC, 3:15pm; Women's Field Hockey vs Franklin Pierce, 4pm. Oct 6: Women's Sailing MIT Invitational, Laser Invitational, and Windsurfer Invitational, 9:30am; Soccer vs Suffolk, 10am; Football vs Manhattan, 1:30pm; Oct 7: Men's Sailing Smith Trophy, 9:30am.

Wellesley Events

Jewett Arts Center—The Permanent Collection, through Jan 20; **Master Prints from the 16th-20th Centuries**, through Oct 14; **French Art of the 19th Century**, through Oct 14. Hours: M-Sat, 10am-5pm, Sun 2-5pm. Free.

Evening Services, Rosh Hashanah—Sept 26, 6pm, Hillel Lounge, Schneider Student Center. Open to public.

Rosh Hashanah Services—Sept 27, 10am, Hillel Lounge, Schneider Student Center. Open to public.

Concert—Shawm and Sackbut with Organ, Sept 30, 8pm, Houghton Memorial Chapel.

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

Send notices for Wednesday, October 3 through Sunday October 21 to Calendar Editor Rm 5-113, before noon, Friday September 28.



AUTO CONFERENCE SPEAKER—Philip Caldwell, Ford Motor Co. chairman, second from right, was the opening-day luncheon speaker last week at the symposium on The Future of the Automobile, attended by about 400 persons. With Mr. Caldwell are, from left, Dr. David S. Saxon, chairman of the MIT Corporation, and Professors Daniel Roos and Alan Altshuler, codirectors of MIT's International Automobile Program. Dr. Roos is director of the Center for Transportation Studies. Dr. Altshuler, dean of the School of Public Administration at New York University, was head of the MIT Department of Political Science when the auto study was organized four years ago. The MIT Press has published a hard-cover edition of *The Future of the Automobile*, of which more than 2,000 copies have been shipped since the September 5 release date.

—Photo by Calvin Campbell

Whitaker symposium planned

A Symposium on Biomedical Research will be held Wednesday, Oct. 10, at 1:30pm in Whitaker College (E25-111) to commemorate the tenth anniversary of the establishment of the Whitaker Health Sciences Fund.

The program will present five former graduate fellows and recipients of faculty research grants who have made substantial contributions to biomedical research. The speakers and their topics are:

Dr. Ann M. Graybiel, professor of neuroanatomy, "Dopamine and Other Neurotransmitters in the Basal Ganglia." Dr. Graybiel holds a joint appointment in the Department of Psychology and the Whitaker College of Health Sciences, Technology and Management at MIT.

Dr. Samuel A. Latt, "Optical and Molecular Studies of Human Chromosomes." Dr. Latt is a faculty member in the Department of Pediatrics at Harvard Medical School.

Dr. Robert W. Mann, "Mechanogenesis of Osteoarthritis." Dr. Mann is Whitaker Professor of Biomedical Engineering in the Department of Mechanical Engineering at MIT.

Dr. Gail E. Sonenshein, "Regulation of Oncogene Expression in Eukaryotic Cells." Dr. Sonenshein is a faculty member in the Department of Biochemistry at Boston University School of Medicine.

Dr. Stephen C. Jones, "Autoradiographic Studies on Cerebral Blood Flow and Metabolism." Dr. Jones is a faculty member in the Department of Neurology at the University of Pennsylvania.

US should rely more on its experts

An MIT political scientist says US governments should rely more heavily on expertise available to them from a variety of sources, including past presidents and secretaries of state, to avoid the "twistings, turnings and outright somersaults" of the nation's foreign policy.

"The most disturbing aspect of recent presidents' performance in this sense," states Dr. Lincoln P. Bloomfield, "has been their steadily decreasing reliance on professional bureaucracies and on the indispensable knowledge career experts can supply about history, politics, economics, culture psychology, technology, and the track records of other players in the international game."

"The problem arises in part," he adds, "from the recent tendency of presidents to entrust crucial foreign-policy issues to their White House staffs rather than to the State Department. But even the cabinet departments with formal national security responsibilities are increasingly staffed down to their middle levels with political appointees..."

Dr. Bloomfield, professor of political science, states his views in the summer issue of *Foreign Policy* magazine. He served in the State Department for 11 years and the National Security Council in 1979-80.

The place of competent senior officials in the policy machine needs substantial upgrading if the United States is to reduce the high costs of amateurism at the top," Professor Bloomfield writes.

He believes that at least two-thirds of the country's top-level foreign-policy slots—ambassadors, assistant secretaries and their immediate deputies, and senior NSC staff members—should be reserved "for the ablest career Foreign Service officers and civil servants."

He would reserve the remaining one-third of these posts for political appointees and other outsiders to "satisfy the need for new blood and political rewards."

The Whitaker Health Sciences Fund provides support for graduate students and young faculty members working in biomedical research. It was established by the late U.A. Whitaker, founder of AMP, Incorporated, and continued by his late wife Helen Fisher Whitaker, for both of whom the Whitaker College of Health Sciences, Technology and Management is named. Mr. Whitaker was a 1923 graduate of MIT.

Though located at MIT, the Whitaker Health Sciences Fund is an independent entity. One of its unique features is that it supports collaborative research between faculty members at MIT and Harvard Medical School and MIT and Boston University School of Medicine. It recently announced plans to extend the program to collaborations between MIT and Tufts University School of Medicine.

Since its inception, the Fund has supported 120 MIT projects (including renewals) and 90 collaborations between MIT faculty members and those at participating institutions. The present level of funding is about \$40,000 per year for each project.

Some 90 graduate students at MIT, Whitaker College and the Harvard-MIT Division of Health Sciences and Technology have received support from the Fund for the final stages of their doctoral studies. The fellowships are available in the fields of medical physics, medical engineering, biomedical engineering, neurosciences and health care policy and management in addition to traditional medical and biological fields.

In addition, he says, the US should adopt "the valuable position of permanent under-secretary found in parliamentary systems." In all major departments engaged in foreign and defense policy, he states, "eminent senior career officials should hold a new number-three post designated permanent deputy secretary."

Professor Bloomfield also believes the government should "make far more systematic use of the national resource of experience and learned wisdom that reposes in past leadership."

"The United States has had six presidents and eight secretaries of state since 1960, but this priceless talent pool is treated by America's throwaway society like any other disposable commodity," he writes.

"Upon leaving office, American presidents acquire a marginally politer version of the nonperson status Soviets sometimes assign their fallen leaders," he adds. "Many former presidents have little to do but hustle for publishers' advances, an activity that is not only unseemly but cheats the country out of any return on the enormous investment it makes in educating its presidents. Former presidents and former secretaries of state are rarely brought into the policy process by sitting administrations on anything more than an informal, haphazard basis."

ME researcher wins award

Douglas Olson of Somerville, a PhD candidate in the Department of Mechanical Engineering, recently received the Owens Corning Research Award. The award will support his thesis research, supervised by Dr. Leon Glicksman, aimed at establishing heat and mass transfer rates in building interior spaces. The objective of the research, which is being carried out in a scale model research facility, is to provide data and design techniques for establishing comfortable and energy efficient building systems.

Edison makes Athena grant

The Boston Edison Foundation has made a five-year \$500,000 grant to MIT to support experiments conducted under Project Athena, a multi-million dollar effort to explore the use of large-scale networks of computers to improve college-level teaching and learning.

Project Athena, named for the Greek goddess of wisdom, was started at MIT a year ago when Digital Equipment Corporation and IBM, Inc., announced they would provide the university with \$50 million in computer equipment—including 3,000 personal computers.

At the same time, the university announced a campaign to raise an additional \$20 million to support Project Athena's experimental programs that cover virtually every aspect of the university's academic program—from engineering to the humanities, from science to foreign languages.

The Boston Edison grant toward the experimental program was announced by Thomas J. Galligan, Jr., chairman of the board of Boston Edison Company, and by MIT President Paul E. Gray.

President Gray described the Boston Edison grant as being of key importance.

"We look to Project Athena to revolu-

tionize the ways in which we learn and share information," he said, "in industry as well as in academia. This major grant by Boston Edison is particularly encouraging because it comes early in the development of Athena, and because it reflects strong industrial interest in this project."

Dr. Gerald L. Wilson, dean of the MIT School of Engineering, said the university has achieved nearly half of its goal of \$20 million to support Athena experiments.

More than 50 different experiments in teaching and learning already have been started, Dean Wilson said, and scores more are being planned by faculty throughout the university.

"We expect that the results of MIT's Athena experiments ultimately will be taken up and applied at colleges and universities throughout the US," he said. "Moreover, the same concepts and approaches that enrich collegiate education likewise will be felt in industry—in terms of better educations for graduates who follow careers in industry and in terms of industrial settings in which teaching and learning take place."

The Project Athena grant is the largest single grant ever made by the Boston Edison Foundation.

Series to present scifi authors

Four widely known science fiction writers will come to MIT this fall in a reading series sponsored by the Writing Program.

First will be Gardner Dozois, whose novel *Strangers*, was a Hugo and Nebula award finalist, on October 4, at 8 pm in Huntington Hall (10-250). The community and the public are invited without charge.

"Fiction forms dealing with science and applied science are inherently interesting to students here," said James Paradis, Associate Professor of Technical Communication and head of the Writing Program. "While science fiction is not always widely recognized in academic spheres, it is a vigorous form of fiction and we've been interested in giving it a place."

The invited authors were enthusiastic about coming here, Professor Paradis said. "This is the sort of place that sparks their imagination. MIT is their temple, so to speak."

Chairman of the readings series is visiting associate professor Joe Haldeman, whose book, *The Forever War*, won the Hugo, Nebula and Ditmar Awards as the best science fiction novel of 1975.

Mr. Haldeman teaches the "Writing Science Fiction" subject, a class which is consistently over-subscribed, according to Professor Paradis. "We find students here are extreme-

ly interested in creating the kind of narratives they write for this class," he said.

Both Haldeman and Dozois have won many awards for their science fiction. Mr. Dozois edits the annual series, *The Year's Best Science Fiction*.

Other writers appearing in the series will be: November 1, Thomas M. Disch, whose books include *The Genocides*, 334 and *Camp Concentration*; November 15: Joan Vinge, whose books include *World's End* and who wrote a children's storybook *The Return of the Jedi*, as well as the *Dune Storybook* movie tie-in; and November 29: Jack Dann, whose novels include *Starhiker*, *Junction* and, most recently, *The Man Who Melted*.

He and Mr. Dozois collaborated on editing two recently published anthologies, *Unicorns!* and *Magcats!* All four writers have won many awards for their novels and short stories.

All readings will be in Rm 10-250 at 8 pm.

The Science Fiction Society, a student activity, is known as having one of the largest and most outstanding collections of science fiction in the world, according to Professor Paradis. This group, whose chairman this year is Janice Eisen '85, moved last year into larger quarters at the Student Center. Their office and library is now located in Room 473.

Tennis coaches present papers

By KEN CERINO

Sports Information Director

MIT tennis coaches Candy Royer and Bob Bayliss were among the featured speakers recently at the United States Tennis Association (USTA) National Teachers Conference in New York City.

Royer presented two clinics on "Adapting Your Teaching to the Skill of Your Athletes," and "Differences in Training Men and Women." Bayliss gave a seminar on "Changing the Games of Tournament Players."

The conference, which included an appearance by Jimmy Arias (ranked sixth in the world), attracted 57 of the industry's top spokespersons who made presentations on competition, motivation, computers, tennis research, and health and fitness.

Royer is starting her fourth year as head women's tennis coach at MIT. A graduate of Penn State University where she coached the women's tennis team for four years, Royer also serves as an assistant professor of physical education in the MIT Department of Athletics.

Royer is a USTA professional who has served as secretary and regional vice president of the Middle States Division. She is currently the Massachusetts State Chairperson for Tennis, and a member of both the Eastern College Athletic Conference and the NCAA Division III Selection and Seeding tennis committees.

Bayliss, a graduate of the University of Richmond, joined the MIT staff as head men's tennis and squash coach earlier this summer after coaching both sports at the US Naval

Academy in Annapolis, Md. In 15 years as head tennis coach, his Midshipmen compiled an impressive 248-80 record. Bayliss was selected as the 1980 National Collegiate coach-of-the-year by the US Professional Tennis Association and three times was named Mid-Atlantic coach-of-the-year. He also served six terms as President of the Eastern Intercollegiate Tennis Coaches Association.

Bayliss succeeds Jim Taylor who coached both sports on an interim basis last year following the retirement of Ed Crocker. Taylor will remain as part-time assistant coach in both men's tennis and squash. Bayliss, meanwhile, will also serve as an assistant professor of physical education in addition to his coaching duties.

Lipsky testifies on food

Dr. Michael Lipsky, professor of political science at MIT, testified in Washington, D.C., before the House Select Committee on Hunger September 20 on the federal surplus commodity distribution program.

Professor Lipsky based his testimony on research he is doing on hunger and food policy in the US. The research is sponsored in part by the William H. Donner foundation of New York City.

Professor Lipsky focused on the role of food banks and community action programs in distributing surplus cheese and other commodities, and expressed concern about the effects of bureaucracy on the program.

Sigma Chi wins two awards

The Sigma Chi Chapter at MIT received both the Peterson Significant Chapter Award and the Legion of Honor Scholarship Award from the International Fraternity at its 37th annual Leadership Training Workshop held at Kansas State University August 9-12.

The Peterson Award, the highest honor an undergraduate chapter can achieve, recognizes outstanding performance in all major fields of operations, programs and activities. Sixty-four of the Fraternity's 188 chapters won the distinction for the 1983-84 academic year. The Legion of Honor Award is given to campus chapters selected as having commendable scholarship programs. It went to 49 chapters in 1983-84.

Bloomfield film

A cable television film adapted from a geo-political scenario by Professor Lincoln P. Bloomfield of MIT's Political Science Department will debut on Home Box Office (HBO) on Sunday, Oct. 14.

The movie, *Countdown to Looking Glass*, tells the story of nine days of international intrigue in the Middle East that propel the world toward nuclear war.

Dr. Bloomfield, professor of political science and formerly with the State Department and National Security Council, appears in the film. He was among the special guests at the film's world premier Tuesday (Sept. 25) in New York City.

CLASSIFIED ADS

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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 5-113 to present Institute identification. Ads using extensions may be sent via Institute mail.

Deadline is noon Friday before publication.

For Sale

5-pc solid mahog antq BR set, exc cond, \$900 or best. Amrcn oriental dagn rug, 12x12, \$125 or best. Joy Biller, x3-5486.

Raleigh 3-spd M's bike, gd cond, \$85. Dave, 323-3725.

Compaq prsnl cmpr, 2 drv, 256K systm, parallel prt, game port, game ctrdrg inc, nw cond, pntly sftwr, \$2,500. Todd, 536-3931.

United Airline tckt to Chicago, \$75. Kai Le Lie, 738-9125.

19 fiberglass boat L/O OMC Tri-hull w/trailer, 200hp, V8, now in wtr at Green Harbor, \$1,700 or best. Susan, x3-3994 or 837-2270.

Full-sz mttrss & bx spr, frm & hbrd, \$50. Robert, x3-4113 or 894-5562.

BMW 2002 parts, too many to list, all ranbly priced. Phil, x8-3633 Draper or 584-9386.

Wedding gown, sz 7 w/detchbl train, \$50 or best. Ann, x7314 Linc.

Conn Conquest trombone, gd stndt hrn, slvr fnsh, gd cond, slide rntly rewkd, \$200. Margaret, x5-9694 dorm or 494-8051.

Frplic, free stndng, mdrn, mtl, 29wz23dx32h, \$100 or best. Douglas, x3-6900.

4 br nw Visual 300 smart trmnl, will intrfc to any cmpr or modm, nw \$1,200, asking \$600 ea or \$2,000 for all 4. Gil, x8-3939 Draper.

Rckr, \$20; wd-staind htch, 5 drws, 4 shlv, 2 cabnta, exc cond, \$175; 2 pc Colt indr/outr rllr skts, szes 7 & 8, like nw, \$15 ea; golf cart, exc cond, \$15. J May, x8-2843 Draper or 354-8216 after 5pm.

Osbornel cmpr, 64K, 2 drvs, modm, all sftwr, 4 pen colr pltr/prntr, dBase II, ext ambr mntr, all dcmnt, all cabla, mny books, like nw, \$1,200. Rob, 494-9330.

Digital synthzr, grt sound, can be intrfd to PC, mat sell, \$250 or best. Call 494-0328 evs.

Love seat, exc cond, \$25. Call 986-8062.

DR tbl, solid mahog, 42x57, drop leaf w/2-10 leaf inartr, Chippendale ball & claw feet, hnd crvd, semi-antq, exc cond, \$250. Call 484-0802 1-8pm.

Smith Corona mnl typwrtr w/case, vgd cond, \$25; sm elec ovrn w/timr, \$20; elec fry pan w/cvr & thrmstat cntrl, \$10. Matti, x3-4152.

Br nw 8-pc actnl LR set, beige, still has tags, was \$3,600, asking \$1,600; beige plaid couch & sofa bed, perf cond, was \$799, asking \$350. Deborah, x3-3701 or 528-2413.

Ice skts, W sz 5, white, wrn 5 times, \$10; Yrd Sale, Sat Sept 29, 9am-3pm, 41 Granite St, nr Stop & Shop on Mem Dr, betw Pearl & Magazine Sta. Pam, x3-3123.

Ktchn set, round forma-toppd tbl, 41, w/1 leaf & 4 mapl chrs, \$75. Henry, x3733 Linc.

Persian orientls: Serock 7x45, \$700, Shiraz, 4x6, \$350; Seraban, 16-2x3-8, \$350; Hamadan, 3x5, \$60; 100% wool, pale grn, bounded carpt, 12x12, \$125; 2 Delta snw trs, nw \$40; 4 rims, fit BMW or Nova, \$15 ea; 12x9 rug pad \$5. call x3-6085.

Phone w/redial bttn, \$10; Johnson Bros, English irnstrn dnrv for 8, \$40; W's wnter & sprng coats, sz 7, \$40 & \$15; redwd plant stnd, hlds 2, \$10; Nikon 35mm camra w/Vivitar fsh, \$200; lrg curtn rod, almat nw, \$12; mscok ktrch itms, \$25-4; garnt, jade & crystal chains, \$12-45. Call x3-3438 or 492-5162.

Solid mahog chat of drws, 36x47, \$125; cffee tbl, glasa top, 48x20, \$25; oak dak chr, \$50; dak lmp, \$4; bookends, \$3; Fabware elec broilr, \$9. George, 643-4283.

2 afghan rugs, 3x5, \$350 ea or \$600/both. Atul, 354-5001.

Reclning chr, green, fair cond, \$20. Dennis or Tom, 864-4870 evs.

Sears gas clths dryr, \$125; multi-cold shag rug, approx 12x18, w/pads, exc cond, \$100. Call 438-1156 evs.

Smith Corona elec typwrtr, \$100; Smith Corona mnl typwrtr, bat offr, both gd cond; mtl typwrtr stnd, bat offr; 2 ovrzsd armchr, green & red, \$40 ea. Call 926-2317.

BIC mdl 780 trntbl, dret drv, varbl spd, \$75 or best; Vitamaster exrc bike, 2 yrs old, exc cond, \$75 firm; wrdrb-sz mving bxes, 2/\$7. Call 938-8565.

Kenmore 2.5 cu ft fridge, \$100 or best. Jim, x3-3685 or 646-4067.

Prtbl 11 b&w Panasonic tv, wrks well, asking \$30. Julie, x3-8291 or 628-8081 evs.

3-ply natrl yrn frm MA-grwn sheep, cmrcilly spun at Bartlettys in ME, 4-oz skeins, \$3/skein. Merle, x183-202 Bates.

Sears boy's banana type bike, 20, chrn, gd cond, \$45. Chris Kirchberg, x3-4765.

WWII jungl hmck, nds rewtrprfng & minr rpr, othrws v gd cond, \$20. Wade, x183-319 Bates or 783-0263.

Piano, nice old upr, exc actn & tone, big sound, hlds tune, only \$700 because it's painted brwn. Call 625-8555 evs.

Apt furn: love seat, \$60; 2 uphstrd rckrs, \$20 ea; 2 cffee tbls, \$10 ea; 2 end tbls, \$5 ea; shlvng, \$5. Kim, x3-4366 or 862-5634 evs.

Early Am secrtry, bkcase & chr, v gd cond, \$175; Strolee car seat w/cvr, \$30; baby scale, \$6. Peter, 787-0613.

Hotpoint dshwahr, \$50. Derek or Susan, x3-6557 or 354-3329.

Frigidaire cntnrtp 4 brnr elec stv, copp-rtone, gd cond, \$45. Harry, x2068 Linc.

Delx fldng card tbl & 4 mtching chrs, \$60; steamr trnk, \$20. Alan, x3-7062.

X-cntry skia, 180cm, waxbl, \$20 or best; Frigidaire fridge, \$35 or best, you arrange pick-up & delvry. Francine, 494-8515.

2 10-spd bikes: W's Shogun, 26, 1-yr-old, exc cond, inc Citadel lck & Bell hlmt, \$150 or best; M's St. Tropez, 27, exc cond inc Citadel lck & shoe clips, \$125 or best. Laura, x3-3707 or 265-7653 or Irene, 843-1822.

Couch, love seat & armchr, mtching set, \$150 or best; elec typwrtr, br nw cond, \$100 or best. Danny, x5-6453 dorm evs & wknds.

Sony CFS-45 FM stereo/FM-AM rcvr, stereo casa rcdr, exc cond, \$60; Harmony-Sovereign guitr, steel 6-strng, \$30. Jim Marcum x3-8803.

Etonic scrr cleats "Maracaha," v gd cond, \$20; Adidas World Cup 78 scrr cleats, like nw, \$35; Adidas scrr cleats, gd cond, \$10, all sz 8. Call x3-5235 or 729-5837.

Q Anne wng chr, lt blue velvt, v gd cond, \$55; mod casual Pier 1 chr, \$40; playpen, \$15. Call 734-8065.

Contec AM/FM, mdl 8822A, 2-bnd stereo dbl casa rcdr w/2-way, 4 spkr sys, auto stop sys, br nw, \$160; Sony AM/FM/casa stereo, mdl CFS-45, w/auto music senar, \$70. Ken, x3-7946 or 444-1322.

Drcr's chrs, \$10; end tbls, \$20; 2 blond hghboy drssrs, \$100 ea, exc cond. Call 484-2955 after 6pm.

Formca ktchn tbl & 4 chrs, chrn w/blond wd & wckr seats, \$85. Bert, x3-6586.

Sony 17 colr tv, \$185; twin bed, \$50; W's bkd, \$50; dinnr set for 8, \$20; GE iron, \$5. Mayo, 731-0293.

Royal 440 typwrtr, office machn, exc cond, \$50. Call 646-5298.

Apple II, 128K, Apple III mntr, addnl dsk drv, 2 yrs' old, \$1,500 or best; Visical & state-of-art genrl ledgr acctng sftwr, nego. Bruce, x3-7944 or 232-8523.

Vehicles

'70 Volvo 142S, white, 1-ownr, gd cond, \$400 or best. Gail, x8-1188 Draper or 584-6710.

'71 VW Squareback, basic trnsprt, cheap at \$300. Call 876-0390, 6pm-midnight.

'71 VW Squareback, orig ownr, gd cond, \$700. Jim, x7475 Linc or 861-1884.

'71 Toyota Corona, 120K, gd mech cond, mntr rat, mny spare prt, \$850 nego. Bill, x8-1485 Draper or 489-2805.

'72 VW Kharmin Ghia, cute, yellw, nds gd hm, fun to drv, gd cond, 4 nw trs & nw flr, \$1,200 or best. Connie, x8-5171 Draper or 497-9707.

'72 Volvo 145 wgn for parts, gd eng, bat offr. Call 924-3656 evs.

'73 Volvo 142, auto, 58K, AM/FM-8-trk, v gd cond. Ehud, x8-3182 Draper or 643-7414.

'73 Saab 99 EMS, 4-spd mnl, 82K, nw eng, cltch, batt, Blaupunkt radio, orig ownr, gd rning cond, \$1,200 or best. Marvin, x3-1660.

'73 Plymouth Fury wgn, 400 cu in, trailr hitch, lugg rck, v rbl, 71K, gd int, \$650 or best. Jeff, 734-7757 after 6pm.

'74 VW Superbug, semiauto, gd eng, nw carb, 93.5K, nds bdy wrk, \$850. Eleanor, x3-3092.

'75 Fiat 131 sta wgn, auto, 4 cyl, 5-dr, red, AM/FM/casa, nw strtr & brks, 2 snw trs xtra, \$1,150. Abdel, x3-3198 or 494-1611.

'75 AMC Gremlin, 6 cyl, ps, pb, a/c, gd cond thruout, \$650 or best. Warren, x3-4166.

'75 Honda CB 360 mtrcyl, nds wrk for inscpn stkr, lo mi, rns well, mat see to aprciate. Rob, x3-4198 or 878-2459 after 6pm.

'76 Toyota Corolla, 103K, relbl trns, eng well-maint, snw trs, mat sell by 9/30, \$800 or best. Call 734-2382 evs or wknds.

'76 Chevy Malibu wgn, 8 cyl, all pwr, a/c, gd bdy, \$800. Jim, 935-3067.

'76 AMC, 6 cyl, 80K, 4-dr, a/c, mny nw prt, asking \$900. Call 739-1069 or 738-7111.

'76 Honda CVCC, nds some eng wrk, nw brks, rad, \$500 or best. Lucie, x3-8984 or 623-5009.

'76 Datsun B210, looks bad but rns v well, nw batt, shcks, trs, \$500 or best; '82 Kawasaki GPZ-550, red, showrm cond, rns grt, 10K, \$1,600 or best. Hidehiko, x3-8602 or 782-3574.

'76 Datsun B210 htchbck, 4-spd, stndrd, exc cond, nw brks, muff, shcks & batt, \$1,100. Raymond, x3-3312 or 494-5123.

'77 Mercury Monarch, 77K, 8 cyl, 4-dr, snw trs, a/c, AM/FM stereo, child seats, ideal for visting scntst w/fmly, desprmt sell, \$1,500 nego. Tim x3-1446.

'77 Subaru DL cpe, 60K, \$1,250. Tom, x7214 Linc or 244-2327.

'78 Batavus moped, 2 seatr, mdl HS-50, styld like cycl, \$215 inc detchbl AM radio, rpr mnl & sprk plg-tool. Holly, x3-5950.

'78 Ford Pinto wgn, 73K, rns fine, mny nw prt, rntly inscpd, \$1,250 or rsnbl. Ko, x3-6907 or 491-5388.

'78 Chevy Malibu Classic wgn, blue, 4-dr, auto, ps, pb, a/c, AM/FM/call, 4 spkra, 96K, \$2,250 or best. David, x5-8841 dorm.

'79 Mustang, v gd cond, no rst, nice to drv, v rbl, radio, \$2,700 or best. Gerald, x3-3486 or 267-6570 evs.

'80 Chevy Citation, V6, 4-dr, auto, ps, pb, htchbck, 30K, a/c, rear defrastr, rstrpf, Chapman lck, exc cond, \$3,995. Claudia, x3-4136 or 924-4086.

'80 Malibu Classic sta wgn, 37K, exc cond, auto, a/c, AM/FM stereo, frnt seat 50/50 split, rfrck, elec rear defog, \$4,800 or best. Call x3-3939 or 738-4633 evs.

Housing

Fisher Hill, Brookline, sm apt, 3 rms, bath, ktchn, sep entrnc, w/w, \$595/mo inc utils, avlbl beginning Oct. Frankel, x3-6763 or 734-2221 evs.

Arlington Hts, furn rm w/prv bath inc shwr, ovrlks yrd, priv entrnc, frst flr, on bus line to Harv Sq, no smkrs. Call 646-1876 after 3pm.

Eidelweiss lakefrnt 4BR cottg for foliage seasn rntl, mins frm Conway & Kancamagus, 2 baths, fmly rm, L/DR w/chdrl ceiling & frplc, w/w, all applcs. Ed, x5431 Linc or 779-6473.

Maahpee, 3BR hse for rnt in quiet wday setting for btl fall days on Cape Cod, \$250/wk, \$80/wkend. Barbara, x3-5259 or 965-9662.

Wanted

Prof cpl sks sm sgl, 4 mi frm Maas Ave, Arl or Mt Aub St betw Watertown Sq & Camb or quiet 2BR apt, top flr. Call 491-0276, 5-8pm only.

Israeli teachr of guitr. Rob, 497-4417.

Chldrns 5-8 yrs-old wntd for exprmnt on hp chldrns lrn English, times flxb, reimbamnt avlbl, prfrmd @ MIT Dept of Psych. Call x3-8948 or 424-0250 for info.

Trd West Garage stckr for Albany St or East Garage (when avlbl). Carrie, x3-5728.



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 on the Women's Kiosk in Building 7, outside the offices of the Special Assistants (10-215, 10-211) 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.

- | | |
|-------------------|--------|
| Pat Williams | 3-1594 |
| Dick Higham | 3-4278 |
| Virginia Bishop | 3-1591 |
| Appointments: | |
| Therese McConnell | 3-4270 |
| Ken Hewitt | 3-4287 |
| Kenneth W. Chin | 3-4289 |
| Sally Hansen | 3-4275 |
| Appointments: | |
| Darlene McNeil | 3-4288 |
| Susan Gaskell | 3-4286 |
| Appointments: | |
| Nancy McSweeney | 3-4076 |

Administrative and Academic Staff

Administrative Officer, Division of Comparative Medicine, to be responsible under the Director for financial management activities of the Division including income and expense budget proposals, purchasing, income and expense processing, C.A.O. report monitoring and report analyses for Institute, federal and other funds. Coordinate daily operation of network of small computers. Serve as liaison with computer experts regarding hardware and software needs. Implement customized software. Serve as Division's general personnel administrator. Directly supervise three support staff members. Undertake special projects in general operational areas including trend analyses, forecasts and fee schedules. Requires BA or advanced degree in administration with an emphasis in financial management. Data processing and MIT experience preferred. NON-SMOKING OFFICE. C84-125

Administrator, Student Office, Aeronautics & Astronautics, to be responsible for Graduate and Undergraduate administration of department activities such as graduate admissions, data on fellowships, teaching/research assistantships, and catalog copy.

Swap West stckr for Albany or East. Bob, x3-4243/4247.

Subjects nded for exprmnts in Linguistics, thruout yr, pays \$3-4/season, sgn-up sheets avlbl outd Rm 36-511 or call x3-8761, lv name & # for K Nilason.

Recnt *Sports Illustrated* issue w/article on Tristan Jones, will pay cvr price. Ichiro, x3-7484 or x5-9788 dorm.

GRE sbjct test in physics: cpy of previous tat or prprtry book. Adam, 266-2894 after 7pm.

Visting scntst, wife & son sk 1BR furn apt, for 2 mo, 10/15-12/31/84, any loctn considr. Laurie Pfeifer, x3-5456.

2 gd tckts for Patriots vs Bills, Nov 11. Bob, x3-8509.

Roommates

F rmmate for group hse on som/ Med line, we are 2M, 2F, 24-32, shr food, meals, fun & wndrfl hse, avlbl immdty, \$270+. Call 396-2733.

Carpool

Drvr-rdr frm Wayland-Weston nr Rt 30 to MIT, 9-5. Sonia Arsove, x3-3564/5228.

Rd wntd to/frm MIT, M-F, 8:30-5, 2 prns, will meet crnr of Cedar & Warnick Sta, Somerville. Diana, x3-6152.

Miscellaneous

Pro mntneering instrctr wnts to swap climbing instrctr for flight training, nd not be certfd. Basil, x8-2466/4866 Draper or 469-9042.

Typing, thesis, resumes, etc on wrd-prssr, v rsnbl rates. Neelu, x3-4502 or 263-1752.

Pro pctrs @ amtr prices, 15+ yrs exp w/camra, weddings, Bar/Bat Mitzvahs, portra, parties, etc, portfolio & refs avlbl. Ken, x3-1859 or 776-6897 evs, keep trying.

Exp babyatrr avlbl, f/L, East Gate, no baby now. Call 494-0917.

Exprrt typing. Marie, x3-7309.

Amatr photog nds exp, will take photos at/around MIT for cost of flm & dvlpmnt. Carol, x3-2316.

Typing, all kinds inc tech, rsnbl rata. Lynne, x3-4012 or 783-4272.

Compile academic statistics, set up student functions and orientation activities. Requires excellent communication and organizational skills as well as ability to effectively interact with students. Three to five years of related education or equivalent combination of education and experience required. College degree preferred. C84-124

Assistant Managing Editor, Sloan School of Management, to edit articles and forums for the professional journal, *Sloan Management Review*. Prepare references; solicit papers for Forum Section of journal; manage all stages of issue printing production; proofread and oversee author's changes on galley; supervise design and production of SMR promotional literature; subdivide direct mail pieces, manuscript guidelines, advertising media kit, reprint index; coordinate advertising campaigns; serve as liaison with advertisers; administer accounts; obtain permissions; administer copyright agreements; coordinate flow of manuscripts between authors and journal; set up and review advertising and subscription exchanges with other business journals. Requires BA, preferably in English or Journalism and two years of editorial/writing experience. Knowledge of printers' marks, print production and experience dealing with printers desirable. Excellent communication, organizational and interpersonal skills essential. Initiative, attention to detail and ability to work independently important. NON-SMOKING OFFICE A84-444

Systems Analyst, Administrative Systems, to analyze user information systems problems and develop viable solutions. Responsible for external design and implementation of computer systems in an assigned area of responsibility. Ensure testing of new or modified programs and release documentation according to established standards. Prepare scheduling and time loading estimates. Develop or update all manuals for implemented plans or changes. Assist users as needed. Provide functional supervision for systems analysts assigned. May act as application programmer. Requires Bachelor's degree and reasonable experience in systems analysis or computer related activities. Experience with COBOL, CMS, and OS JCL highly desirable. A84-443

Systems Analyst, Administrative Systems, to work as member of team responsible for financial offices such as Comptroller's Accounting Office, Budget Office, and Office of Sponsored Programs. Will analyze user information systems problems and develop viable solutions. Responsible for external design and implementation of computer systems in an assigned area of responsibility. Ensure testing of new or modified programs and release documentation according to established standards. Prepare scheduling and time loading estimates. Develop or update all manuals for implemented plans or changes. Assist users as needed. Provide functional supervision for systems analysts assigned. May act as application programmer. Requires Bachelor's degree and reasonable experience in systems analysis or computer related activities. Experience with COBOL, CMS, and OS JCL highly desirable. A84-443

Systems Analyst, Administrative Systems, to work as member of team responsible for financial offices such as Comptroller's Accounting Office, Budget Office, and Office of Sponsored Programs. Will analyze user information systems problems and develop viable solutions. Responsible for external design and implementation of computer systems in an assigned area of responsibility. Ensure testing of new or modified programs and release documentation according to established standards. Prepare scheduling and time loading estimates. Develop or update all manuals for implemented plans or changes. Assist users as needed. Provide functional supervision for systems analysts assigned. May act as application programmer. Requires Bachelor's degree and reasonable experience in systems analysis or computer related activities. Knowledge of IBM OS, COBOL and database systems essential. Experience in financial systems necessary. A84-442

Auditor I, Audit Division, to perform audit tasks in reviewing and appraising the soundness, adequacy and application of accounting, financial and operating controls. Assist in the review of the extent to which Institute assets are accounted for and safeguarded against losses of all kinds. Maintain a high degree of professionalism and objectivity in the audit tasks assigned. Participate in preparing reports and reviewing systems and procedures.

making recommendations in systems design and computer applications. Supervise support staff as directed. Requires Bachelor's degree in Business Administration with a major in Accounting or equivalent combination of education and experience. One to three years experience with a C.P.A. firm necessary. Reasonable knowledge of systems analysis and computer capabilities desirable. A84-439

Sponsored Research Staff

Technical Assistant, Nutrition & Food Science, to participate in studying the effect of chemical carcinogens on mammalian genes during cellular transformation with a genetic toxicology group. Maintain animal cells in tissue culture, transform cells *in vitro*; and prepare and analyze cellular DNA and RNA. Involves some microbiology and animal work. Requires Bachelor's degree in life sciences. Laboratory experience in tissue culture and biochemical techniques used in molecular biology highly desirable. Preference given to senior-level technical assistant who would be an independent researcher. R84-518

Technical Assistant, Biology, to organize and supervise tissue culture facility and mouse colony in an immunology laboratory. Includes immunization and bleeding of experimental animals. Will perform radio-immunoassays and fuse and maintain hybridoma cell lines. Work involves immunological study in mice and *in vitro* culture of immunocytes. Requires BA and at least 3 years of laboratory experience in tissue culture technique and biochemical procedures. Experience or extensive coursework in immunology highly desirable. Expertise in cell culture preferred. R84-517

Technical Assistant, Nutrition & Food

cant should be effective in dealing with people and able to set priorities without detailed supervision. Minimum 2.5 years direct/related experience required as well as good technical typing skills, experience with dictaphone and willingness to learn word processing. MIT experience desirable. B84-238

Sr. Secretary (part-time), Science, Technology, and Society, to perform general secretarial duties for one professor. Type and proofread manuscripts; conduct bibliographic searches, prepare course materials; answer phones; process mail and routine correspondence; coordinate calendar; arrange travel; and perform other duties as needed. Must have good organizational, interpersonal and excellent typing skills. Should be able to set priorities and work independently. Knowledge of or willingness to learn word processing essential. Familiarity with any European language highly desirable. Interest in sociology, economics or anthropology a plus. (20 hrs/wk, flexible) B84-237

Sr. Secretary-Technical, Mathematics, to handle substantial volume of correspondence including composing routine letters, and typing class materials, proposals, reports and mathematical manuscripts for several faculty members. Answer telephones and inquiries, arrange travel, process mailings, and schedule appointments. Buay office requiring initiative and ability to set priorities. Must have excellent typing skills including technical typing experience. Familiarity with office routines and filing systems necessary. Minimum 2.5 years direct/related experience required. Knowledge of MIT preferred. B84-233

Sr. Secretary (part-time/perm 9 mos), to maintain schedules and calendar for MIT Symphony Orchestra in the Music Section of the Humanities Department. Order music parts; handle financial accounts; arrange logistics for recordings, concerts, tours, etc.; act as liaison between Music Section and Graphic Arts; schedule meetings; and perform general office duties including assisting Music Headquarters as time permits. Requires good typing skills, shorthand/speedwriting, organizational skills, and ability to work independently. Professional telephone skills and strong interpersonal skills essential. (20 hrs/wk, M-F 1-5) B84-230

Sr. Secretary, Sloan School of Management, to provide secretarial support to three professors in the Economics, Finance and Accounting Group. Type, proofread and reproduce manuscripts, reports, exams and correspondence, often of a technical nature. Some of this will require transcription from dictaphone and good command of the English language. Assist with preparation of course materials and notes. Answer phones and inquiries, schedule appointments, arrange travel, xerox, maintain files and respond to routine inquiries. Willingness to learn word processing desirable (WANG). Requires excellent typing (some technical), proofreading, dictaphone, and organizational skills. Attention to detail important. Minimum 2.5 years direct/related experience or an equivalent combination of education and experience required. B84-229, B84-216

Sr. Secretary, Laboratory for Computer Science, to provide secretarial support for research groups led by two faculty members. Manage preparation of class notes, reports, research proposals and technical memos. Maintain files and data bases of research groups. Use computer-based support including text editor, formatters, and file systems as appropriate. Handle correspondence, answer telephones, arrange travel, and provide assistance in organizing professional meetings. Must have 2.5 years direct/related experience or equivalent combination of education and experience. Interest in learning computer-based text-editing and other applications, ability to work independently and set priorities essential. Good typing and organizational skills necessary. B84-228

Sr. Secretary (part-time), Research Laboratory of Electronics, to provide support to one faculty member and two research scientists. Type class materials, technical reports, proposals, scientific manuscripts and correspondence. Answer phones, maintain office supplies, arrange meetings and interact with students. Requires high school graduation and 2.5 years direct/related experience. Excellent typing, including technical typing and good interpersonal skills essential. (20 hrs/wk) B84-227

Sr. Secretary, Laboratory for Nuclear Science, two positions open to provide secretarial support for the Theoretical Physics group including faculty, research staff and students. Responsibilities include preparing detailed technical manuscripts with extensive equations, referee reports, course work, correspondence and dictaphone. Arrange travel, seminars and meetings; process postdoc and visitor applications; file; sort mail; answer phones; fill reprint requests; and perform other secretarial and administrative functions. Requires excellent secretarial skills and ability to set priorities. Strong organizational skills and ability to handle pressure situations necessary. Involves frequent interaction with variety of people. Willingness to learn word processing essential. Minimum 2.5 years direct/related experience or equivalent. Some college preferred. NON-SMOKING OFFICE B84-020

Sr. Secretary, Provost's Office, to provide reception and secretarial support for Institute Professor who is also Foreign Secretary of the National Academy of Sciences, and his Administrative Assistant. Duties include: greet and assist visitors; answer phones; open and sort mail; schedule appointments and meetings; assist with travel arrangements; type correspondence including initiating and composing routine correspondence; set up and maintain files; prepare Institute forms; order and maintain supplies. Interact with Institute officers and committees, as well as national and international organizations. Involves extensive liaison with 80 member Office of the Foreign Secretary. Will train in the operation of a facsimile copier/word processor. Applicants must have excellent organizational ability and knowl-

edge of general office procedures. Strong interpersonal skills, flexibility and command of the English language important. Minimum 2.5 years direct/related experience required. Shorthand or speedwriting preferred. (Non-smokers preferred). B84-915

Secretary, Office of Minority Education, to share secretarial duties for three staff members. Type correspondence, reports, manuscripts, and proposals; maintain files; sort and distribute large volume of literature for mailing; and answer telephones. Requires good typing and general secretarial skills. Ability to effectively interact with faculty and students needed. B84-251

Secretary (part-time), Research Laboratory of Electronics, to provide secretarial support to one faculty member. Will answer phones; use word processing for manuscript typing and electronic file organization. Involves interaction with graduate students and laboratory personnel. Applicants must have one year of related experience, good typing skills and willingness to learn word processing and computer usage. Good interpersonal skills important. (20-30 hrs/wk) B84-245

Secretary (part-time), Electrical Engineering & Computer Science, to provide support to one faculty member. Type correspondence and scientific manuscripts; schedule appointments; answer phones; photocopy; and assist with special projects. Requires excellent typing and at least one year of secretarial experience. (20 hrs/wk, M-F 9-1) B84-235

Receptionist/Word Processing Operator, Civil Engineering, to assist the Administrative Assistant with word processing requirements for major reports, master mailings and list processing. In addition, will answer phones, xerox and lend assistance with other duties. Requires one year of direct/related experience. Knowledge of DECmate II desirable. Excellent typing skills essential. Professional telephone skills important. B84-231

Secretary, Whitaker College, to provide secretarial support to the Director and Manager of the Lab for Health Care Studies. Will receive visitors; answer phones; type correspondence and manuscripts; transcribe recorded dictation; maintain files, order and maintain office supplies; process mail; and perform other related duties as assigned. Requires good interpersonal and communication skills. Knowledge of or willingness to learn word processing essential. (25 hrs/wk to full-time, flexible) B84-188

Office Assistant

Sr. Editorial Assistant, Aeronautics and Astronautics, to participate in all phases of manuscript preparation for publication in professional journals, books, reports and proposals. Will be responsible for all production phases of report preparation such as typing, proofreading, formatting, technical illustrating, reproduction and distribution. Other duties include assisting in the review procedures for technical societies and in compiling and distributing fiscal reports. Will occasionally compose correspondence. Requires high school graduation and 4.5 years direct/related experience. Excellent typing, proofreading and copy editing skills essential. Must exercise discretion in setting priorities. Familiarity with Corvus word processing system highly desirable. College degree preferred. B84-226

Sr. Office Assistant, Comptroller's Accounting Office, to be responsible for Graduate Student Staff Payroll. Log data for processing such as appointments for payment; distribute accounts; maintain general information files; file various sources; stuff and sort checks; and assist with other office tasks as needed. Requires effective communication with representatives of other Institute offices, academic departments, and employees. Minimum 2.5 years of office experience required. B84-247

Sr. Office Assistant, MIT Press, to act as Book Production Assistant in the Design Department. Will assist in many phases of book production process including: adding type specifications to edited manuscripts, checking page proofs and repro, sizing art, trimming salt proofs and placing them in page proof, doing mechanicals for book jackets, and performing general office functions such as creating and maintaining files. Applicants should have 2.5 years related work experience. Ability to operate photostat machine and some drafting skills a plus. Willingness to learn technical aspects of book production required. Attention to detail and technical procedures important. Should be able to show examples of previous mechanical paste-up work. B84-236

Sr. Office Assistant, Development Office, to act as Senior Research Assistant and compile and maintain information on gift prospects and donors. Research published reference materials to produce standard profile reports used by analysts in preparing research reports; generate other research reports such as the Corporate changes of MIT Alumni as needed. Access the Alumni Association/Treasurer's data base for information. Process incoming correspondence including gift records, acknowledgements, memos, letters and reports. Involves heading up, indexing, matching, posting and filing. Requires good typing, organizational and telephone skills; willingness to be trained on the Alumni Association terminal; and analytical ability. B84-234

Benefits Specialist, Personnel, to be responsible for communicating benefits information to all segments of the MIT community. Answer heavy volume of benefits questions by phone, in person and in writing, in a very busy environment with frequent interruptions. Provide detailed information and solve administrative problems, often in sensitive circumstances. Act as liaison between MIT and insurance carriers and tax deferred annuities. Develop and arrange workshops and meetings. Conduct orientation programs for new personnel. Provide secretarial support to one staff member, including typing and word processing. Assist others as

needed. Requires excellent communication and organizational skills and ability to interact with a wide variety of people. Must solve administrative problems quickly and tactfully. Work independently and perform under pressure. Word processing experience and excellent typing required. Knowledge of MIT benefits or related experience helpful. B84-221

Office Assistant, Francis Bitter National Laboratory, to provide clerical support to the fiscal office of the Laboratory. Process invoices; prepare vouchers; type forms and correspondence; maintain records of accounts. Involves considerable telephone contact with MIT financial areas and outside vendors. Perform other duties as necessary. Requires high school graduation or equivalent and one year related experience. Accurate typing, facility with figures and ability to apply general instruction to specific problems essential. B82-134

Service Staff

Technician C (Chemical-Mechanical), Research Laboratory of Electronics, to perform various routine jobs of skilled or semiskilled nature, such as chassis wiring, keeping apparatus in good condition and performing laboratory tests and analyses. Fabricate fine line patterns using critical cleaning, photolithography, chemical etching, plasma etching and ion etching. Examine samples with a high power optical microscope. Fabricate delicate membrane structures. Operate and help maintain clean room apparatus, such as cleaning station, chemical hoods, exposure lamps, microscopes, and vacuum systems. Applicant must demonstrate aptitude and expertise gained from education and/or experience. Must be able to work with delicate crystals in a clean room environment. Must have capacity to learn and advance. B84-027

Laboratory Aide, Whitaker College, to perform routine assignments related to teaching and research laboratories. Collect, wash, rinse and sterilize various types of laboratory glassware (i.e., beakers, vials, pipettes, etc.) for use in microbiological, tissue culture, bacteriological, or biochemical experiments. Will use all related equipment and machines and store clean glassware. Keep laboratory areas clean and orderly for the conducting of experiments. After demonstrated experience may work independently to set work priorities, maintain supplies, prepare media and may give direction to others. Perform related laboratory duties as assigned. Some experience in scientific glass washing desirable. Must be conscientious and have ability to follow directions. Works under general directions and as experience is acquired will work without direct supervision for extended periods. High school graduate or equivalent required. B84-021

General Cook (temporary), Food Service, to prepare all food items required for the Breakfast and Luncheon production as the menu directs. Includes cooking procedures for frying, roasting, braising, baking, sauce and broiler work. Set up and break down the steamtable for each meal period. With direction, plan and execute advance preparation for all menu items. Demonstrate ability to correctly time food production so as to provide a flow of freshly prepared products to the customer. Perform other related duties as assigned. Requires minimum of 3 years experience in mass food production. Knowledge of position controls and preparation timing, meat recognition and cutting knowledge necessary. Must be able to compute recipe conversions, lead and train other food service personnel of a lower grade. (through March 1, 1985) B84-012

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

ADMINISTRATIVE AND ACADEMIC STAFF:

B84-435, Coordinator of Alumni/ae Activities, Sloan School
B84-434, Sales Representative, MIT Press
B84-433, Unit Manager, Food Services
B84-123, Postdoctoral Associate, Nutrition & Food Science
B84-122, Assistant Radiation Protection Officer, Medical
B84-431, Computer Operations Assistant, Whitaker College
B84-429, Regional Director, Alumni Association
B84-428, Assistant Curator, Committee on the Visual Arts
B84-423, Sr. Applications Programmer, Comptroller's Accounting Office
B84-419, Systems Analyst, Administrative Information Systems
B84-400, Systems Analyst, Administrative Information Systems
B84-385, Manager of Systems Operations, Project Athena
B84-117, Business Services Officer, Libraries
B84-391, Advisor to Fraternities, Dean for Student Affairs
B84-410, Director of Operations, West Campus Plaza
B84-407, Director of Admissions, Office of Admissions
B84-402, Direct Mail Manager, MIT Press
B84-397, Sr. Graphic Designer, MIT Press
B84-337, Systems Programmer, Project Athena
B84-336, Systems Programmer: Operations, Project Athena
B84-381, Systems Programmer, Information Processing Services
B84-105, Assistant Engineering Librarian, Barker Library
B84-104, Head, Science Library
B84-365, Industrial Liaison Officer, Industrial Liaison Program
B84-361, Program Manager, Physical Plant
B84-356, Major Gift Officer, Resource Development
B83-336, Systems Programmer, Project Athena
B83-083, Applications Programmer, Electrical Engineering & Computer Science

Institute Notices

(continued from page 2)

Auger Spectroscopy, Conventional & Spin Polarized, on Amorphous Magnetic Alloys. Seek Course VIII, V, or III junior or senior to work several hours a week for Credit. Contact Mr. R.C. O'Handley, x3-6913, Rm 4-051 or Ms. Michelle Donovan, x3-3211, Rm 8-431.

Shape Perception. How does the human perceptual system encode or represent the shape of objects at different locations in the environment? UROP positions available in research program investigating this problem. Specific projects to be encouraged are the investigation of the ability a) To discriminate shapes seen at different orientations; b) To judge left and right on the human body, and c) To see apparent motion of an object when images of it viewed from different perspectives are shown in alteration. In addition, projects are encouraged on the human ability to mentally perform spatial transformations (for example, imagining actions of one's own body). Students will be given background preparation, and will be involved in the design, preparation, conduct, and analysis of experiments. Fair amount of work done with computers (like PDP-11 and RT11). FRESHMEN welcome. Faculty Supervisor: Prof Steven Pinker. Contact Dr. Larry Parsons, x3-7370, Rm 20B-225.

Supervisory Control for Remote Undersea Vehicles. The Man-Machine Systems Laboratory is looking for students interested in electronic hardware and software development. Students with mechanical aptitude are encouraged to apply, as modifications continue on the vehicle. Immediate goal is to execute the first underwater welding operation from a remote vehicle. Work areas: communication, welding system, on-board sensors, hydraulic, machining. FRESHMEN wanted. Faculty Supervisor: Prof Thomas Sheridan, Mechanical Engineering. Contact Kleber Gallardo, x3-6064, Rm 3-062.

Analysis of Clear and Conversational Speech. Project involves writing programs to analyze speech waveforms spoken in two modes; clearly-enunciated and conversational. Correlations and relationships between the speech data and perceptual intelligibility results will be explored. Knowledge of signals and systems (i.e., 6.003) preferred. Program experience in FORTRAN required. Supervisor: Nathaniel I. Durlach. Contact Rosalie Uchanski, x3-2589, Rm 36-749.

Tensile Fracture Testing in Concrete. An experimental method has been developed to characterize the fracture behavior of concrete and other cementitious composites. Students needed to aid in laboratory testing, including specimen preparation and post-testing numerical analysis. There will be ample opportunity to observe and participate in both theoretical and experimental development of a research project. Contact Faculty Supervisor Prof Victor Li, x3-7142, Rm 1-232.

SPONSORED RESEARCH STAFF:

B84-493, Administrative Officer, Research Laboratory of Electronics
B84-500, Research Staff Programmer, Haystack Observatory
B84-499, Computer Facility Manager, Research Laboratory of Electronics
B84-498, Technical Assistant, Center for Cancer Research
B84-496, Technical Assistant, Center for Cancer Research
B84-488, Technical Assistant, Laboratory for Computer Science
B84-416, Technical Assistant, Center for Cancer Research
B84-356, Research Staff Engineer, Haystack Observatory
B84-495, Research Engineer, Electrical Engineering & Computer Science
B84-494, Research Engineer, Electrical Engineering & Computer Science
B84-493, Administrative Officer, Research Laboratory of Electronics
B84-492, Research Associate, Energy Laboratory
B84-491, Research Specialist, Energy Laboratory
B84-490, Technical Assistant, Energy Laboratory
B84-489, Theoretical Research Scientist, Plasma Fusion Center
B84-487, Technical Assistant, Whitaker College
B84-474, SRS Administrative (Librarian), Plasma Fusion Center
B84-469, Research Specialist/Programmer, Earth, Atmospheric, and Planetary Sciences
B84-468, Research Specialist, Whitaker College
B84-465, Registered Nurses, Clinical Research Center
B84-464, Research Scientist, Earth, Atmospheric, and Planetary Sciences
B84-457, Fiscal Officer, Laboratory for Architecture and Planning
B84-387, Chief of Telescope Operations, Haystack Observatory
B84-459, Technical Assistant, Whitaker College

B84-457, Fiscal Officer, Laboratory for Architecture and Planning
B84-452, Physicist/Engineer, Bates Linear Accelerator
B84-451, Postdoctoral/Research Scientist, Laboratory for Nuclear Science
B84-447, Postdoctoral Research Staff, Laboratory for Nuclear Science
B84-444, Sponsored Research Staff, Francis Bitter National Magnet Laboratory
B84-439, Postdoctoral Research Scientist, Laboratory for Nuclear Science
B84-438, Computer System Manager, Laboratory for Nuclear Science
B84-433, RF Engineer, Plasma Fusion Center
B84-431, Systems Programmer, Laboratory for Computer Science
B84-430, Systems Programmer, Laboratory for Computer Science
B84-426, Research Scientist, Plasma Fusion Center
B84-419, Technical Assistant, Nutrition & Food Science
B84-416, Technical Assistant, Center for Cancer Research
B84-418, Electronics Engineer, Plasma Fusion Center
B84-409, Research Scientist-Exp., Plasma Fusion
B84-408, Research Scientist-Exp., Plasma Fusion
B84-405, Technical Assistant, Biology
B84-400, Technical Assistant, Biology
B84-399, Research Scientist, Laboratory for Nuclear Science
B84-392, Research Scientist-Exp., Plasma Fusion Center
B84-310, Computer Facilities Programmer/Manager
B84-381, B84-383, B84-384, SRS Postdoctoral Positions, Spectroscopy Lab
B84-378, Research Specialist, Aeronautics & Astronautics
B84-373, Research Engineer, Aeronautics & Astronautics
B84-370, Research Scientist, Artificial Intelligence Laboratory
B84-358, Principal Research Scientist, Lab for Nuclear Science
B84-353, Radiochemist, Nuclear Reactor Lab
B84-340, Research Scientist, A.I. Lab

Topics on the Nuclear Arms Race. Studies of specific, timely topics in the nuclear arms race, such as anti-satellite weapons (ASAT) and anti-ballistic missile systems. Strategic and technical considerations may be taken into account (but no special technical expertise required) and a wide spectrum of options will be considered. We would like to form a small working group of students who will meet weekly to discuss their progress on each subject, terminating with short, well-considered papers (possibly for publication). Faculty Supervisors: Prof Aron Bernstein and Prof Philip Morrison. Contact Prof Bernstein, x3-2386, Rm 26-433.

Experimental Nuclear Physics at the Bates Linear Accelerator. Projects in experimental physics are available to study photo-pion and other reactions. The projects include both data analysis and participation in the experiments. The students will learn experimental techniques including the use of computers in data taking and analysis. Juniors who are majoring in physics and who can participate in IAP will be given preference. Research can lead to a senior thesis. Contact faculty supervisor, Aron Bernstein, x3-2386, Rm 26-433.

Glove Animation. Project involves designing and implementing a delicate electro/mechanical "glove" to track gestures and movements of the human hand. The track data is used for movements of marionettes in a gestural-input animation system. Background in mechanical systems desired. Contact faculty supervisor, Prof Patrick Purcell, Architecture Machine Group/AMT, x3-5105. PAY or credit.

Visual Information System. Project involves development of a computational video system, specifically an interactive archive system where Picasso slides on laser discs are accessed from computer. Background in computer science and interest and/or experience of computer graphics or video desired. Contact same as above. PAY or credit.

Atmospheric Chemistry Research. Student in chemical engineering, or earth, atmospheric, and planetary sciences needed to do research on thermochemical kinetics of gas-solid reactions. The project involves extensive use of a HP5880A gas chromatograph, operation of a gas mixing/reaction system, and preparation of well characterized mineralogical samples. Experience with gas analysis by gas chromatography preferred. Contact faculty supervisor, Dr. Bruce Fegley, x3-7808, Rm 54-1822. PAY or credit.

Composition and Health Effects of Aerosols Produced by Model Coal-Combustion Systems. Do you hate acid rain? Want to do something socially responsible and earn money/credits too? Work with a multi-faceted group (chemical engineers, material scientists, toxicologists, and pathologists) to determine composition and health effects of aerosols produced by model coal-combustion systems. Work with us on the cutting edge. Requirements: Ability to work cooperatively with people; familiarity with simple chemical procedures (making stock solutions, accurate pipetting, etc.). Faculty supervisor: Dr. Mary Amdur, Dept of Nutrition and Food Science. Contact Shelly Fitzgerald, x3-3428, Rm 8-115 or John McCarthy, x3-3428, Rm 12-065.

B84-143, Sr. Secretary, Personnel
B84-140, Sr. Secretary, Sloan School
B84-132, Sr. Secretary, Materials Processing Center
B84-128, Sr. Secretary, Aeronautics & Astronautics
B84-071, Sr. Secretary, Materials Science & Engineering
B84-078, Sr. Staff Assistant, Management of Technology Program
B84-058, Sr. Secretary, Project Athena
B84-050, Sr. Secretary, Music
B84-046, Sr. Secretary-Technical, Laboratory for Information & Decision Systems
B84-704, Sr. Secretary-Technical, Chemistry
B84-610, Sr. Secretary, Center for Advanced Engineering Study
B84-155, Secretary, Psychology
B84-151, Secretary/Receptionist, Nutrition & Food Science
B84-117, Sr. Secretary, Physical Plant
B84-107, Sr. Secretary, Laboratory for Computer Science
B84-099, Sr. Staff Assistant, Center for Advanced Engineering Study
B84-097, Sr. Secretary, Sloan School
B84-108, Secretary, Architecture
B84-079, Sr. Secretary, Sloan School
B84-065, Sr. Secretary, Aeronautics & Astronautics
B84-047, Secretary, Nutrition & Food Science
B84-995, Sr. Secretary, Physical Plant
B84-836, Sr. Secretary Mathematics
B84-798, Sr. Secretary, Whitaker College

TECHNICAL SUPPORT STAFF

B84-942, Diet Aide, Clinical Research Center
OFFICE ASSISTANT
B84-212, Administrative Assistant, Energy Laboratory
B84-214, Receptionist/Office Assistant, Personnel
B84-202, Office Assistant, Purchasing & Stores
B84-213, Clerical Assistant (pt), Committee on the Visual Arts
B84-190, Administrative Assistant, Harvard-MIT Div. Health Sciences & Technology
B84-196, Service Assistant (pt/temp), Earth, Atmospheric & Planetary Sciences
B84-169, Sr. Office Assistant, Research Laboratory of Electronics
B84-139, Administrative Assistant, Graphic Arts Service
B84-129, Clerical Assistant (pt), Libraries
B84-116, Administrative Assistant, Sloan School
B84-920, Sr. Office Asst./Data Entry Op. (temp), Libraries
B84-012, Administrative Assistant, Alumni Association
SERVICE STAFF
B84-023, B84-024, Patrolman/Patrolwoman, Campus Police
B84-017, Technician A (E-M), Center for Materials Science & Engineering
B84-025, Waiter/Waitress (pt), Faculty Club
B84-015, Technician A (Electronic), Energy Laboratory
B84-983, Machinist A, Aeronautics & Astronautics
B84-009, Gardener, Physical Plant
B84-008, Technician A (Electronic), Haystack Observatory
B84-006, Technician A (E-M), Electrical Engineering & Computer Science
B84-005, Technician B (Electronic), Laboratory for Nuclear Science
B84-003, Technician B (Electronic), Laboratory for Nuclear Science
B84-002, Technician B (E-M), Plasma Fusion Center
B84-959, Technician A (Electronic), Electrical Engineering & Computer Science
B84-004, Building Attendant (pt), Office of Facilities Management
B84-997, Heat & Vent Mechanic, Physical Plant
B84-923, Technician A (electronic), Telecommunications Systems
WHITEHEAD INSTITUTE
Technical Assistant, Whitehead Institute
Sr. Secretary, Whitehead Institute

How to get there from MIT

(Following is another in a series of essays written by MIT alumni about their careers and how MIT prepared them for what they are doing today. The essays were compiled by the Office of Career Services and Preprofessional Advising for publication in a 72-page booklet issued under the title above. Tech Talk will reprint the essays regularly on a space available basis. ©1983 by the Office of Career Services and Preprofessional Advising, MIT. (Howard R. Huff received the PhD degree in metallurgy in 1966.)

By HOWARD R. HUFF
Market Development Director
Electronic Materials Company
Palo Alto, Calif.

I have always been intrigued by the phenomenon that holds atoms together to form a solid piece of material. I remember looking at a chapter by William Shockley in a book called *Defects in Solids* about thirty years ago. At that time, the dynamic industry which Shockley helped to develop and in which I have made my career did not yet exist. Today, the importance of solid-state phenomena is known to virtually everyone who is the least bit familiar with the electronics industry. My activities during these intervening thirty years show how and why the concept of defects in solids became important to me.



I went to college at New York University where I enrolled in a newly accredited program in Engineering Science. I was fortunate in that the program was extremely broad, taking in a wide sweep of science (including physics, chemistry and mathematics), as well as engineering (electrical, mechanical, metallurgical and civil). The program also empha-

sized the humanities, forming the basis of my ever-increasing interest in literature and related areas. I essentially completed the requirements for a Bachelor's degree in physics at the same time by attending summer school each year. As a result, I received a good grounding in physics, theoretical chemistry, and metallurgical and civil engineering. Eugene Wigner's statement that it is generally more fruitful to understand the variation of physical properties from one system to another than to determine the properties of a given system to the nth degree certainly is consistent with my experience.

After NYU, where I owed much to the encouragement of the assistant dean of engineering, Frederick Teichmann, I started working in a variety of industrial positions while continuing towards a Master's degree in physics by taking evening courses at the Stevens Institute of Technology. At Stevens, where I was stimulated by the guidance of the plasma physicist, Kenneth Rogers, I absorbed mainstream academic physics. In my concurrent industrial R&D, I worked on magnetic core memories (ferrites) for computers, and later with plasmas and solid state lasers. Now I was studying physics texts not only for classroom purposes but to help me make "real" calculations. I came to take seriously what Shockley calls "respect for the scientific aspects of practical problems."

All these strands came together when I entered MIT in 1963 as a PhD candidate in the Electronic Materials Group in the Metallurgy Department (now the Department of Materials Science and Engineering). Intensely stimulating for me were my discussions with Professor Gatos, whose interest pervaded every aspect of my doctoral studies and thesis research. Topics which I had previously studied in physics blossomed into engineering practicality.

I spent the next fourteen years with Texas Instruments, Inc., in a variety of R&D, pilot line and manufacturing activities, working with metal-oxide semiconductor (MOS) and Bipolar integrated circuits (IC's). Efforts to

improve both product yield and performance required coordination with circuit design engineers as well as with marketing personnel. Now all my training was put to work. I came to appreciate that the control, characterization and, in some cases, utilization of defects in semiconductors is absolutely critical for the achievement of superior IC performance.

After a four-year continuation of several of these activities at the Sunnyvale Research Laboratories of Signetics (a subsidiary of the Philips Corporation), I am now market development director at the Monsanto Electronic Materials Company, the world's largest producer and marketer of polished silicon wafers. The increased pervasiveness of electronics in our economy is crucially dependent on high-quality silicon material to achieve high performance and reliable circuits.

The development of semiconductors continues to offer exciting career opportunities. Everyone has their own guess as to the new directions the technology will take. One likely path is the development of gallium arsenide for utilization in specialized circuit applications. Also likely is the coupling of optical communications with sophisticated integrated circuits in far-reaching communication systems.

In his book *Haphazard Reality*, Dr. Hendrik Casimir of Philips discusses the distinction between being paid for working and by contrast, doing what you want to do and finding someone to pay you for it. Luckily, I can claim to be in the second group. If there is work you would really like to do, see if there is a way you can be paid for it. It is also fortunate to have inspiring teachers. Seek out and choose good teachers if you possibly can.

Of course, it helps to have parents with faith and confidence in you. I feel lucky to have had not only supportive parents but a marvellously supportive wife and parents-in-law. Their share in the pleasure you derive from your work is immeasurably important.



Michael Steiner's Niagara provides a backdrop for freshman Jim Himes of Fennington, N.J., as he digs into Thucydides Peloponnesian Wars.—Photo by Calvin Campbell

Nutrition expert to talk

Dr. William Castelli, one of the country's foremost experts on heart disease and nutrition, will discuss "Fish Oil and a Healthy Heart" Thursday, Sept. 27, at 7pm in a public lecture in the Marlar Lounge (Rm 37-252). The lecture is sponsored by the MIT Sea Grant Program.

Dr. Castelli is former director of the Framingham Heart Study, the longest continuous heart study in the world. His talk will present results of recent research which indicates that fish and shellfish oils probably have a beneficial effect on cholesterol levels, a leading factor in heart disease. Fish oils also may reduce the risk of stroke-causing blood clots.

The relationship between seafood and cholesterol is not fully understood, nor do all scientists agree that the recent research findings are conclusive. But they do agree that fish is an excellent source of high quality, readily digestible protein, high in calcium, magnesium, chlorine and iodine, and low in sodium, iron, fat and calories.

Weatherall: Image maligns engineering

(The following article by Matthew J. Doherty originally appeared in *Electrical Engineering Times* last month.)

By MATTHEW J. DOHERTY

Robert Weatherall says the stereotype of engineers as timid, socially awkward, technical "wimps" distresses him.

Weatherall, director of career services at MIT, says that non-engineers often use the derogatory term "nerd" when referring to engineers. He employs a word-association game to make a point—that the profession is still maligned by that image, one which he believes bears little resemblance to today's engineer.

He writes four words—engineers, MBAs, "nerds" and "Yuppies"—on a piece of paper. He then asks a friend to match each occupation with the term best describing its image. Almost everyone, including engineers, will line them up in the same way, he says.

MBAs are "Yuppies"—young urban professionals, aspiring, on the fast track to success. And engineers are "nerds"—technical wunderkinds wrapped up in books, socially dysfunctional, with little ambition.

For years, Weatherall said, companies recruiting engineering graduates have helped perpetuate that stereotype.

"Many companies recruit engineers with far less panache than MBAs," he explained.

"The MBA is wine and dined at the best restaurants and often gets to meet a senior vice president. With engineering students, it's often beer, pretzels and a quick description of the entry-level position you can expect to fill."

Weatherall said because engineers are thought to be quiet and modest, many companies tend to match that modesty in their recruiting efforts. As a result, some companies make unexciting pitches for

recent graduates, thereby hurting their own chances for a good shot at the top students.

"The quietness of the engineer is misleading because he is ambitious," Weatherall said. As a result, some companies are fooled into believing that engineers are not interested in hearing about the fast track to success.

Contrary to the prevailing stereotype, many engineering students want to exercise leadership, move into management and get things done on a larger scale, Weatherall noted.

"Many recruiters talk less to engineers about the road to success," Weatherall observed. He added that most recruiters neglect engineers' psyches, opting instead to appeal to their interest in engineering.

Weatherall said companies often view engineering grads from a narrow perspective. Many fail to recognize that engineers have other enthusiasms—besides their technical skills—which they would like to exercise and have acknowledged.

It is a mistake to discount the engineer as a well-rounded person, Weatherall believes. He attributes that approach to the pervasive notion that engineers are somehow less ambitious than their business counterparts.

"It goes back to their thinking that engineers really want to be engineers and not thinking that they want to be other things too."

Weatherall attributes that type of recruiting to the misperception that engineers are extremely modest and unaggressive.

It simply isn't true anymore, if it ever was, he insists.

"I think today's engineering graduates are much more aggressive. They are different. They see the dynamism and the

opportunity in places like Silicon Valley and Route 128. It's a gold rush."

Today's engineering student, Weatherall said, has been bitten by the entrepreneurial bug. "Among our students, many have a great desire to find their way into the business world."

He cited the large number of students at MIT who are eager to start their own companies. "Engineering students are looking forward to being entrepreneurs."

Weatherall said the whole image of engineering has been changing in the public mind because of the success and glamour that Silicon Valley has brought to the industry. The new image of high tech has broadened the appeal of engineering.

"People want to jump on the bandwagon. The really exciting scenes of activity have brought in students who would not have chosen electrical engineering in the past," Weatherall noted.

He also said the interests of engineering students go well beyond the workbench and the lab.

"Engineering students can be fraternity presidents, lead violinists and entrepreneurs," Weatherall said.

It is obvious to Weatherall, and he is happy to tell anyone who will listen, that engineers are not nerds, but complex people who have a lot to offer industry and society.

In fact, he is convinced that the "nerd" image is already being replaced by the new "Yuppie" image once reserved for business graduates only.

"Engineering has become more abstract," Weatherall said. "It embraces all kinds of possibilities in life."

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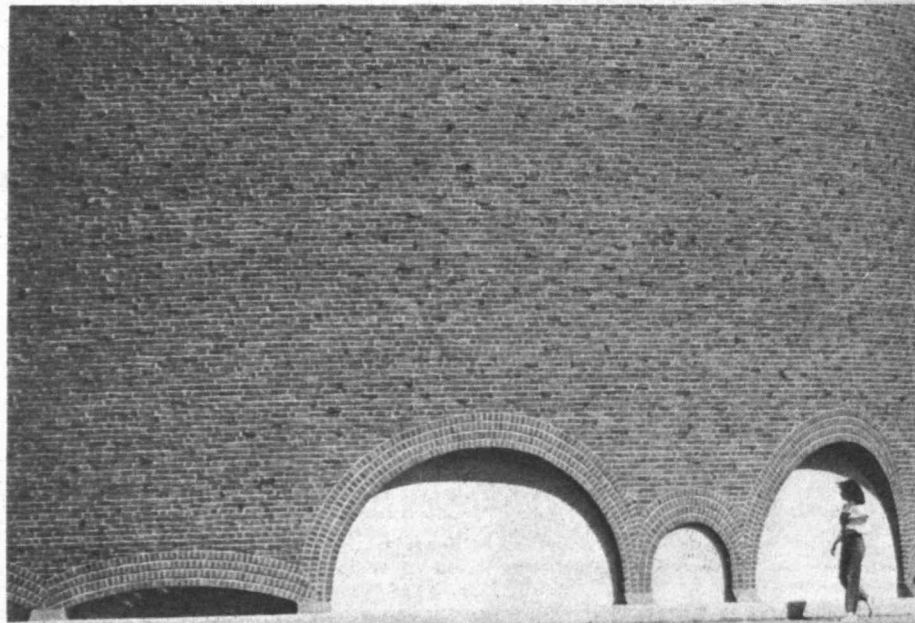
Smith to speak at Forum

Professor Peter H. Smith of political science will speak at the Cambridge Forum Wednesday, Oct. 3, at 8pm, on "Human Rights in Central America." Professor Smith, who recently returned from Mexico and Central America, is coauthor of the recently published *Modern Latin America*.

The Cambridge Forum is organized by the First Parish in Cambridge and takes place at 3 Church Street. It is open to the public.

DOE fellow named

Jeffrey A. Colborn, a 1983 graduate of the University of California, Berkeley, will do graduate work in fusion engineering at MIT under a fellowship program established by the US Department of Energy. The fusion fellowships, in their fifth year, were established to encourage students to prepare for careers in magnetic fusion energy technology.



Two Campus Police officers die suddenly

Two MIT Campus Police officers, Charles Gunn, 51, and Robert B. Winn, 52, died suddenly of heart attacks over the weekend.

Officer Gunn, who lived in Dorchester, died Saturday, Sept. 22, while attending a family reunion in Georgia. He came to MIT in 1968 to work in Physical Plant and joined the police force the following year. Before joining MIT he had been a military police officer in the US Army and had worked for the Simplex Wire and Cable Co.

Officer Gunn is survived by his widow, Effie, of Dorchester, and a son, Charles, who works at Polaroid. The funeral service will be held in Georgia.

Officer Winn died Sunday, Sept. 23, while jogging on the MIT track. He joined MIT in 1979 after completing 22 years with the Massachusetts State Police during which he became station commander at Logan International Airport. He earlier served for four years as an electrician in the US Navy.

Officer Winn's survivors include his widow, Judith of Natick; a son, Scott; his mother, Mrs. Alice Winn of Medford, a brother and four sisters.

A funeral service will be held Thursday, Sept. 27, at 9am in the John Everett & Sons Funeral Home, Natick, followed by a funeral Mass at 10am in St. Patrick's Church, Natick.

Stan VanDerBeek

Stan VanDerBeek, a pioneer in experimental filmmaking who had been a fellow at the Center for Advanced Visual Studies in 1969 and 1970, died last Tuesday in Baltimore, Md. He was 57.

CAVS director Otto Piene said Mr. VanDerBeek had been one of the creators of media art as it exists today, including such developments as computer graphics, multi-screen movies and mixed media events. He said Mr. VanDerBeek had been in constant touch with the CAVS since his days here and had participated in all three Sky Art Conferences, 1981-83.

In tribute, Mr. Piene said "I believe he was the first artist to use computer graphics here. He was a true pioneer in media and in telecommunications for artists. During the last years he made absolutely perfect video works. He was an exceptional human being and the most direct and beautiful colleague, full of wonderful work, morning, noon and night."

While here, Mr. VanDerBeek was artist-in-residence at WGBH-TV, Boston. There are plans to show some of his works in a memorial to be broadcast over WGBH, Mr. Piene said.

In 1957 Mr. VanDerBeek turned from painting to filmmaking. During ensuing years he explored collage animation, drawings and special graphics for animation, line action, pixillation, special dark room experiments and computer-generated animation.

At the time of his death he was chairman of the Visual Art Department at the University of Maryland.