Massachusetts Institute of Technology

September 5, 1984 Volume 29, Number 6

Museum hours

Effective this week, the MIT Museum will be open Saturdays, 10am-4pm. The Saturday openings are made possible by a \$50,000 grant the Museum has received from the Institute of Museum Services,

an agency of the US government. "We're very happy about this," Museum Director Warren A. Seamans said. "For years people have been saying 'I wish you were open Saturdays so I could bring my family to see the exhibits.' Thanks to the grant, now we can be open.'

The grant will also enable the Museum to extend its educational outreach programs in the local community and provide support for resource development.

Notice posted

Notices are being posted throughout the Institute today notifying community members that the Institute will seek an exemption for its research laboratories as permitted under Massachusetts' new "Right to Know" law.

The law goes into effect September 26 and employers are required to post notices in prominent locations at least 21 days before filing for the exemption.

A companion notice posted by MIT and a letter to be mailed to the MIT community in the near future will provide a more detailed explanation.

Questions about the law or the application for the exemption can be directed to John M. Fresina, director of the Safety Office, x3-4736, or to Richard I. Chamberlin, associate director of the Environmental Medical Service, x3-5360.

Blood drive

The annual R/O mini Blood Drive will be held Thursday and Friday, Sept. 6 and 7, 11:30am-5:30pm in the Sala de Puerto Rico. The drive, organized by the Technology Community Association and the Red Cross, provides an opportunity to introduce freshmen to the satisfaction being a blood donor can bring. But the drive is open to all members of the community who are 18 years old or more. No appointments are necessary and giving blood usually takes only an hour.

ATM help

Representatives from BayBank and Shawmut will be in Lobby 10 this week to introduce new students and other members of the community to the Automatic Teller Machines that were recently installed across from the Cashier's Office. he machines will operate daily 8am-5pm





A picnic in Killian Court opened the 10-day Residence/Orientation program of the Class of 1988. The class numbers 1,069 with a record 309 women in its ranks. -Photo by Calvin Campbell

MIT issues policy statement on sexually explicit films

In a policy statement on the showing of sexually explicit or pornographic films on campus, MIT has announced it will not "categorically" deny space to student groups wishing to show such films but will require that the films meet certain criteria.

If groups elect to go ahead and show films that do not meet the criteria—a determination to be made by a screening committee-then MIT will impose the following conditions, the policy statement says:

-Sufficient prior notice must be given of the intent to show such films in order to allow others adequate time to plan, schedule and advertise an alternative and concurrent program.

-The groups showing the films will be responsible for arrangements that assure suitable conduct by the audience, and will be expected to show good taste in advertising the

Freshman **Class boasts** 300 women By JOANNE MILLER

Staff Writer

This is a banner year for women at MIT. The incoming freshman Class of 1988 includes a record 309 women among its 1,069 members. Through special recruiting efforts, the number of women undergraduates has been increasing steadily over the past decade, but this year tops 300 for the first time. The women make up nearly 29 per cent of the class

Selected from 6,055 final applicants, the class, at 1,069, has about 40 students more than expected. Admissions Director Peter H. Richardson attributed this to a smaller than usual "summer melt." Summer melt is students who say they will matriculate in the spring but change their minds during the summer. A normal summer melt is 50-60 students, he said, while this year the number was 27.

(Mr. Richardson, who announced his re-tirement as director of Admissions earlier this year, left MIT following his traditional welcome to the class at the Freshman Picnic Friday. He has been named director of admissions at the Vermont Law School in South Royalton, Vt.)

The size of the class will cause some crowding in campus residences for the fall term that will result in some single rooms becoming doubles and some doubles triples. MIT freshmen are required to live in campus housing unless they live at home.

Included in the class are 66 black Americans, 26 Mexican Americans, 19 Puerto Ricans and one American Indian. Forty-seven of the minority students have been at MIT during the summer participating in Project Interphase. Interphase is an intensive seven-week program aimed at strengthening the mathe-

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Symposium to explore future of autos

By ROBERT C. Di IORIO Staff Writer

Executives from most of the world's major auto companies, labor leaders and government officials will be among those who will take part September 18-19 at MIT. MIT's International Automobile Program reports on its four-year study, "The Future of the Automobile.

An estimated 500 people are expected to attend the two-day symposium which is sponsored by MIT's Industrial Liaison Program, the Center for Transportation Studies and the Center for International Studies.

The bank respresentatives will demonstrate how the machines work, describe what services are available, answer questions and open new accounts.

Camera loan

Six Polaroid 600 series cameras will be available for loan to members of the MIT community through "Check This Out," a program operated by the Polaroid Foundation. The cameras feature built-in electronic flash and one button operation. They are available on a first come, first served basis for one-week loan at the desks of the Humanities (14S-100) and Rotch (7-238) Libraries. Borrowers must supply their own film and, during September, will be asked to fill out a questionnaire which will be returned to Polaroid.

Other loan equipment available from the Libraries includes portable microfiche readers and audio-cassette players. Videotape monitors, film and slide projectors and phonographs may be used in the libraries.

-The films may not be shown on registration day of either the fall or spring term, nor during the orientation period at the start of the fall semester.

-The films may not be shown in Kresge Auditorium.

films

Violations of these conditions, the statement says, can result in a hearing by the Office of the Dean for Student Affairs and sanctions that could include the recommendation by ODSA for denial of MIT space in the future. Dean Shirley M. McBay said the policy (continued on page 8)

Mall approach may benefit cities generally, researchers report

By CHARLES H. BALL Staff Writer

A new approach to urban redevelopment that has revitalized downtown shopping areas may lead to central city development on a far wider scale, say two MIT researchers.

Professors Bernard J. Frieden and Lynne B. Sagalyn say that the wave of new retail centers built in downtown areas across the country provides a "striking demonstration" of what can be achieved through joint publicprivate projects.

The key to success, they say, has been a restructuring of traditional relationships between the public and private sectors "to make development more of a joint venture than ever before." The result, they write, has been "a quiet revolution in development management" in which city governments have developed an entrepreneurial style of public administration, sharing decisions with private developers and substituting negotiation for confrontation.

The researchers describe this new approachand its likely application to other urban projects-in a working paper entitled, "Downtown Shopping Malls and the New Public-Private Strategy," issued by the MIT Center for Real Estate Development and by the MIT-Harvard Joint Center for Urban Studies. Dr. Frieden is a professor and Dr. Sagalyn (continued on page 8)

Among those scheduled to participate are:

Philip Caldwell, chairman of the Ford Motor Co., who will give the luncheon address on September 18.

Shoichiro Irimajiri, president of Honda of America, who will give the dinner address September 18.

Marina Whitman, vice president and chief economist at General Motors Corp., who will be a member of a panel on the future of trade relations on September 19.

Viscount Etienne Davignon, vice president of the Commission of the European Communities, who will be the luncheon speaker September 19.

Other auto company executives who will take part in various panels include:

Will Scott, vice president-governmental affairs, Ford Motor Co.

Hans Joachim Forster, research director, Daimler Benz AG.

Henrik Gustavsson, passenger car division, Saab-Scania AB.

Teruo Maeda, general manager-product development, Nissan Motor Co. Ltd.

Malcolm Harbour, marketing director, Austin Rover Group, Ltd.

Francois Perrin-Pelletier, counselor in innovation to the director, Peugeot S.A.

(continued on page 8)

INSTITUTE NOTICES

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

Announcements

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 Commence-ment, June 3, 1985 is planned.

Army ROTC**-meets each Thursday, 3-5:30pm, Rm 20E-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 recongized 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 base-ment of Student Center, open 4-11:30pm, Tues-Sat (closed Sun-Mon). For more info, call x3-3913.

Basic Pistol Marksmanship Course^{**}-Will stress safety, Mass gun laws, care & handling along with develop-ment marksmanship skills, 5 consecutive Thursdays begin-ning Sept 20, 6pm, DuPont Pistol Range. Each class approx 2-1/2 hours. Fee includes everything. Preregister and info: Andy Platais, x8-2077 Draper.

Nightline**-a student-run hotline open every evening of the term, 7pm-7am. If you need information about any-thing 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.

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. Info, Rajan Batta, x3-6185, 494-1968, 876-4515 or x5-9563 dorn

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 with-out partner. Info call Gary Schwartz, x8-1484 Draper, or Mark Dulcey, 576-3745. Admission: \$.75/students, \$1.50 non-

MIT Table Tennis Club**-meets Sats and Suns, 6pm, T-Club Lounge. Exhibition at Athletic Midway, Sept 6, 7:30pm; Campus Tournament, Sept 22, 3pm. For info call Kenny, x3-8771 dorm or David 492-4317

MIT Aikido Club**-meets Mon-Fri, 5:30pm, DuPont exerom. Aikido is a non-competitive Japanese martial discipline. 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. term MIT

MIT Nautical Association**-Memorial Dr. opposite Walker Memorial, x3-4884. We are open 7 days/wk, 9am-sunset. Come join and learn to sail! Basic Sailing Shore School, Weds, 5:15pm; Intensive Sailing School, Sat, 10am, learn to sail in 1 day; Boardsailing clinics, Tues, 5:15pm & learn to sail in 1 day; Boardsailing clinics, 10es, 5:15pm & Sun, 10am. Other sailing classes offered throughout the summer, call for schedule. Novice Racing, Mon eves; Interme-diate/Expert Racing, Tues & Thurs eves. Membership cards available in Cashier's Office, Rm 10-180: \$10/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. announcements outside Rm 5-106. For more info, call Parick Cheung, x5-9558 dorm or 494-8751 (mssg).

MIT Women's Water Polo Club**-Women students,

Religious Activities

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

Christian Science Organization at MIT*-Weekly Tes timony Meeting, Thurs, 5:45pm, Rm 4-159

Tech Catholic Community*-Roman Catholic Sunday Masses: Sept 9, 12pm/5pm, MIT Chapel. Weekday masses begin Tues Sept 11, Tues, Thurs, 5:05pm, Fri, 12:05pm.

MIT Hillel**-The Hillel office (W2-A) will be open all summer. For a listing of city-wide Hillel activities, call x3-2982.

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

Meditation and Discourse on the Gita**-Swami Sar-vagatananda of the Ramakrishna Vedanta Society of Bos-ton. Sponsored by MIT Vedanta Society. Fridays, 5:15-6 pm, MIT Chapel.

Charismatic Prayer Group⁹-Mon eves, 6:45, Miller Rm 1-114. Pot-luck supper followed by prayer meeting, Bible sharing, music & praise. Jim Mahoney, x3-3074.

Islamic Society^a-Daily prayers, Ashdown House (base-ment), 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.

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.

United Christian Fellowship**- (Inter-varsity chapter)-Large group fellowship every Friday at 7:30pm in Moore Rm 6-321. Call Chavonne x5-8537 dorm for more info.

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

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

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

Prayer Time*-Fri afternoons, 1-2pm, Bible Class, Rev. Miriam R. Eccles, founder & director of Alpha and Omega Missionary Society. Guest speakers & refreshments. Center for International Studies, Seminar Rm III (E38-6th flr).

Edgar Cayce Study Group*-Tuesdays, 7-9:30pm, Ash-down 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 McCarroll, 497-5539 or Scott Greenwald, 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, x34861/3-5085 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.

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 citi-zens 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 unmar-ried 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.

1985-86 Fulbright Scholars. 275 appointments for university lecturing and postdoctoral research abroad. Doctorate required at time of application. Deadline: September 15, 1984 for Africa, Asia (except India), Europe, Middle East. Applica-tions materials available upon request from Dean Chamber-lain, Rm 5-106, x3-3795 or by writing Council for International Exchange of Scholars, 11 Dupont Circle, Suite 300, Washington, DC 20036.

1985-86 Graduate Fulbright Awards in Creative and Performing Arts. Applicants must be US citizens at time of application, who will hold a bachelor's degree or equivalent before the beginning date of the grant and, in most cases, be proficient in the language of the host country. Except for certain specific awards, candidates may not hold a PhD at time of application. Candidates for 1985-86 are ineligible for a grant to a country if they have been doing graduate work or conducting research in that country for 6 months or more during the academic year 1984-85. Contact Dean Chamber-lain, International Student Office/Student Assistant Servi-ces, Rm 5-106 for more information and applications.

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

1985 Monbusho (Ministry of Education, Science, and Culture, Government of Japan) Scholarships. For American research (non-degree graduate) students to study versity Ap icants should have knowledge of Japanese language. Application deadline: September 14, 1984. For applications or further info, contact Prof. Richard Samuels, x3-2449 or Alice Peattie, MIT-Japan Science and Technology Program, x3-3142 immediately

MIT Libraries Term-time Hours

September 10 - December 21, 1984 and February 4 - May 22, 1985

		Mon-Thu Fri	Sat Sun
Administrative Offices	14S-216	9-5	- closed
Aeronautics and Astronautic Library	s 33-316	8:30-6	- 11-6 1-5
Barker Engineering Library	10-500	8:30-11 8:30-7	11-6 1-11
Chemistry Reading Room	18-480	10-5	- closed
Computerized Literature Sea Service	rch 145M-48	9-3:30	- closed
Dewey Library	E53-100	8:30-11 8:30-7	11-6 1-11
Humanities Library	14S-100	8:30-11 8:30-7	11-6 1-11
Institute Archives and Spec Collections	ial 14N-118	9-5	- closed
Lindgren Library	54-200	8:30-11 8:30-7	11-6 1-11
Microreproduction Laborator	y 14-0551	9-5	- closed
MIT Museum	N52-260	9-5	- closed
Music Library	14E-109	8:30-11 8:30-7	11-6 1-11
Reserve Book Room	14N-132	8:30-11 8:30-7	11-6 1-11
RetroSpective Collection	N51-230	9-5	- closed
Rotch Library	7-238	8:30-10 8:30-7	11-6 2-10
Rotch Library Visual Collec	tions 7-304	8:30-6	- closed
Schering-Plough Library	E25-131	9-6	- closed
Science Library	145-100	8:30-11 8:30-7	11-6 1-11
Student Center Library	W20-500	24 hours a day	

SPECIAL SCHEDULES ARE POSTED FOR HOLIDAYS

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, Cultu-Affairs, Statler Office Bldg, 20 Park Plaza, Suite 1012, Bos-ton, MA 02116, (617) 542-5196, or see Dean Chamberlain.

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 Preprofes-sional Advising, Rm 12-170, x3-4733.

Commonwealth of Massachusetts, Executive Office of Transportation and Construction. EOTC oversees all trans-portation projects in the state; they seek students with a background in journalism, public relations, political science or English to assist with media and public information efforts. Volunteer basis.

Planned Parenthood League of Massachusetts, Cambridge. Seeks volunteer reproductive health counselors, a conference assistant, a library assistant, an assistant in the fundraising department and in public affairs and information department.

Student Jobs

Part-time editorial assistant, for help in preparing papers, class notes and text material (including equations), using augmented WordStar text processing. Hours and salary negotiable. Contact Prof Frank McClintock, Rm 1-304, x3-2219

Part-time computer operator at the Harvard College Observatory available in the High Energy Astrophysics Division of the Smithsonian Astrophysical Observatory, 60 Garden St. The job will include all phases of the processing of satellite data. Data tapes and computer hardware will be handled, data will be processed using current software, and output will be filed. Some familiarity with computer hardware and pro-gramming preferred. Hours: 16 hours/wk; up to \$6.50/hr. If interested, please call Dr. G. Fabbiano, 495-7203.

UROP

For more detailed information on UROP opportunities listed, MIT undergraduates should call or visit the Under-graduate 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. Welcome Freshmen, transfer students, and returning

MITunda ates are hereby invited to join 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.

Materials Testing for Hot Working. Project involves test ing the mechanical properties of metals at temperatures exceeding half of their melting temperature. Work will involve all facets of materials testing: sample preparation, computer-controlled testing and data acquisition, hardware development, and data analysis. Looking for students with interest in materials testing. Faculty supervisor. Prof Lallit Anand, Contact Stu Brown, x3-4414 or leave message at x3-1635. FRESHMEN accepted. PAY available.

Electronic Circuit Design in Materials Testing. Project involves testing the mechanical properties of metals at high temperatures. Several specialized electronic circuits have to be designed at constructed to enable more accurate test control and data acquisition. Looking for students with SIMPLE circuit design experience. Faculty Supervisor and contact: same as above. Qualified FRESHMEN accepted. PAY available.

Trade Liberalization in Turkey. Research will examine the impact of various trade liberalization episodes on employ-ment, trade flows, macroeconomic variables, especially the results of the reforms undertaken in the 1980-83 period. One student needed to take responsibiliy for organizing the medium sized data base onto a computer, mainframe and/or PC's. Some experience with data base systems is required. In addition, several students are needed to work as research asistants helping to systematize, analyze, and prepare the data. No prior experience required. In addition, there are several topics which would be suitable for advanced individual work including theses. Contact faculty supervisor. Dr. Charles Blitzer, Energy Lab, E40-343, x3-8071. PAY available in some cases.

Energy-Economy Interactions in Developing Coun-tries. This project is aimed at furthering understanding of the role of energy in the development process and the lin-kages between energy supply/demand and macroeconomic growth. Both country-specific and cross-country models are being built for forecasting and policy analysis. Students are needed to help with data collection and analysis, and with development of the required models. Contact faculty supervi-or as as a show sor. same as above.

Investment in Oil Exploration and Development. The main issues in this project are to explain why so little oil exploration occurs in developing countries, the role of ineffi-cient fiscal regimes and contracting arrangements in holding down investment and related policy issues. Student researchers will be involved in data analysis, country case studies, and examination of various new contracting forms Contact faculty supervisor: same as above.

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 Women's Rhythmic Gymnastics**-now being organized. Women interested in joining, contact coach Hel-ena Goldfarb, 596-2396 eves, or Yana, x3-2427.

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

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 Charlie Park, x5-9123 dorm

Scuba Club**-The club sponsors dives throughout the year with practice sesions 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.

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Donner Foundation Fellowships. Competition for 3 awards covering tuition and stipend of \$500/mo, sponsored by the International Food and Nutrition Program, to support pregenerals graduate students in Depts of Nutrition and Food Science, Political Science, Economics, Urban Studies and related disciplines, interested in researching US domestic food and nutrition program and policy issues. Deadline Sept 14, 1984; awards announced Sept 18. Applications avail-able in IFNP office, Rm 20-201. For info call Karen Bushold, x3-5101

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

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, governme directly related to participant's professional interests or background in the fields of business administration, econom-ics, public affairs, political science, law, journalism, and communications. For applications, contact: Ursula Hoegaberg, The Carl Dusberg Society, Inc., The Robert Bosch Foundation Fellowship Program, 425 Park Ave., New York, NY 10022, or see Dean Chamberlain. Application deadline: October 15, 1984.

with faculty members in pursuit of research projects of mut-ual 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 questions. Current projects will be listed in this weekly column and on the UROP bulletin boards.

First Call for Proposals: Proposals for Fall UROP support may be turned in any time after September 4. Submit them first for review and approval to your faculty supervisor and the UROP Coordinator in your faculty supervisor's department before turning them in to the UROP office. For submission), details on procedures (proposal writing and read the "Participation" section of the UROP Directory.

General Principals: Do not ask for what you do n absolutely need. Be sure you have submitted your past UROP evaluations. Write a coherent proposal. See the fall guidelines for our proposal reviewing criteria.

Availability of UROP Funds: 1)Generally available for Availability of OAP Palasis within reason. 2)Often avail-able to supplement overhead waiver requests when faculty or departments offer wages to UROP students. 3)Tougher to get if you are asking for significant wages from UROP itself.

UROP T-shirts are available. See Bulletin Board for details.

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 aca demic 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

Setting Up a Digitizer with IBM XT Personal Computer for Operational Use. The project will proceed in two phases: Phase I-Interfacing of digitizer with IBM PC; programming and implementing necessary software; writing of a short Users Manual for operating digitizer as a black box. Phase II-Writing of computer programs for digitizing synoptic weather maps; establishing transformation for for various map projects. Experience in BASIC, FORTRAN and/or ASSEMBLY languages preferred. Contact faculty advisor, Prof. Ole S. Madsen, Rm 48-319, x3-2721 or Hans Graber, Rm 48-205, x3-6596. PAY available.



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Address news and editorial comment to MIT News Office, Room 5-111, MIT, Cambridge, MA 02139. Telephone (617) 253-2701.

Mail subscriptions are \$18 per year by first class mail. Checks should be made payable to MIT and mailed to Business Manager, Room 5-113, MIT, Cambridge, MA 02139.

Art lottery is underway for students

More than 250 framed prints and artistdesigned posters have gone on view at the Hayden Gallery, all available for loan to students and student groups for the academic year.

They are from the Catherine N. Stratton Collection of Graphic Art and the List Student Loan Program. Full-time, registered MIT students can select a work by completing sign-up cards, which will be chosen in a random lottery at the close of the exhibition September 20.

Last year more than 1,100 students and 40 student organizations registered for loans from the program. At the end of the year one student wrote, "I finally got an Andy Warhol and what a joy it was having it. Just bringing it to my apartment was exciting because everybody on the streets kept stopping me to inquire and comment about the picture.'

The exhibition offers a large-scale survey of contemporary graphics in a range of techniques, including lithographs, etchings and silkscreens. Both established and younger artists are represented, ranging from Abstract Expressionists such as Robert Motherwell and Adolph Gottlieb, to Pop artists such as Andy Warhol, Jim Dine, Robert Rauschenberg, Roy Lichtenstein and Claes Oldenburg, and representational artists such as Baskin and Neil Welliver.

There are more than 40 recent additions available in the loan exhibition for the first time, including works by artists of more recent recognition, such as Jennifer Bartlett, Elizabeth Murray, Keith Haring and David Salle.

During gallery hours, weekdays 10-4pm and weekends 1-5pm, students may view the Stratton and List collections and register their first, second, and third choices for prints and posters. Authorized representatives from recognized student groups may also register to place art in public spaces used by their groups, such as fraternity or dormitory lounges, club offices and activity rooms. Loans will be limited to one work per student or group.

A complementary exhibition of Hayden Gallery posters designed by Jacqueline Casey, head of MIT Design Services, will be on display in Hayden Corridor Gallery. Many of these posters will be available for purchase.

Support for the Student Loan Program comes from friends and alumni of MIT, including the Communities Foundation of Texas, headed by Alan M. May, '57, of Dallas, and the James Taylor Family Foundation, headed by John Taylor, '72, of Mequon, Wisconsin.

The Catherine N. Stratton Collection of Graphic Art was established in 1966 by the Arts Committee (now the Council for the Arts at MIT) in tribute to Mrs. Julius A. Stratton, wife of MIT's 11th president. Mrs. Stratton's support of the visual arts at the Institute spans more than two decades.

The List Student Loan Program was established in 1977 with the gift of more than 100 framed prints and posters from the Albert and Vera List Collection, which continues annually to augment the collection with numerous graphic works. Mr. and Mrs. List are patrons and collectors of contemporary art who have made major contributions to the arts at the Lincoln Center for the Performing Arts and The New Museum of Contemporary Art in New York, Brown University, and the MIT Permanent Collection.

Faculty son is chess master

The 16-year-old son of an MIT professor has returned from Finland with a credible showing in the World Junior Championship of chess.

Patrick Wolff of Belmont, son of Dr



Lincoln gallery shows 'polages' By CHINA ALTMAN of the clear cellulose."

Staff Writer

Lincoln Laboratory's Gallery currently is showing the "polages" of Nevada artist Austin Wood who works with a new language of color produced by the interaction of cellulose laminations with polarized light.

Gallery? Lincoln? Little known to the MIT community at large, Lincoln Laboratory has sponsored an art gallery since 1962.

Located in the main corridor just past the reception area, the gallery is the responsibility of Lease A. Plimpton who works in the office of the director. She has been curator since 1977

The present Lincoln exhibition, on view until September 12, is a preview for Ms. Wood's first major exhibit on the east coast, in the Gallery on the Green Ltd. in downtown Lincoln, Mass., September 15-October 15.

Ms. Wood coined the word, polage, from 'polarized collage" to describe the art form she began developing in 1967. The images come about from the interaction of polarized light and hand-cut cellulose laminations of different thicknesses and orientations.

The experience of a typical Wood polage may be described as follows: The viewer sees a thick neutral-colored piece of cellulose, usually in a geometric shape, resting upright on a wooden holder. Each has a viewing disc, a polarized filter designed to be held in the hand. When seen through the disc the work glows with radiantly colored images. When the disc is turned new images and colors appear, often producing the effect of a metamorphosis.

As Ms. Wood said, "The experience of causing a large colorless panel to spring into an intricately colored image and then change form by a mere tiny motion of the hand is powerful. The viewer becomes part of the creative process."

Her colors come from the pure bands of the

In its first 15 years the Lincoln gallery was devoted to contemporary art. Ms. Plimpton decided to expand its scope, while keeping the original commitment to modern art.

Her exhibitions have included: French masterpieces from the 19th century, antique clocks, Japanese prints, Hudson River paintings, posters by Jacqueline Casey, head of MIT's Design Services, whaling prints, Chamberlain etchings, oriental rugs, jewelry from a master goldsmith, architectural drawings by MIT women students and several Boston area artists, including Morton C. Bradley, Kahlil Gibran and William Georgenes.

She draws the exhibits from an extensive network of resources, including the MIT Museum, the MIT Committee on the Visual Arts, Harvard's Fogg Museum, the Museum of our National Heritage in Lexington, the collection of High Voltage Engineering of Burlington and from many private collectors.

One of her most popular exhibits, she said, was the result of a suggestion from Lincoln staff member Terry P. Herndon. This was the showing of an antique car model built to a 1/6th scale by antique car restorer Edgar L. Roy. She mounted it on a mirror so viewers could see more of the intricate interior.

Although Lincoln Laboratory is closed to the general public, Ms. Plimpton explained that the gallery is in a central place for viewing by the daily population of 2,100 and some 18-20,000 visitors each year.

Exhibits at the Lincoln Gallery in the near future will include a showing of lithographs from the teens of this century and a display of American quilts. Among the most popular of Ms. Plimpton's innovations has been her annual "Winter Doldrums" exhibit. During February and March she always chooses art showing beautifully colored spring and summer scenes. For more information: 181-7030.

The gallery was founded by Dr. Joseph

George Clark to hold new Kerr Chair

Dr. George W. Clark, internationally recognized for his pioneering investigations in the

field of high-energy astrophysics, has been named the first holder of the Breene M. Kerr Professorship at MIT.

The professorship has been established by Breene M. Kerr, chair-man and chief executive officer of Kerr Consolidated, Inc., of Oklahoma City, to honor distin-guished faculty members at MIT, where Mr. Kerr received the S.B. in geology in 1951. Ap-



pointments are expected to be for five-year periods.

The establishment of the chair was announced by President Paul E. Gray and the appointment of Dr. Clark to be the first Breene M. Kerr Professor was announced by Professor John M. Deutch, Dean of the School of Science.

'As has been true for many years now, the life of the Institute has been greatly enriched by Mr. Kerr's devotion to his alma mater," Dr. Gray said.

Professor Deutch said that Dr. Clark, the first holder of the Breene M. Kerr Chair, "is a scientist of international stature whose research has pushed back the frontiers of astrophysics. A member of our Department of Physics, since 1952, his teaching and research are of the highest standard."

An active alumnus, Mr. Kerr has played a leading role in a number of MIT activities over the years. He is a life member of the MIT Corporation and served from 1977 to 1982 on its Executive Committee. He is a also a former president of the Alumni Association and chairman and a founding life member of the MIT Sustaining Fellows. He has been a member of the Visiting Committee for the Department of Earth, Atmospheric and Planetary Sciences since 1963 and is currently its chairman. From 1969 to 1975 he was a member of the Visiting Committee for the Department of Civil Engineering and chairman of that committee from 1970-1975.

Professor Clark, who received the BA from Harvard College in 1949 and the PhD from MIT in 1952, both in physics, has conducted his research primarily in the field of highenergy astrophysics. During the 1950s he investigated the properties of very high-energy cosmic rays and their interactions with the atmosphere by observations of extensive air showers and measurements of the polarization of secondary particles

Beginning in 1958 he collaborated in a series of satellite experiments that culminated in the discovery of high-energy cosmic gamma rays. In 1964 he initiated the technique of balloon-borne X-ray astronomy with an experiment that detected the high-energy X-ray emission from the Crab Nebula.

Since 1970 he has been responsible for several satellite projects in X-ray astronomy carried out in the Center for Space Research. These have yielded extensive measurements of the positions, variations, and spectra of galactic and extragalactic X-ray sources and added many new objects to the list of X-ray sources. His publications include nearly 200 journal articles

Professor Clark joined MIT in 1952 as an instructor, was promoted to assistant professor in 1954, associate professor in 1960 and professor in 1965. He is a fellow of the National Academy of Sciences and the American Academy of Arts and Sciences, a fellow of the American Physical Society and a fellow of the American Astronomical Society and the International Astronomical Union.

Describing 'Doc'... The September issue of American Photog-rapher has an article on Professoor Harold E.



Cynthia Griffin Wolff, professor of literature in the literature section of the Department of Humanities, finished 16th out of 50 players in the Finnish competition, which was open to the top junior player in each country. The junior category is for any player under 20, and the winner was a 19-year-old Dane.

Patrick began playing chess with his father, Robert, a philosophy professor at UMass-Amherst, when he was six, and entered tournaments four years later. A senior master, the highest ranking on the national level, Patrick won the US Junior Championship in June, defeating 11 of the nation's best players.

His father said Patrick will compete again next year in the junior championship and also the US Closed Championship, in which the top 18 players in the country compete for the national title.

Patrick, who is beginning his junior year at Belmont High School, will find time about once a month to travel to New York City to study with his coach, grand master Edmar Mednis.

Patrick's mother will be on leave from MIT the first semester, completing a book on poet Emily Dickinson.

spectrum, as contrasted with traditional modes of creating and manipulating color by mixing and depositing pigments on surfaces. "In the polage," she said, "Color comes from breaking the spectrum into its components and color mixing is done by adjusting angles

Mindel, assistant to the director, who began by borrowing art from the Fogg and Rose Art Museums. He operated the gallery until his retirement in 1975. Dr. Frederick C. Frick, also assistant to the director, was curator from 1975 to 1977.

It's a small world after all

Calvin Campbell, Tech Talk's photojournalist, was on a train speeding into Tokyo this summer when he got into a conversation with a woman who turned out to be a fellow American, a native of

Hawaii now living in Oklahoma City.

She also turned out to be one of the hundreds of people Mr. Campbell photographs each year at MIT-but that was not immediately apparent to either of them because they had met only briefly under hectic conditions six years before.

When Cambridge was mentioned, the woman said: "Oh, I've been there. My son went to MIT and I had my picture taken with him once when he won a design contest and it was run in our home town

paper." To which our traveling photographer replied, "If you had your picture taken at MIT, I'm probably the one who took it."

He was right. It was 1978 when John Dieken, then a junior in mechanical engineering, won that year's 2.70 contest, The Brass Rat Race. His parents-Chieko and Jack Dieken-happened to be in Cambridge the night of the contest and

had their picture taken with their son. John, who will soon receive his SM in mechanical engineering from MIT, is a research engineer for The Analyst, a Schlumberger company in Sugarland, Texas.

Edgerton, Institute Professor, which says that "in the long view of history he may go down with Galileo and Leeuwenhoek" for the 'quantum leap in our knowledge of the real world" he made possible with the development of high-speed photography.

The writer, David Roberts, quotes Doc on his arrival at MIT: "There was a wonderful spirit here. Everybody was working hard. I was fortunate. They had a big lab, and everybody was interested in theory. I wasn't—I was interested in practice. So I fit right in.

Roberts says of Professor Edgerton: "... The twang that tunes his voice resonates with his native Nebraska... His diction is Harry Truman-plain; decades of academe have softened none of the blunt and colorful idioms with which he seizes the world. His face is round, he sports wire-rim glasses, and there is a hint of Teddy Roosevelt in his countenance. The wrinkles over his left eye are raised in a fixed distortion, like a scar, so that it seems as if Edgerton is literally and constantly raising a quizzical eyebrow as he regards you. When he laughs, it is in a sudden and ebullient chuckle

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THE INSTITUTE CALENDAR

September 5-17

Special Interest

R/O Week Blood Drive*-Red Cross & Technology Community Association blood drive, Sept 6-7. Sala de Puerto Rico. Student Center, 11:30am-5:30 pm. No appointment nece

First Institute Workshop for Graduate Teaching Assistants— Sponsored by Provost, Dean for Student Affairs, Dean of the Graduate School. Speakers include Dr. Francis E. Low, Provost; Prof Amar G. Bose, Dept of Electri-Prancis E. Low, Provost, Provanarov, Bose, Deptor Electri-cal Engineering and Computer Science; Dr. John P. Terry, supervisor, Project STILE; Dean Holliday C. Heine, head, Undergraduate Academic Support Office; Drw Burns, G. Dept of Chemistry; Ian Webb, G. EECS; Prof Frank E. Per-kins, associate provost and Dean of the Graduate School; and Dr. Jeffrey A. Meldman, senior lecturer in Management and Associate Dean for Student Affoirs, Satt Scipt 15, 9am3pm Associate Dean for Student Affairs, Sat, Sept 15, 9am-3pm, Rm 10-250. Open to all graduate TA's; be sure to RSVP through your department's graduate office by Sept 11. sure to RSVP

Seminars and Lectures

Thursday, September 6

Database Software on Micros*-Joanne Costello, MIT staff, IPS review of some database management systems and some of the considerations to be made in choosing a package, 2-4 pm, Rm 1-390.

Friday, September 7

Fluid Flow Simulation by Finite Element Methods** Prof Roland Glowinski, University of Paris, Special Applied Mathematics Colloquium, 4pm, Rm 2-338. Refreshments served at 3:30pm, Rm 2-349.

Survey of Electron Cyclotron Current Drive, Lower Hybrid Accessibility, and Plasma Frequency Emission^{*}-Dr. Lashmore-Davies, Culham Labora-tory, Plasma Fusion Center Seminar, 4pm, Rm NW16-213. Parfeedments estrated at 345m Refreshments served at 3:45 pm.

Tuesday, September 11

The Development of a Research Field: Iron-Sulfur Proteins*-Prof Helmut Beinert, Institute for Enzyme Research, University of Wisconsin-Madison, T.Y. Shen Visiting Professor in Medicinal Chemistry, Dept of Chemistry Lecture, 4pm, Rm 4-270.

Tensile Fracture of Cracked or Uncracked Non-Yielding Materials with Special Reference to Concrete**-Prof Arne Hillerborg, University of Lund, Civil Engineering Seminar, 4pm, Rm 1-350.

Wednesday, September 12

New Insights into Structure and Function of Fe SPro teins Through Studies on Aconitase*-Prof Helmut Beinert, Institute for Enzyme Research, University of Wisconsin-Madison, T.Y. Shen Visiting Professor in Medicinal Chemistry, Dept of Chemistry Lecture, 4pm, Rm

The Westinghouse Advanced Pressurized Water Reactor² – Dr. Ray George, manager, Westinghouse's Advanced PWR Project, Nuclear Engineering Dept Reac-tor Innovation Program Special Seminar, 3:30pm, Rm 24-121.

Community Meetings

Al-Anon**-Meetings every Tues, noon-1pm, Rm 18-290; Ai-Anon"—meetings every Tues, noon-1pm, Km 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 7:30-9am, sponsored by MIT call Ruth or Shirlee, x3-4911.

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.

Roommate Get-Together*-Off-Campus Housing Service informal gatherings for students needing housing/room-mates, Mon. Sept. 10, 5-7pm, Student Center Mezzanine Lounge, Light refreshments served. For info, call x3-1493.

Computer Professionals for Social Responsibility*-monthly meeting, Sept 12, 7:30pm, Rm NE43-800. The Ball's Eye War film shown. For info, call Steve Berlin, x3-6018.

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

Comptrollers Accounting Candlepin Bowling League^{**}- gets underway Monday Sept 10, 5:30pm. Anyone interested in bowling a 32 week schedule, contact Jack Lavalle, x3-2772 or Debe Atwood, x3-2770.

Parent Support Group**-Medical Department sponsored meetings for parents with newborn to 2-yr old children, Sept 11, 25, Oct 9, 30, Nov 13, 27, Dec 11, 12-1 pm, Rm E23-501. Expectant parents encouraged to attend. For more info, call Bette Livesey, x3-6320, Janette Hyde, x3-1744 or Medical Dept, x3-1316.

MIT Wives' Group^{**}-First meeting of the Afternoon Group, Welcoming Newcomers: How to Get the Most From Your Time Here, Wed, Sept 19, 3-5pm, Student Cen-Rm 407. Babysitting provided in Rm 491. All women in the MIT community welcome.

MIT Women's League Informal Needlework Group**-Wednesday lunchtime gatherings, 9:30am-1:30pm, Killian Court or in case of rain, 3rd flr Women's Lounge next to Mary Pinson's office. Bring sack lunch, projects, swap ideas. Coffee and tea served. Meeting date: Sept 5.

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. 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 I-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).

Theater

Chicago-A Musical Vaudeville*—MIT Musical Theatre Guild, Sept 8-9, 13-15, 8pm except 9/9 which is TBA, Kresge Little Theatre. Tickets, \$6/general; \$5/MIT staff; \$4/area students; \$3/students & seniors.

Music

MIT Concert & Festival Jazz Bands**-Auditions, Sun, Sept 9, 5pm, Kresge Auditorium. Sight-reading and improvi sation. For info, call Jay Elson, 494-8677.

MIT Chamber Music Society**-Auditions, Mon. Sept 10, 7pm, Rm 4-156. Sight-reading and prepared contrasting pieces. For info, call x3-2906.

MIT Brass Ensemble^{**}-Auditions, Tues, Sept 11, 5pm, Kresge Rehearsal Room B. For info call Matt Lehman, x5-8838 dorm.

MIT Symphony Orchestra**-Auditions, Tues, Sept 11, 7:30pm, Kresge Auditorium. Openings in all sections. For info, call Karen, x3-2826 afternoons, T.F.

MIT Concert Band**-All welcome to join; first rehearsal Wed, Sept 12, 8pm, Kresge Auditorium. For info, call Carl Manning, x5-8704 dorm.

Noon Hour Chapel Concert*-Marie Rhines, violin pe forms American fiddle and violin music, Thurs, Sept 13, 12noon, MIT Chapel.

MIT Choral Society**-Auditions, Sept 17, 20, 7:30 pm, Rm 2-190. Handel's Messiah, in English. For info, call Erika Hartwieg, 547-1599 after 6pm.

Dance

MIT Ballroom Dance Club*-Workshop in Charles-ton/12th Street Rag, Sept 5, 7-8pm, Student Center Rm 407, Free; Workshop in '50's Rock 'n' RollSwing/ Ballroom Dance Exhibition, Sept 9, 6:30-9:30pm, Student Center Sala de Puerto Rico. Admission \$1/students & MIT affiliates; \$4/general public. No partner or experience required.

MIT Folk Dance Club⁹-weekly dancing - Sundays, Inter-national Dancing, 7:30pm, Student Center Sala de Puerto Rico; Tuesdays, Balkan and Western European Dancing, 7:30pm, M 407 Student Center, Wednesday, Israeli Danc-ing, 7:30pm Sala de Puerto Rico.

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

Exhibits

THE MIT MUSEUM

Flowers As Images: Abstractions Through a Macrol-ens by Vernon M. Ingram. Macrophotographs in color by Prof. Ingram. MIT, through October. Etched in Sunlight: Samuel V. Chamberlain '18, Lithographs, etchings and photographs, through November 16. Weavings of Guatem-ala, early 20th-century ceremonial and everyday clothing demonstrates technical skill and use of color dynamics, through February 20. Opening reception, September 5, 4-7pm. Hours: Weekdays, 9am-10pm M-F, Saturdays 10am-4pm starting Sept 8.

Compton Gallery

RING THE BANJAR! The Banjo in America from Folklore to Factory. Robert Webb, curator. The musi-cal, social and technological history will be shown by more than 50 instruments. Through September 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 January 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. Opening Reception, Sept 6, 4-7pm, Hart Nautical Galleries. Through April 30, 1985.

Steam on the Water: Fulton and Other Inventors*-John W. Waterhouse, curator, Remarks for Fulton exhibi-tion openings, Sept. 6, 6:15pm, Rm 5-233.

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 abine 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 photogra-phic 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 "Tech-nology" (MIT) from Copley Square to Cambridge highlights the plans of Freeman whose ideas on interconnected build-ings were rejected as "too wide a departure from accepted methods." Hall exhibit case across from Rm 14N-118.

Sports

Home Events: Sept 8: Baseball vs Merrimack (2 games), 12pm. Sept 8-9: Men's Sailing; Windsurfer Invitational, 9:30am. Sept 11: Golf vs Merrimack, Northeastern, 2pm.

Wellesley Events

Jewett Arts Center*-The Permanent Collection, Sept 15-Jan 20; Master Prints from the 16th-20th Centuries, Sept 15-Oct 14; French Art of the 19th Century, Sept 15-Oct 14. Hours: M-Sat, 10am-5pm, Sun 2-5pm. Fre

Wellesley Collegium Musicum**-Auditions, Tues, Sept 11, 7pm. For info call the James Ladewig, Wellesley Music Office, 235-0320 x2077. Wellesley College Bus available.

Bultmann's Personal Papers^{*}-Antje Bultmann Lemke, Bultmann Centenary Symposium, Sept 13, 7:30 pm, Rm 277 Science Center.

Bultmann and Philosophy*-Hans Jonas, Bultmann Centenary Symposium, Sept 13, 8pm, Rm 277 Science Center.

Bultmann in the History of New Testament Researcher*-James M. Robinson, Bultmann Centenary Symposium, Sept 14, 12noon, Rm 277 Science Center.

Louise Pettibone Smith*-Paul Lehmann & others, Bultmann Centenary Symposium, Sept 14, 7:30pm, Rm 277 Science Center

Bultmann and the Future of Theology*-Schubert Ogden, Bultmann Centenary Symposium, Sept 14,8pm, Rm 277 Science Center.

Bultmann and the Future of New Testament Research-Helmut Koester, Bultmann Centenary Sym posium, Sept 15, 10:30am, Library Lecture Room.

Hannah*-play sponsored by Hillel, Sept 15, 8pm, Rehear-

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

Send notices for Wednesday, September 12 through Sunday September 23 to Calendar Editor Rm 5-113, before noon, Friday September 7.

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. (Les Aspin received the PhD degree in economics in 1965.)

By LES ASPIN

Representative, First District, Wisconsin Congress of the United States

Our nation has never realized a greater need for competent, innovative leaders. The requirements of a govern-



ment career are numerous, and include an ability to work well with many different personalities and understand countless public policy issues. However, the rewards can be singularly gratifying. It is one of the most fascinating, dynamic careers I can think of. I received my PhD in economics from MIT in 1965 after studying at Pay and allowances. During my career in Congress, I have specialized in defense and economic issues, and have made it my personal goal to see that all programsdomestic and defense-related-are carefully and intelligently scrutinized before being undertaken.

Frankly, I believe that there is no particular course of study required for a career in government. Modern government-for better or worse-is more involved than ever in every aspect of our lives, and people with many backgrounds and specialities are needed to meet the demands of our times. During your undergraduate years, I would encourage you to choose and academic field of concentration which will exercise your abilities to think and write analytically. At this time, you should also begin to follow national and local issues and develop an understanding of how our governmental system operates. To get a first hand view of the process, nothing beats a summer interning in a Congressional office, working for a public policy research organization, campaigning for a candidate you believe in, or becoming involved in your community. Once you complete your formal education, the career paths you can choose are as varied as the types of government careers available. Many people get federal civil service jobs right after completion of their formal education; others venture to Capitol Hill in Washington to find their first jobs as members of Congressional staffs. Still others start by working in local politics, getting to know local issues. If you come to Washington, you will find that the exciting and demanding atmosphere means that public servants tend to move from job to job more often than people with other types of careers. A typical governmental career path might include a stint as a Congressional staffer, a job in a federal agency, and a position in one of Washington's numerous consulting firms which contract with the federal government. All government careers however, require hard work, dedication, and the ability to understand and work with complex public policy issues. The key to success will not only lie in your ability to analyze large volumes of information, but also in understanding the process by which decisions are made within the institution where you are working. That means learning the institution's goals and objectives, appreciating the ramifications of different policy options, and balancing the interests and opinions of the people who will be affected by the policy. You will find that the process can often be frustratingly slow-the red tape of bureaucracies and legislatures is not wholly a myth. And, decisions can be especially difficult with problems such as the formulation of economic policy, in which the short-term needs of many can easily conflict with long-term macroeconomic goals.

Despite the demands of public service, I remain more enthusiastic than ever about my career in government, and am particularly intrigued with the strides that Congress has made in its policy-making role. Given its special sensitivity to the mood and opinions of the public and its broad powers of legislation and oversight, it is structurally equipped to perform a unique and important functionand its potential has only begun to be realized.

Two receive national fraternity awards

Two MIT June graduates have received prestigious awards from their national fraternities.

-John F. Piotti of Nantucket, Mass., was selected as the 1984 International Balfour Award winner, the Sigma Chi Fraternity's highest honor bestowed on an undergraduate member.

-Robert W. Schoenlein of Petaluma, Calif., was named the 1984 winner of the Thomas Arkle Clark Award, given annually by Alpha Tau Omega Fraternity.

Both awards are given to recognize scholarship, good character, fraternity service and campus activity.

Piotti, who was president of the MIT Sigma Chi Chapter, received the SB in political science/public policy. He is returning to MIT to pursue a second SB degree in ocean engineering and a master's degree in ocean systems management.

Yale and at Oxford. I also served as an economics advisor to Secretary of Defense Robert McNamara during the Kennedy Administration, as the campaign director for Senator William Proxmire's 1964 Senate campaign, and as an assistant professor of economics at Milwaukee's Marquette University. I ran for my first term in Congress in 1970. I have served since then as the Representative from the first congressional district of Wisconsin.

Currently, I am a member of the House of Representative Committees on the Budget and Armed Services. This year I was appointed chairman of the Armed Services Subcommittee on Military Personnel and Compensation, which oversees the system of military

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Many public figures and theorists are currently discussing reforms-such as attempting to decrease the power of special interest groupswhich could further increase the accountability and flexibility of the institution.

In the years ahead, our leaders will face new challenges and old problems, ranging from preserving our nation's natural resources to insuring a healthy economy to preventing the possibility of nuclear war. That's a tall orderbut I would heartily encourage you to take your political interests as far as they will lead you and consider a career in the public service.

Witt, Sawin to give papers

Professor August F. Witt of the Department of Materials Science and Engineering and Professor Herbert H. Sawin of the Department of Chemical Engineering will present papers at SEMICON/East'84, the annual exposition of the Semiconductor Equipment and Materials Institute, which will be held in Boston, September 18-20.

Dr. Witt will discuss "Composition and Defect Control During LEC Growth of Gallium Arsenide." Dr. Sawin will present a paper on "The Kinetics of Polysilicon Etching in Chlorine-Bearing Discharges." Michael Mocella of DuPont is coauthor

Schoenlein, who was nominated for his award by the Beta Gamma chapter of ATO at MIT. received the SB in electrical engineering and will study for a PhD. He served his chapter as president and received the ATO Foundation's top \$2,500 scholarship in 1983. He cocaptained the men's varsity swim team.

Alphonse Wilson

A funeral was held August 31 for Alphonse Wilson, 71, of Dorchester, a retired technician at Lincoln Laboratory. Mr. Wilson died August 28. He worked at Lincoln from 1951 until his retirement in 1975.

He is survived by his widow, Kathleen Dilworth Wilson; two daughters, Karen Tahira and Robin Wilson, five sisters and three brothers.

Alvarhino Santos

Word has been received of the August 1 death of Alvarhino Santos, a retired head custodian in Physical Plant. Mr. Santos worked at MIT from 1964 until his retirement last year. He was 66. His survivors include a sister, Rose Zajac of Medford.



Portrait from a rose, one of Professor Vernon Ingram's macrophotographs on exhibit at the MIT Museum.

Museum shows Ingram flowers

An exhibition at the MIT Museum shows large color photographs so abstract they might suggest the topography of a strange planet or experiments in color and texture by a contemporary artist.

They are the macrophotographs of molecular and neurobiologist Vernon M. Ingram, MIT professor of biology. His exhibit, "Flowers As Images: Abstractions Through a Macrolens," will be on view through October at the Museum, 265 Massachusetts Avenue.

Encouraged by a book "which emphasized the maxim that an open and receptive mind is much more creative than even the most expensive camera," Professor Ingram bought a used Pentax Spotmatic camera four years ago and began taking photographs.

Because he is an enthusiastic gardener and also because he was attracted to their beauty and symmetry, Professor Ingram decided to concentrate on flowers. At first his photographs were literal representations in giant size, mostly of wild flowers here and in Greece.

Then, several months ago, he moved into the realm of abstraction. He uses the combined effects of a macro-lens, extension rings and a large print format to make each photograph about thirty times life size.

"As a result only a small part of the flower is shown and its shape and structure have become less important," Professor Ingram said. "Instead composition, lighting, form, textures and colors are paramount—as in an abstract painting."

Almost all his macrophotography is done at a sunny window in his Wayland home, sometimes using a shaving mirror to experiment with reflected back lighting. He found he had to work indoors to avoid the air currents found on even a still day. For every photograph selected for the present show, he made 30 to 40 exposures.

His photographs won a prize last year from the Boston Camera Club and he will have his first exhibition outside the Boston area next February, at the Chicago Botanical Gardens.

In talking about his new endeavor, Professor Ingram emphasized both the emotional satisfaction and the sense of discovery which leads him to continue. "I find there is a relatively emotional business involved. There is an Ah-h-h."

He said, "I'm fascinated not only by the colors but by the textures, forms and relationships that make up each image. Even the slightest shift of the camera can changes things radically. "Because each picture is derived from a

"Because each picture is derived from a flower, there is always a point of origin to the composition, though not necessarily inside the frame. Interestingly, this is due ultimately to the way a flower grows—from a single cell or a small group of cells," he said.

The large flower paintings of Georgia O'Keefe have been an inspiration, he said. "As in her paintings, there is a strong sensual and also erotic element in many of the photographs in this collection."

Professor Ingram proudly talks about his daughter, Jennifer, whom he calls "a real artist." A student in one of the graduate programs of the Boston Museum School, she has spent this summer making drawings for an archaeological excavation in ancient Corinth. He said she has been "very supportive" of his explorations in macrophotography.

His photographs have now become available for sale. Information can be obtained by calling his extension, 3-3706 or by writing his office, Rm 16-631.

Professor Ingram came to MIT in 1958 from Cambridge, England where he had been doing research as a biochemist and molecular biologist. As he explained, "My teaching has been and continues to be in the areas of general and molecular biology. My research has been entirely wih animals, humans, chickens, and rats, studying molecular aspects of their genetics and development. This molecular approach to biolgy has in recent years been balanced by my increasingly strong interest in flowers, theZ9 beauty and the abstract images to which they can give rise."

He has specialized in studying the chemical aspects of heredity. Among his achievements is the identification of the single genetic defect that produces sickle cell anemia.

He was awarded the William Allen Memorial Medal by the American Society on Human Genetics in 1967. He is a fellow of the Royal Society, elected in 1970.

Horn recounts lofty vacation

MIT Professor Berthold K.P. Horn sent a note to Tech Talk about "some climbing" he did recently with a group organized by the Rainier Mountaineering Club.

This was no Sunday afternoon hike, however. Dr. Horn, an associate professor in the Department of Electrical Engineering and Computer Science, was one of 12 in the group (out of 14) who made it to the summit of Mt. McKinley, the highest mountain in North America. Mt. McKinley, also known as Denali, is in the Alaska range, about 200 miles north of Anchorage.

The daring dozen, led by Eric Simonson, reached the summit at 6pm on June 18. Professor Horn offered these comments:

We were flown in by Cliff Hudson, famous bush pilot, to the southeast fork of the Kathiltua glacier at about 6,900 feet. He had picked us up in Talkutua, a village 85 miles south of the mountain, on June 6. We set up eight camps on the way up, 17 miles. Plastic sleds were used to carry loads of over 100 pounds up the glacier; higher up, where sleds cannot be used because of the steepness of the terrain, we ferried loads between camps and caches.

Two days after the climb of South peak (20,320 feet), the group retreated at Denali pass from an attempt on the rarely climbed North peak (19,740 feet), because of high winds and apparently deteriorating weather. We then descended all the way to the Kathiltua glacier in less than 24 hours.

Mt. McKinley is a goal for many mountaineers throughout the world as indicated by the number of European and Japanese climbers we met. It was first climbed in 1914. Until 1951, however, it was rarely attempted because of the long approach up the Muldrow glacier. Bradford Washburn, now at the Museum of Science, then pioneered a new route using aerial photographs he took during a survey of the mountain.

A few years later, Barbara Washburn, his wife, was the first woman to stand on the summit. The route Dr. Washburn discovered, up the West Buttress, was the one we took. It involves little in the way of technical climbing and is relatively free of



Professor B.K.P. Horn reaches the 20,320-foot summit of Mt. McKinley.

objective dangers.

Of the six or seven thousand who have attempted to climb the mountain in the last 70 years, just under 50 per cent were successful. Many were turned back by fierce storms that can spring up at high altitudes on short notice. About five per cent were involved in various mishaps, such as frostbite, pulmonary edema, cerebral edema, hypothermia, snow blindness, falls into crevasses, or being covered by avalanches. For roughly 0.5 per cent, it was the last trip. What makes Mt. McKinley tough is the

What makes Mt. McKinley tough is the combination of high altitude and cold. The barometric pressure on the summit is around 13.6", a level which is reached only at 23,000 to 24,000 feet in the Himalayas, because the air is warmer there. It's hard to think clearly at such altitudes, but the view on a good day on the top of North America is something one is not likely to forget, even at -20 degrees F!

Two promoted in Athletics

Assistant Professors Walter A. Alessi and John A. Benedick of the Department of Athletics have been promoted to associate professor rank, effective July 1. Both came to MIT as instructors in 1975 and were appointed assistant professors in 1978.

Professor Alessi, a Boston native, is head coach of men's soccer and men's lacrosse. He received the BS degree

from the University of

Massachusetts and MEd

degrees from Rhode

Island College in second-

ary school administra-

tion and from Boston

State College in physi-

cal education. Professor

Alessi is a member of

several NCAA Division

III committees concern-

ed with the sports he

coaches and was the

1983 head coach for the



East in the New England Intercollegiate Lacrosse Association All-Star Game. At MIT he also serves as assistant director of the Day Camp and children's skating instructor.

Professor Benedick is head coach of men's and women's swimming and water



polo. Born in California, he received the BS degree and teaching credential from California State University, Hayward, and the MA degree in sports sociology and motor learning from the University of California, Berkeley. He is a member of the NCAA Water Polo Rules Committee and secre tary-treasurer of the New England Intercollegiate Water Polo Association

He is also director of the NCAA-sponsored Volunteers for Youth Program at MIT, aquatics director for the Day Camp and community swimming instructor at the Institute. Professor Benedick was selected as New

Professor Benedick was selected as New England swimming coach-of-the-year in 1981. Since 1975 he has coached a total of 11 All-America's in men's and women's swimming and four in water polo. Under his direction, the MIT men's swimming team has finished in the top eight at the New England conference meet the past six years. In 1982 the team finished seventh at the NCAA Division III championships for its best showing ever.

Alumni to meet in Toronto, Dallas

MIT's National Alumni Conference is going "on the road" again this fall—to two cities at opposite poles, Toronto, Canada, September 21-22, and Dallas, Texas, October 12-13.

The conference in Toronto will be the first meeting outside the continental United States in recognition of MIT's international charenterprise in Dallas.

Dr. Ann F. Friedlaender, newly appointed Dean of the School of Humanities and Social Science and former head of the Department of Economics, will moderate the Toronto session. Panelists will be Paul R. Krugman, professor of economics; Olivier J. Blanchard, associate

d women's swimming and water championships for

acter.

President Paul E. Gray will be the speaker at banquets in each city, and Mary Frances Wagley, first woman and 90th president of the Alumni Association, will report on the Alumni Association. Traditional awards ceremonies, including the naming of Bronze Beaver recipients, also will be held.

Faculty members and alumni will present Saturday afternoon programs of international economics in Toronto and on small business

SG research stipends

The MIT Sea Grant Program will offer several \$750 stipends this fall for undergraduates doing research in any area related to the study and management of the ocean and ocean resources.

Proposals may be submitted from any academic department. Undergraduates from both MIT and Wellesley College are eligible. The awards are administered by the Undergraduate Research Opportunities Program and the proposal format is the same as the UROP format. Deadline for submitting proposals will be Wednesday, Oct. 10.

Thirteen Sea Grant awards were made to undergraduate researchers last year. This year the Sea Grant Program hopes to publish a compendium of student research reports. professor of economics; and James M. Poterba, assistant professor of economics.

Panelists for the Dallas program on venture capital/entrepreneurship will be David G. Jansson, director of the MIT Innovation Center; Allan S. Bufferd, MIT's associate treasurer and recording secretary; and Russell N. Cox, a consultant and investor who is the founder and current chairman of the MIT Enterprise Forum of Cambridge. The moderator will be William J. Hecht, executive vice president of the Alumni Association.

'Banjar' wins AAM award

The MIT Museum has won an Award of Distinction from the American Association of Museums for the invitation to its Compton Gallery (Rm 10-15) exhibition, "Ring The Banjar! The Banjo in America from Folklore to Factory."

The invitation unfolded to show an ornate five-string banjo, circa 1895, against a black background. It was one of 129 honored from a field of 2,000 entries to the 1984 Museum Publications Competition.

The banjo exhibition, which will be on view until September 29, also was praised in an editorial by commentator Frank Dolan on WEEI Radio.



Killian Court was quiet last week before the arrival of the freshmen on Friday.—Photo by Calvin Campbell

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one (of approximately 30 words) per per-son per issue and may not be repeated in successive issues. All must be accompanied by full name and extension. Per sons who have no extensions or who wish to list only their home telephones, must come in person to Rm 5-113 to pres-ent Institute identification. Ads using extensions may be sent via Institute mail.

Deadline is noon Friday before publication.

For Sale

Mtchng sofa, love seat, chr, cffee tbl, 2 end tbls & 2 lmps, exc cond, \$500; 20-pc Corningware pyrx set, nw in bx, retls ovr \$160, will szc for \$70, Ali, 735-9882. 2-mo old wshr/dryer, \$675. Lynn, 623-3222.

Mttrss & bx spr, dbl sz, cln, \$5/set; sheets, \$5/set. Joan, x3-5690 or 492-6194 6-10pm.

6 modlr sofa/couches, v sft uphlstry, \$50/unit or best. Muddy Charles Pub, x3-2086, lv name, offr, phone #.

Gas Sears dryr, \$125; multicolrd shag rug w/pand, apprx 12x18', exc cond, \$100. Call 438-1156 AM or eves.

Mtchng sofa, love seat & chr, brwn & beige plaid, exc cond, \$650. Kathy, x7420 Linc or 245-0976 after 6pm.

Zenith stereo w/8-trk, cass, AM/FM, 2 spkrs. \$200: Colt indr/outdr rllr skts. W sz 7, \$15; Cannon Sure Shot 35mm camra, fully auto, w/ wd angl lens & telephoto lens, w/cases, \$125 firm; Yard sale, Sept 1-2, 73 Hampshire St, crnr of Bristol St, Cambridge. J. May, x8-2843 Draper or 354-8216.

Games: Dungeons & Dragons, 3rd Reich, Russian Campaign, used, complt, gd cond. Mark, 353-0937 or 247-9364.

Cosina CT1 SLR camra, \$70; Cosina 80-200mm zoom, \$65; Hoya 28mm wd angl, \$50; lenses fit Pentax K, all inc cases & fltrs. Jon, x3-3076.

Mvng bxes, wrdrb sz, 2/\$7; BIC stereo trntbl, mdl 780, dirct drv, varbl spd, wlnt base, dst cvr, \$75 or best. Call 938trntbl 8565

13' Scotty trvl trailr, sleeps 4, exc cond, has ice bx, wtr, elec & gas lghtng, gas fitr for wntr use, \$900. Charles, 641-0191

Scan Design sofa, burgndy florl prnt, cottn uphlstry, \$225 or best. Maria, x3-4433.

Amana refrgrtr/frzr, side by side, 25 cu ft, grt for lrg famly or group house, \$350 or best. Scott, x3-7488 or 623-6506.

Vintg 19" colr tv, nds rpr, b&w wrks, \$20 or best. Jan, x4121 Linc or 894-0592 eves.

Hercules M 3-spd bike, gd cond, \$30. Chris Kirchberg, x3-4765.

Dsk, blnd wd w/ formca top, 19x48", \$45; DECwriter II (LA36) hrd cpy trmnl, w/wrkshlf, xtra rbbns, docmntn, exc cond, \$150. Len, x8-1354 Draper or 643-2422.

KayPro 2 cmptr, 64K, prtbl, lts of sftwr. CP/M, M-Basic, WordStar, Perfect Calc, Perfect Writer, etc, \$1,150; Oki-data Microline 92 dot-mtrx prntr, \$400; both lttl-used, exc cond, \$1,400/both Jack, x3773 Line or 969-7562.

Pr of bkcase lddrs, 7' hrdwd, unfnshd, \$35/pr; girl's 2-whl bike, 24", air trs, \$40. Cynthia, x3-4421 or 864-6127.

Mistral sail, Regatta 6.5, used 3 mo, \$100 or best. Michael, x3-5668.

Retnglr solid breh btehr blek dining tbl, 5x3', must sell, \$250 or best. Call 266 2022.

3-spd L's Raleigh bike, rear bakts, kck Wanted

10-spd L's Schwinn Varsity bike, 21" frm, royl bl, nw trs & tubes, strdy lck, ook rck, exc cond, \$140 or best. Ann larie, x3-8923 or 876-5278 eves.

Easy chr, \$15; 2 mtchng all-wd chrs w/armrst, \$35 ea; cptn's chr, \$30; chst of drwrs, \$25; wrkbnch, \$10; rugs, \$5-15; stereo w/radio, trntbl, cass & 2 spkrs, \$35; stereo bnch, \$10; radios, \$5-20; prnts & pstrs, some frmd, wallhngngs \$5-35; 40-pc Stoneware dnnrset, stll in box, pd \$75, sell for \$45. Ragnhild, x3-

Lttr-glty prntr, Smith-Corona TP-1, cond, used only once, blt-in RS-232c intrfc, 10 cpi, \$400 firm. D. Hsieh, x5-8856 dorm eves or x3-8761 lv mssg.

1-yr old mttrss & bx spr, \$10; humidfr, \$10. Dr. Edrise, x3-1756 or 787-3393 after 8pm.

RCA Colortrk tv, 25", exc rcptn, \$350. Amar, x3-2937 or 876-0950.

Vehicles

'64 Pontiac Catalina cnvrtbl 2+2, wh/blck int, no dnts, top in gd shp, 389 eng, reblt trnsmssn, w/snw trs, rare, a classic, rns v well, \$2,400. Owen, 863 4056 or 491-0031.

'70 Firebird 350 U7, stndrd, mny nw prts inc timing chain, wtr pump, paint, int, v gd shp, \$1,650. Bruce, x3-5565 or 566-0247.

'73 VW Super Beetle, rblt eng, 15K, nw gd trs, mst be seen, \$2,500. Beth, x2863 Linc.

'73 Toyota Celica sta wgn, 2-dr, 4-spd, ovr 100K, eng v hlthy, some rst, gd mpg, \$700 or best. Call 494-1794.

'75 Fiat 1315W, auto, AM/FM/cass, nw brks, nw strtr & 2 nw snw trs, \$1,150. Call x3-3198 or 494-1611.

'75 Datsun 710 2-dr sdn, stndrd, 72K, nw brks & shcks, gd rbbr, bl w/ wh int, cond, rns grt & uses reg gas, \$1,700 nego. Pam, x3-4710 or 492-1640.

'75 Honda CVCC htchbck, 5-spd, 13" whis, nw cltch, rad, brks, trs, orig ownr, 76K, may nd nw carb, \$1,200 or best. Tom, x8-2810 Draper.

'76 Olds Cutlass, 4-dr, auto, ps, pb, a/c, exc cond, \$1,800 or best. John, x8-3955 Linc.

'76 Ford LTD sta wgn gd cond, lving cntry, mst sell, \$1,300 or best. Raul, 926-1909.

'77 Suzuki GS550, 14K, nw Conti trs, nw Diehard Mulholland shcks, Dyna-S elctrnc ign, Alberts bar-end mirror, cvr & Maxim cbl lck, exc cond, well maint, \$650. Call x3-6473 or 494-1042.

'78 BMW 320i, v gd cond, BBS & contntls + factry alloys w/Mich & 2 snws on rims, gray w/cream int, mst sell, \$7,200 or best; '82 Honda XR200R enduro dirt bike, bght nw in '83, used 1 seasn, nvr raced, v gd cond, \$900 or best Call 462-9314.

'78 Honda Civic htchbck, 71K, AM/FM, a/c, v gd cond, nw brks, no rst, brwn, mst sell, \$2,300 or best. Ali, x3-6499 or 497-0845 eves.

'78 Fiat 131S, 4 dr wgn, 5 spd std, rns well, 25 mpg, 98K, some bdy rot, \$900 or best rsnbl offr. Warren, x3969 Draper.

'78 Dodge Challenger, 45K, 2-dr, 5-spd gd cond, rear wndw dfrst, AM/FM ste nw rad trs & cltch, digtl clck, asking \$3,000. Michelle, x7476 Linc.

'78 Honda Accord LX, ps, a/c, AM/FM /cass, exc bdy & mech cond, \$3,000 firm. Call 773-5432 days.

'79 Renault Le Car, 47K, nw brks, batt, steerng rck, frnt trs, eng & bdy in gd cond, mst sell, \$1,800 or best. Wafik, x3-7868 or 876-7160.

'79 Chevy Monza wgn, 2-dr, stndrd, gd cond, orig ownr, 51K, \$2,500. Charlotte, x3-3529.

'80 Chevy Citation, V6, 4-dr, ps, pb, a/c, nw rear shcks & frnt brks, 4 nw trs, 50.4K, exc cond, \$3,500. Mary, x7712 Linc.

'82 Subaru DL, 4-dr, 5-spd, 15K, like nw, \$5,350. Harry, x2068 Linc.

Housing

Prospect Hill 2-fmly house for sale, 6&8. babrd ht by oil, hrdwd flrs, nw ceilngs, mod bath, ownr's apt has nw ktchn, cedr shnglext, done 10 yrs ago, lrg fncdin yrd, 4-car drvway, approx 3 mi f MIT. Phyllis, x3-2251 or 287-3976 mi frm mssg

Eidlweiss lakefrnt 4BR cottg for foliage & ski rntl, mins frm Conway & Kanca magus 2 baths, famly rm, L/DR w/cthdrl ceilng & frplc, w/w carpt, all applncs. Edwin, x5431 Linc or 779-6473. all



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 avail-able in the Personnel Office.

Persons who are NOT MIT em-ployees 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
Ken Hewitt	3-4267
Appointments:	
Darlene McNeil	3-4268
Sally Hansen	3-4275
Kenneth W. Chin	3-4269
Appointments:	
Therese McConnell	3-4274
Susan Gaskell Appointments:	3-4266
Nancy McSweeney	3-4076
Administrative	and

Academic Staff

Coordinator of Alumni/ae Activities, Sloan School of Management, to participate in development and execution of a strategic plan for alumni/ae activities. Build linkages with clubs and class officers; develop new clubs; receive and disseminate news regarding alumni/ae. Maintain alumni/ae addresses, positions, promotions, news and correspondence of activities; publish direc tories and news; coordinate detailed arrangements for alumni/ae events; interact with the MIT Alumni Association to keep them fully informed of plans and activities. Coordinate special studies from time to time. Requires Bachelor's degree and demonstrated organizational ability. Experience with alumni activities preferred as well as an understanding of the university environment. Candidate should enjoy diversity both in working with and relating to a wide variety of individuals and in performing routine and strategic activities. A84-435

Sales Representative, MIT Press for the Northeast and Mid-Atlantic states. Evaluate bookstore strength in relation to the books being sold. Sell MIT Press books to bookstores and wholesalers throughout the territory. Establish and build ongoing business relationships with Press customers. Visit major accounts regularly (2-4 times/yr.). Must be able to characterize and describe most books published by the Press to buyers. Should have at least one year of experience as a book sales representative. Strong interpersonal skills, articulation, and willingness to travel essential. A84-434

Unit Manager, Food Service, to plan food services, including cafeteria style, private dining rooms, snack bar facilities and campus catering for the consumer market. Recruit and hire staff in keeping with organizational directives and the Institute's affirmative action program. Train or assign training to all employees and monitor performances: stimulate motivation toward occupa tional career paths. Predict customer usage and food quantities required to meet customer requests. Inspect dining facilities daily and supervise use of area. Direct scheduling and administer payrolls for all employees. Responsible for safety measures, sanitation pro-grams and security. Review equipment needs and make recommendations for repair or replacement. Control cash expenditures and direct others in complying with established controls Requires an Associate's degree in Food Service Management or equivalent plus reasonable experience in food service management. Demonstrated skills in food preparation, public relations skills and accounting procedures desirable. Bachelor's degree preferred. A84-433

and FORTRAN accessible systems facilities is necessary. Requires security clearance or ability to obtain one. R84-500

Computer Facility Manager, Re-search Laboratory of Electronics, to manage the computer facility of the Digital Signal Processing Group. Develop and maintain software and hardware for research in digital signal processing and its applications. Maintain audio and picture processing facilities. Supervise equipment pur-chases and handle computer docu-mentation and backup. Assist students and staff in use of facility. (Administrative=30%; system programming=30%; hardware maintenance=15%; helping users=15%; applications program-ming=10%.) Requires BS in Electrical Engineering and 1 to 2 years of related experience. Knowledge of Berkeley 4.2 UNIX, PDP-11's and VAX-750's is desirable. Should be responsible a able to work independently. R84-499 sible and Technical Assistant, Center for

Cancer Research, to prepare tissue culture and specialized media for several laboratories. Prepare, sterilize and test solutions to specification with stringent quality control. Requires BS in Chemistry or Biology. Previous laboratory experience preferred. Must be able to work independently. R84-498

Technical Assistant, Center for Cancer Research, to maintain tissue culture lines and perform biochemical analyses using protein gels column chromatography, recombinant DNA methods, and DNA sequencing. Requires BS in Biochemistry, Chemistry or Biology. Initiative and willingness to take on responsibility necessary. Pre-vious laboratory experience desirable but not essential. Training in specific techniques available. R84-496

Research Engineer, Electrical En-gineering & Computer Science, to develop and maintain diffusion, oxidadevelop and maintain diffusion, oxida-tion and LPCVD processes using sixteen DDC furnace tubes in MIT's new microelectronics (VLSI) research and development laboratory. Develop process controls using measurement equipment such as six and four point resistivity probes, CV plotters, wafer inspection systems, thin film analyzers, and surface profilers. Assist a computer aided fabrication group in developing interfaces for automatic data collection using this equipment. Should be able to perform and interpret in-process testing sing automatic device testing equip nent. Will supervise one or more ment technicians and instruct graduate students in equipment operation. Inter-act with faculty and other staff for the development of dry etch, ion-implantation and other related processes. Familiarity with operational character-istics of the relevant pieces of equipment, trouble shooting, and preventive maintenance scheduling a must. Should have Bachelor's degree in Physics, Chemistry or Electrical Engineering and a minimum of one year of experi-ence in a semiconductor processing environment or equivalent related experience. R84-495

Research Engineer, Electrical Engineering & Computer Science, to develop and maintain advanced photolithogra phy processes in MIT's new microelec-tronics (VLSI) research and development laboratory. Micron and submi-cron geometry processes using both positive and negative photoresists with direct write on wafer exposure system will be developed. Supervise mask making of chrome and emulsion photomasks using an optical pattern generator. Monitor wet etching pro-cesses for metals, oxides, nitrides, and polysilicon. Interact with faculty and staff for the development of dry etch, ion-implantation and other related processes. Supervise one or more technicians and instruct graduate students in equipment operation. Fa-miliarity with operational characteristics of the equipment, trouble shooting and preventive maintenance schedul-ing is a must. Should have Bachelor's degree in Physics, Chemistry or Electrical Engineering and at least one year of related experience in a semicond processing environment. R84-494 nductor

Administrative Officer, Research Laboratory of Electronics, to manage administrative affairs of the department including the planning, imple-mentation, training, and utilization of a computer-based administrative information system to support purchasing, contract management, secretarial support and laboratory-wide networking Provide information on Institute proce-dures. Requires Bachelor's degree or equivalent combination of education and experience. Strong human rela-tions skills and ability to coordinate the implementation of a computer-based information system is essential. Mini-mum of 2 years related experience

Research Associate, Energy Labora-

tory, to conduct laser-induced gas phase

reaction research. Investigate gas

heating by two-photon coupling using combinations of IR laser and micro

wave sources, complementing several

ongoing thin-film and powder synthesis research programs. Overall objective is

to induce chemical vapor deposition

reactions deep within reactor vessels. Requires PhD or equivalent experience with specific background in quantum

mechanics. Experience with spectros-copy, lasers, laser-induced reactions

Research Specialist, Energy Labora-

tory, to operate and maintain equip-

tory, to operate and maintain equip-ment used to induce powder synthesis reactions from laser-heated gaseous reactants. Will synthesize highly controlled powders of ceramic materials used in search program. Will receive

used in research programs. Will receive

instruction from staff and graduate students. Requires Bachelor's degree in

Engineering or a physical science. Specific experience with electronic

instrumentation, vacuum systems and lasers is desired. Training will be provided. R84-491

Technical Assistant, Energy Labora-tory, to characterize compounds formed

in high-temperature combustion sys-

tems. Assist in experiments, data analysis and routine maintenance of equipment. Requires BS in Chemistry

or Engineering. Familiarity with com-

particularly appropriate. R84-492

electronic instrumentation is

puters and programming is desirable. Teamwork is essential. R84-490

Theoretical Research Scientist. Plasma Fusion Center, to act as group leader in the Toroidal Confinement Division. Coordinate and expand theoretical efforts in support of the Alcator C experiment and the proposed Alcator DCT device, providing theoretical interpretation of experimental results and guidance for development of the program. Will collaborate closely members of the experimental with team. Requires PhD in Theoretical Plasma Physics and 5 years experience working in plasma theory. Must have broad theoretical perspective with competence in areas ranging from MHD equilibrium and stability to classical and instability-driven transport. R84-489

Technical Assistant, Laboratory for Computer Science, to assist senior researchers in the Programming Techresearchers in the Programming Tech-nology Group. Assist in updating a programming language manual. De-velop documentation for a large com-puter system. Perform software maintenance tasks such as moving files from one computer to another and compiling new versions of programs. Applicants should be computer literate with a desire to enhance their knowledge. Initiative to undertake new projects essential. Experience with text editor and document preparation program helpful. R84-488

Technical Assistant, Center for Cancer Research, to work on recombi-nant DNA project. Prepare and analyze RNA and DNA; propagate bacteria, plasmids and bacteriophage; and perform DNA sequencing. Requires ability to take responsibility and use initiative a RS in Ricchemietry initiative, a BS in Biochemistry, Chemistry or Biology and previous laboratory experience. R84-416

Research Staff Engineer, Haystack Observatory, to design and develop electronic equipment for Radiometric and Very Long Baseline Interferometer (VLBI) measurements for radio astron-omy and geodetic applications. Duties include design and construction of RF systems using mixers, cooled paramps of maser amplifiers, as well as IF systems, frequency multipliers, PPL's synchronous detectors, etc. Will supervise construction, test and integrate new equipment and document all new equipment throroughly. Will occasion ally participate in Observatory experi-ments with scientists. Should have BS in Electrical Engineering or Physics with an MS or equivalent desirable. Should be familiar with the design of microwave circuits involving waveguide and associated components Substantial knowledge of theory of amplifiers, mixers, modulation and noise, plus principles of solid state and digital circuit design needed. Two to five years relevant experience preferred, bu not essential if candidate has had reasonable applicable hardware experi-ence during or prior to school. Ability to work well with others essential. Interest in astronomy beneficial. R84-356

Library Support Staff

Library Assistant V, Catalogue Department, to convert MIT bibliog-raphic records for circulating materials to machine-readable form by means of OCLC Cataloguing Subsystem. Search, edit and update records, catalogue and online data holdings. Create new online records in conformance with established procedures. Recatalogue and reclassify materials as necessary, coordi nating recall of such materials from divisional branches. Search and verify names, series and subject headings in authority files. Create new authority records. Resolve heading conflicts. Maintain statistics. Participate in library committees. Requires high ol graduation and 4.5 years direct related experience, preferably in a technical services area of a research technical services area of a research library. Some college preferred. Experi-ence with OCLC CRT and Cataloguing Subsystem essential. Experience in retrospective conversion, authority files, and reading knowledge of one or more foreign languages desirable. Typing (40-45wpm) essential. L84-200

Library Assistant III, Administra tive Information Systems, to issue data files and perform established library procedures. Maintain accurate records for all data files. Transfer backup files to various storage sites and operate file purging system. Assume responsibili-ties and duties of Senior Data Librarian when necessary. Perform other tasks as assigned. Requires high school graduation or equivalent and at least one year of direct/related experience in data processing operations. (40 hrs/wk) L84-187

and apply office automation techniques successfully. At least 4.5 years direct related experience is necessary. Must be capable of handling large volume of work independently, set priorities and deal with pressure. B84-179

Sr. Staff Assistant, Admissions Office, to act as receptionist/secretary in a busy, service-oriented office. Answer phones, schedule appointments; perform secretarial duties for two admissions officers. Keep accurate calendar; process mail; arrange travel; provide assistance where needed. Teamwork is essential. Requires excellent typing skills, strong organizational ability, capacity to work under pressure, transcription skills from dictating equipment, and experience in word processing. Solid command of English usage and attention to detail important. Good interpersonal skills, judgment and tact essential. NON-SMOKING OFFICE B84-198

Sr. Secretary (part-time), Earth, Atmospheric & Planetary Sciences, to perform secretarial tasks for three geology professors and their research staff. Type correspondence, scientific manuscripts and class materials; maintain files; answer phones. Assist the Administrative Assistant with general office coverage and special projects as necessary. Involves large amount of dictaphone work. Applicants must have excellent typing skills (60+wpm); accuracy, proofreading abil-ity, and excellent grammar and spelling skills. Will compose and edit corre-spondence as needed. Word processing and technical typing preferred. Strong organizational skills and professional telephone manner essential. Minimum 2.5 years related experience required. (30 hrs/wk) B84-195

Sr. Secretary, Mechanical Engineer ing, to type reports, proposals, manu scripts, class materials and correspondence. Arrange travel; schedule meetings answer phones, and maintain files Arrange for supplemental help as needed. This is a central office run by one secretary for several faculty members and graduate students. In-dividual must be prepared to operate in a busy environment. Candidates must have 2.5 years direct/related experience or the equivalent combination of education and experience. Technical typing skills and transcription ability required. Experience with DECmate II word processor helpful. B84-193

Sr. Secretary (part-time), Urban Studies & Planning, to type and proofread reports, manuscripts, corre-spondence and similar materials from rough draft and dictaphone. Answer phones; schedule appointments and meetings; maintain files and records; and perform other tasks as necessary Requires excellent typing skills, tran-scription ability and willingness to learn word processing on microcom-puters. Prior secretarial experience needed. (18 hrs/ wk, MWF) B84-191

Sr. Secretary, Harvard-MIT Division of Health Sciences and Technology, to perform variety of secretarial and clerical duties for Director's Office. Type, edit, and proofread correspond-ence, technical and nontechnical pro-posals and manuscripts. Process mail and perform general office duties as directed. Must have 2.5 years secretarial experience or equivalent combination of education and experience. Must be willing to perform duties at various levels of responsibility. Knowledge of DECmate II preferred. Good command of English grammar and syntax essen-tial. B84-189

Sr. Secretary-Technical, Chemistry, to perform secretarial functions for one chemistry professor. Type and proofread correspondence, technical manuscripts and grant proposals from rough draft or dictaphone; answer phones; arrange appointments and travel; monitor research accounts and file Applicant should be effective at setting priorities and organizing work inde pendently in a busy work environment. Requires at least 2.5 years of secretarial experience including dictaphone, typing and proofreading skills. Word processing or willingness to learn essential. Should have excellent interpersonal skills and ability to work under pressure. Accounting experience and familiarity with MIT highly desirable. NON-SMOKING OFFICE B84-183

Sr. Secretary, Office of Facilities Management Systems, to assist the staff of the Property Group. Process all correspondence; organize and maintain various files; answer phones; photocopy; type government reports, proceedings, proceedings, type government reports, prepare Tech Talk ads for excess and surplus property. Type Property Procedures Manual using word processing. Strong secretarial skills including excellent typing, organizational skills and word processing ability preferred. Minimum 2.5 years related experience required. Ability to work independently and establish priorities essential. Excellent telephone skills and knowledge of English grammar desired. This is a service-oriented environment with occasional periods of pressure. B84-182

stnd, \$100; 5-spd M's Raleigh Sprite, rear carrier, kck stnd, \$110, exc cond. Call x3-3320 or 484-6305.

Perego twin baby carriage; baby seat & bed. Christof, x3-8597.

Mving Sale: 12" tv, \$40; stereo, \$30; stereo rcfd playr, \$27; rowng mach for exrcs, \$45; paint supplies, cheap; wool blnkt, \$3; misc books, etc. Jason, x3-2576 or 494-1082

6' sofa, apricot, beige & grn print & 3 sm grn uphlstrd chrs, ideal for sm apt, bst offr. Lois, x3-4971.

Cntry styl LR furn set, inc 2 end tbls, 2 chrs, ottomn, & sofa, \$325 or best. Dave, x3-7214 or 494-0007

Q-sz bed/frm, \$100; 2 twn beds/frms, \$75 ea; 10" b&w tv, \$20; 2 spkrs, trntbl, amp, \$10 ea; 20" girl's Schwinn bike, \$60; rllr skts, girl's sz 1, \$10; wh stndrd toilt tnk, \$25. Call 489-1386 eves.

Singer sewng mach, mdl 834, \$150; sofa, \$40; 2 lmps, \$40; typwrtr, \$25; tv stnd, \$8; 2 baby bath tubes, \$10; radio-clck, \$5. Nouredine, 494-1611.

Sears apt curtns for sldng drs, gld, \$30; Sears apt curtns for sldng drs. gld, 530; curtn rod, almst nw, \$12; Sears no-wax tiles, brck pttrn, \$50 ea; Mikkomat 35mm camra, \$175; Vivitar flsh #283, \$40; plnts, \$2-3; misc ktchn fitms, \$26-3; semi-precious crystl, jade, garnet, \$10-30: 18" chains. Sunanda, x3-3438 or 492 5162 after 6pm.

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Cpy of 2.151 txt State Functions & Lin-ear Control Systems by Schultz & ear Control Systems by Schultz & Melsa, will nego price. David, x8-1302 or 491-5570.

Chidcare for 4^{1/2}-yr-old grl, 2-3 aft-rnoons/wk, pck up frm TCC Eastgate, prfr group care w/chidrn same age or oldr, or sittr in our hm. Pam, 625-5346 eves

Vistng prof frm Berlin nds furn accmdtns w/ktchn facilts, Oct- April, arnd \$550/mo. Nona Jenkins, x3-2937, mssg.

Roommates

Rmmate nded, Oct, F, 28+, Irg 2BR rnt cntrl apt nr Fresh Pond, Camb, \$170/mo inc utils, nr pblc trnsprt, safe nghbrhd. Row, x3-5204 after 12pm.

Carpool

Rdrs wntd for vanpool frm NH to Kendall Sq-Camb area, lv Hampstead NH area via Salem, 7am for 8:15 arrvl, lv Camb 5pm for 6:15 rtrn. Patti, x3-5471.

Rd wntd frm Everett to MIT, M-F. 8:30am-5pm or only rd to Everett frm MIT at 5pm. Mary Ann, x3-1315 or x3-1319

Miscellaneous

Babysittng avlbl in my hm on campus, liensd, exprned, refs. Call 494-8096

Sponsored Research Staff

Research Staff Programmer, Haystack Observatory, to develop programs for processing satellite tracking data and managing related data bases. Will make extensions and enhancements to data analysis software for Harris H1000, VAX 11/780, and Floating Point Systems Array Processor Computer Systems. Tasks include software de-sign, implementation, debugging and documentation. Candidate must possess documentation. Candidate must possess a background in either: Computer Science, Applied Mathematics Software, Electrical or Mechanical Engineering or Physics. A Bachelor's degree and two years work experience or its equivalent are required. Must be self-motivated and able to work as a member of a and able to work as a member of a project team with minimum supervision. Knowledge of FORTRAN, Structured Program Design and Documentation

necessary. R84-493

and

Secretary/Staff Assistant

Administrative Secretary, Labora tory for Nuclear Science, to manage all secretarial and administrative details for an astrophysics group of six faculty members and several postdoctoral research staff and students. Monitor budget expenditures; initiate, organize and implement systems and procedures. Must have excellent typing skills willingness to learn TEX and/or word processing. Technical typing skills referred. Ability to work independent y and set priorities essential. Minimum 4.5 years direct related experience required. B84-185

Administrative Secretary, Administrative Systems, to perform complex administrative and secretarial tasks for the Director, managers and staff. Maintain departmental confidential personnel records; distribute periodic reports; exercise discretion in obtaining and providing factual information regarding the computing services rendered; anticipate and initiate actions regarding office operations: use text editing and formatting computer sys-tems, type, proofread and edit reports, manuscripts and other materials from rough draft; screen visitors and phone calls; coordinate phone coverage for the department; maintain active liaison department; maintain active haison with administrative personnel and other Institute offices. Requires strong organizational, typing, and adminis-trative skills. Should be able to learn

Sr. Secretary, Laboratory for Computer Science, to provide support to the LCS Headquarter's Administrative staff under supervision of the Assistant Administrative Officer. Will assist in coordinating activities of administra-tive office including typing, answering phones, creating files, handling corre-spondence, arranging meetings, etc. Act as information source for the Act as information source for the Laboratory. Participate in office auto-mation efforts using IBM Personal Computer. Requires minimum of 2.5 years of directly related experience. Good organizational, interpersonal and telephone skills essential. Attention to detail ability to handle sensitive detail, ability to handle sensitive information, to work with frequent interruptions and to take initiative important. Experience with or willing ness to learn IBM PC and train others essential. B84-178

Sr. Secretary, Laboratory for Archi-tecture and Planning, to provide secretarial support to the Aga Khan Program for Islamic Architecture. Type reports and correspondence; organize logistics of conferences and seminars answer telephones; greet visitors; photocopy and file. Requires good organizational ability, excellent secretarial and typing skills and som

knowledge of word processing. Mini-mum 2.5 years direct/related experience necessary. Familiarity with MIT pre-ferred. B84-177

Sr. Secretary, Materials Science & Engineering, to perform secretarial and clerical duties for the Department Head under general supervision. Requires excellent typing, dictaphone and or-ganizational skills. Word processing essential. Technical typing helpful but not required. Must be able to set priorities, interact well in a busy environment, and have at least 2.5 years direct/related experience or equivalent combination of education and experience. NON-SMOKING OF-FICE B84-176

Sr. Secretary, Mechanical Engineer ing, to provide secretarial support to 2 professors. Will handle correspondence, appointments, travel arrangements and coffee seminars. Must be able to effectively communicate with students and professionals. Knowledge of basic bookkeeping and excellent typing ability required as well as a minimum of 2.5 years direct/related experience. Should be high school graduate or equivalent. Experience in shorthand/ dictating equipment and technical typing desired. B84-174

Sr. Secretary, Plasma Fusion Center, to be responsible for extensive travel arrangements, processing mail, general typing, proofreading, photocopying, and answering phones for the Director's office. Schedule conference rooms and assist in logistics details for seminars and meetings. Perform occasional technical typing (Greek equations) and assist other areas as needed. Requires 2.5 years secretarial experience and excellent typing, proofreading and interpersonal skills. Familiarity or willingness to learn technical typing and word processing essential. Flexi-bility, attention to detail and ability to work under pressure important. (40 hrs/wk) B84-172

Sr. Secretary, Sloan School of Management, to provide secretarial support to 3 professors in the Applied Economics and Finance Group. Type, proofread and reproduce manuscripts, reports exams, and correspondence, often of a technical nature. Assist with preparation of materials and notes for courses as well as for meetings and seminars. Answer telephones and student inqui ries; schedule appointments; arrange travel: and maintain files. Requires excellent typing, proofreading and organizational skills. Willingness to learn Wang word processing desirable. Technical typing skills and attention to detail helpful. Minimum 2.5 years detail helpful. Minimum 2.5 years direct/related experience required. B84-170

Sr. Secretary, Physical Plant, to provide administrative and secretarial support to the Architecture and Con-struction Services Group. Schedule meetings and appointments; answer correspondence independently; screen phone calls; type professional reports, programs, and grant proposals. Make travel arrangements; organize and maintain files; maintain budget records; and prepare Institute forms for routine processing. Requires excellent organi-zational and communication skills; minimum of 2.5 years secretarial experience; and ability to work independently. Word processing experience preferred, but not essential. Willingness to learn advanced word processing techniques required. Interest in archi-tecture helpful. B84-167

Sr. Secretary, Civil Engineering, to support 3 faculty members and research staff in the Ralph Parsons Laboratory. Will type and proofread letters, techni-cal reports, theses, etc., using word processor. Make travel arrangements, answer phones and photocopy. Verify expenditures on research grants and keep track of purchase orders and requisitions. Involves interaction with graduate students on a regular basis. Requires technical typing skills or willingness to learn. Knowledge of Phillips word processor helpful. Mini-mum 2.5 years direct/related experience required. NON-SMOKING OFFICE B84-166

Sr. Secretary (part-time), Civil Engineering, to type correspondence, technical manuscripts and theses. Arrange travel, conferences and research meetings; answer phones; photocopy and file. Share office and work in a team effort. Requires excellent orga zational ability, good rapport wi with students and visitors, knowledge of or willingness to learn Phillips word processing. Minimum 2.5 years direct/ related experience required. NON-SMOKING OFFICE (28 hrs/ wk, flexible) B84-165

Sr. Secretary, Earth, Atmospheric, and Planetary Sciences, to provide support to 1 faculty member, 1 scientist, research groups and occasional visitors to the department. Will type corre-spondence, scientific manuscripts,

reports and proposals; arrange meet-ings and coordinate travel plans; maintain records; monitor research accounts; and interact with students and faculty. Minimum 2.5 years direct/ related experience required. Good interpersonal, organizational, typing skills, and machine transcription ability required. Technical typing and word processing experience desirable. B84-158

Sr. Staff Assistant, Management of Technology Program — Engineering, to work under direct supervision of Program Manager in a busy one-person office. Type correspondence and reports using typewriter or Wang word processor. Answer phones; receive visitors; process mail; maintain files and records: schedule meetings and travel; prepare Institute forms; and maintain monthly accounting statements. Must have strong organizational skills, and ability to work independently. Typing (50 wpm) with accuracy and proofreading skills important. Minimum one year of direct/related experience. NON-SMOK-ING OFFICE B84-078

Sr. Secretary, Alumni Association, to perform secretarial duties and other activities in support of alumni records and administrative functions. Will arrange meetings and travel; answer phone inquiries and correspondence; organize and maintain extensive files DEC word processor; and assist in special projects and administrative special projects and administrative procedures as required. Organizational ability, flexibility, and capacity to handle several projects simultaneously essential. Good typing skills, neatness, accuracy and ability to work independ-ently required. Minimum 2.5 years direct/related experience needed Knowl ently required. Minimum 2.5 years direct/related experience needed. Knowl edge of DECmate II or other computer terminals helpful. Willingness to learn essential B84.885 essential. B84-885

Sr. Secretary-Technical, Ocean Engineering, to type, proofread, and reproduce reports, manuscripts, exams, correspondence; answer phones; receive visitors; maintain and develop files and records as needed for office operations schedule complex appointments, meet-ings, travel arrangements and expense vouchers; prepare Institute forms; and maintain records of courses and sched-ules for students. Technical typing les setting up equations, matrices, statistical tables and charts from handwritten copy. Involves the use of the Greek alphabet, mathematical symbols and the metric system. Applicants should have at least 2.5 years related experience, type 50 wpm and be familiar with technical typing. Knowledge of word processing helpful. B84-

Secretary (part-time), Earth, Atmospheric & Planetary Sciences, to provide secretarial support to two faculty members and their research staff. Type correspondence, scientific manuscripts, proposals and class materials. Answer phones; photocopy; distribute mail and assist with special projects as needed. Will use AB Dick Word Processor. Requires excellent typing, at least one year of secretarial experience, and ability to work under pressure. Technical typing and word processing skills desirable. Willngness to learn essential. NON-SMOKING OFFICE (20 hrs/wk) B84-197

Technical Typist (part time), Tech-nology and Policy Program, to assist in fund-raising assignments, admissions work and research-related clerical tasks including: typing, bulk mailings photocopying. Knowledge of or willing-ness to learn CMS or other wordprocessing systems important. Requires good typing skills and at least one year related experience. Ability to work independently essential. (15 hrs/wk) B84-194.

Secretary, Safety Office, to type industrial accident forms, reports and correspondence. Process requisitions for safety glasses and maintain records for safety shoes. Arrange meetings and answer phones in an active environ-ment. Distribute mail, file and xerox. Requires good typing skills, ability to work independently and to interact well with all areas of the MIT community. Non-Smoker preferred. B84-192

Secretary (part-time), Whitaker College, to provide secretarial support to the Director and Manager of the Lab for Health Care Studies. Will receive visitors; answer phones; type corre spondence and manuscripts; transcribe recorded dictation; maintain files, order and maintain office supplies; process mail; and perform other related duties as assigned. Requires good interper sonal and communication skills. Know 88 8 edge of or willingness to learn word cessing essential. (25 hrs/wk) B84-

Secretary (part-time), Whitaker College, tions for two associate professors neurobiology and research groups. Type correspondence, manuscripts and grants; prepare Institute forms; maintain correspondence and account files; answer phones; order supplies; photo copy; and perform other duties as copy; and perform other assigned. Applicants should have good typing skills (55+ wpm), good interper-sonal and organizational skills, and familiarity or willingness to learn word processing. Minimum of one year of related experience required. May occasionally work more than 20 hrs/wk NON-SMOKING OFFICE (20 hrs/wk flexible) B84-186 Secretary (part-time), Earth, Atmo spheric & Planetary Sciences, to provide secretarial support to one faculty member, administrative assistant, and research staff. Type corre spondence, scientific manuscripts, and proposals using word processor; schedule appointments; screen phone calls; xerox; file and perform other tasks as assigned. Requires excellent typing skills (60+ wpm) including technical typing ability. Knowledge of word processing or willingness to learn sential. (20 hrs/wk) B84-184

n word processor and receive direction from Administrative Secretary. Re-quires good typing, proofreading and general office skills. Strong verbal and written skills and ability to work well under pressure necessary. Good inter-personal skills important. Knowledge of MIT helpful but not essential. B84-042

Technical Support Staff

Computer Operator, Administrative Information Systems, under general/ minimal supervision, operate computer system(s) and on-line and off-line peripheral equipment without assis-tance during normal and abnormal situations. Assist in training and development of operations support personnel. Minimum of 3 to 5 years operations experience in a production environment required. Familiarity with VMSP2, VMCMS, OSVS1, and OSJCL needed. (2nd or 3rd shift) T84-160

Office Assistant

Administrative Assistant, Harvard-MIT Division of Health Sciences and Technology, to provide administrative support to the Administrative Office of the department. Will assist in compiling HST Research Directory, monthly HST Research Funding Bulletin, and prepa ration of special reports and documents Will also assist in preparation of boiler plate and compilation of large, com-plicated consortium research proposals and reports. Will perform independent projects as assigned by the Administrative Officer. Requires ability to synthe-size information from a variety of sources. Willingness to perform tasks of varying difficulty essential. Good command of English grammar and syntax necessary. Familiarity with DECmate II preferred. College degree preferred. Minimum 4.5 years direct/ related experience required. NON-SMOKING OFFICE S84-190

Administrative Assistant, Media Laboratory, to provide administrative and secretarial support to the Assistant Director for Administration and Fi-nance. Responsibilities will initially include: assist with and prepare corre spondence, memoranda, reports, bud gets, and financial statements on Wang word processor and/or electronic mail system. Organize and maintain files. Distribute workload and direct the work of clerical assistants. Participate in interviewing, selection and review of new employees. Process Institute forms (payroll, vouchers, requisitions, etc.). Perform additional administrative duties as needed. Requires ability to work in a very busy environment with frequent interruptions and handle a variety of tasks simultaneously. Excel-lent interpersonal skills, discretion in handling confidential information, and knowledge of MIT procedures necessary. Minimum of 4.5 years direct/related experience required. (40 hrs/wk) S84-161

Administrative Assistant, Resource Development, to compose management reports and gift range tables. Analyze records, compile data and produce final reports on word processor. Create and update project status reports on key Institute fundraising priorities. Process the Director's incoming and outgoing mail, including drafting memos and letters. Proofread documents. Interact with Resource Development staff, the Treasurer's Office, Industrial Liaison Program, Alumni Association staff and administrative and academic other offices. Requires experience or willing ness to learn word and data processing systems, ability to work independently, organize projects to meet deadlines, handle details in both written and financial reports, interpersonal skills, discretion and tact, and proofreading skills. S84-974

Sr. Office Assistant (temporary), Psychology, to provide general support to the department headquarters. Pre-pare payrolls; answer phones; provide information to visitors; pay subjects; maintain petty cash fund. Will be responsible for opening the office daily; collect money from photocopy and coffee boxes within the department; maintain office supplies and postage machine; process and distribute month-ly statements and phone bills; and type budget forms, correspondence and other materials. Requires strong organizamaterials. Requires strong organiza tional skills, ability to work with frequent interruptions, professional telephone manner, and some typing. Knowledge of word processing desir-able. (Through 12/31/84) S84-199

Sr. Office Assistant, Research Laboratory of Electronics, to assist in the day-to-day operations of the purchasing office in RLE. Type purchase orders, correspondence and petty cash vouch ers. Maintain present filing system for purchase orders and correspondence Answer telephones. Requires high school graduation and 2.5 years direct/ related experience. Good typing and interpersonal skills essential edge of word processing and database systems helpful. Willingness to learn essential. NON-SMOKING OFFICE S84-169 Sr. Office Assistant, Office of Labo ratory Supplies, to support the business accounting and purchasing function of the department. Type purchase orders, change orders and reports; process invoices for payment and resolve problems with vendors and MIT Accounts Payable Department. Assist in terminal screening of Purchase Order Commitment/Signature Authorization system. Process sales requisitions for computer input and resolve computer error list problems. Will become familiar with gas cylinder deposits, petty cash, furniture procedures and statement errors. Provide backup coverage for other personnel. Requires at least 2.5 years of office experience or equivalent combination of education and experi ence. Good typing and knowledge of desk calculator use important. (40 hrs/wk) S84-168

Handle ticket sales to employees and students on a daily basis. Make arrangements for ticket purchases, travel (bus tours), corporate discounts, etc. Interact with a variety of vendors and handle corresponding paperwork with accounts receivable. Assist in general office duties for the Quarter Century Club and travel program involving knowledge of current tour offerings. Applicant should possess good organizational skills, professional telephone ability, some typing skills. Attention to detail and strong inter-personal skills essential. S84-159

Service Assistant (part-time/temp), Earth, Atmospheric & Planetary Sci-ences, to set up and clean up for daily tea hour. Responsible for ordering all tea supplies and upkeep of kitchen facility. Will help buy food and set up for faculty luncheon each Thursday. May be asked to run errands for Headquarters when necessary. Candidate should be reliable and have Driver's License. (approx. 15 hrs/wk) S84-196

Office Assistant, Bursar's Office, to assist the Account Representatives in servicing student financial requirements. Provide assistance to students; answer phones and inquiries related to student accounts; provide forms; type correspondence; participate in review of accounts and statements; maintain files. Process check requests; maintain check vouchers; update financial work sheets; receive and receipt fee payments; and perform other duties as assigned. Must be flexible to work in other areas of the Bursar's Office. Good communication skills, typing ability and facility and accuracy with figures required. Ability to deal professionally with variety of situations in busy office essential. Should be student and service oriented. S84-175

Office Assistant, Plasma Fusion Center, to schedule work of messenger/ drivers and handcarriers for the department; assist in coordinating various building services such as telephone, furniture and equipment orders. Organize and maintain Mail Center facilities. Assist in other office functions such as photocopying, pro-cessing mailings, assisting visitors, and arranging meetings. Will require data entry skills using DECmate II. Requires 1 year of office experience, accurate typing and excellent inter personal, organizational and gram-matical skills. Interest in developing department procedures and informa tion processing important. Should be able to work well under deadlines. Word processing skills desirable. (40 hrs/wk) S84-171

Cashier (part-time), Faculty Club, to be responsible for recording customer orders on an electronic cash register as volume dictates. Other duties include: tally customer counts and entree mix for all regular dinner and banquet business separate and tally different classes of payments; and reconcile cash and receipts in register as shift ends. Will perform other related duties as required. Requires ability to speak and write English fluently as position involves extensive customer contact. Ability to work accurately with figures and prior electronic cash register experience helpful. (20 hrs/wk; 5-9 pm) S84-I63

Service Staff

Senior Audiovisual Specialist (tem porary), Graphic Arts Service. Individual who sets up, operates, tests, repairs and maintains audiovisual equipment. Includes television cameras projectors, monitors and other related television equipment; sound systems, microphones, amplifiers, power supplies, tape recorders, record players and other audio equipment. Keeps records of equipment repaired. Has working knowledge of broadcast video signal specifications. Operates the audiovisual equipment when necessary. May make noise or distortion measurements and technical drawings of audiovisual systems. May guide, train and direct other audiovisual personnel. Perform other related duties as assigned. Requires little instruction or supervision. Applicants must have graduated from a two years technical day school or its equivalent and have a minimum of five years of applicable experience. (40 hrs/wk) H84-018

Technician A (Electronic), Energy Laboratory, to be responsible for work involved in building, operating, main taining and modifying electrical and electronic equipment at the Northeast **Residential Experiment Station. Equip** ment includes experimental residential solar photovoltaic systems, analog and digital instrumentation, and micro processor based data systems. Daily routine will involve inspecting systems. recording performance meters and checking sensors. Analog and digital instrumentation will be examined and repaired as required. Applicant should have sufficient training and experience to independently troubleshoot and repair both 120/140 volt power elec-tronic circuits and analog/digital instrumentation circuits with minimum supervision. Experience with dc power circuits and thermocouples is desirable. H84-015 Machinist A, Aeronautics and Astronautics. An individual who demon-strates familiarity and a high degree of skill with all the commonly used machine tools. With a minimum of supervision sets up work and operates such machine tools, working to close tolerances from blueprints, specifica-tions, verbal instructions, or sketches Makes such tools, dies, jigs and fixtures as may be required. May direct and train machinists of a lower grade. In addition to general experimental machine shop work, a machinist is required to manufacture miniature and subminiature aerodynamic and structural probes and apparatus. This requires the ability and experience to machine, working under a microscope Considerable precision epoxy and brazing work is an integral part of this job. A minimum of five years of applicable experience as a machinist is required. Experience in the use of a jeweler's lathe is required. Watchmaking or other similar background desirable H84-983

necessary to the effective operation of the dining facilities, including, but not limited to, setting up tables, taking orders, serving customers, clearing tables, carrying food and dishes to an from the dining room and kitchen, setting up and clearing buffets, cleaning and filling serving dishes such as sugar bowls, coffee pots, water pitchers, etc., stocking sideboards with place mats, napkins and condiments and keeping sideboards, pantries, closets and furni-ture clean and in good order. Requires ability to read and speak English. Experience in service-oriented environ-ment preferred. (20 hrs/wk) H84-972, H84-014

Second Cook, Food Service, to be responsible for the preparation of all required production according to established recipes and food production procedures. Assist in the testing procedures of new products. Assist in the routine daily procedures of a single unit operation. Maintain a clean and sanitary work area. Perform other related duties as assigned. Requires extensive food service experience in volume feeding; ability to compute recipe conversions and cost product yields; ability to lead and train food service personnel; strong organization al abilities and a high initiative level. Ability to work with students neces (H84-963)

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 C84-123, Postdoctoral Associate, Nutri-
- tion & Food Science C84-122, Assistant Radiation Protection Officer, Medical
- C84-121, Librarian I (pt/temp), Libraries C84-120, Librarian II (temp), Libraries C84-119, Librarian I, Libraries

A84-432, Associate Director of Pro

grams, Center for Real Estate De-velopment A84-431, Computer Operations Assistant, Whitaker College

A84-429, Regional Director, Alumni Association

A84-428, Assistant Curator, Committee on the Visual Arts A84-423, Sr. Applications Programmer,

Comptroller's Accounting Office A84-419, Systems Analyst, Administra-tive Information Systems

- A84-400, Systems Analyst, Administrative Information System
- A84-385, Manager of Systems Operations, Project Athena

C84-117, Business Services Officer, Libraries A84-391, Advisor to Fraternities, Dean for Student Affairs

- A84-413, Assistant Director, Council for the Arts A84-410, Director of Operations, West
- Campus Plaza A84-407, Director of Admissions, Office

of Admissions A84-389, Assistant Budget Officer,

- Fiscal Planning & Budget Office A84-402, Direct Mail Manager, MIT Press
- A84-397, Sr. Graphic Designer, MIT
- A84-394, Applications Programmer, Administrative Information Systems A84-390, Assistant Director, Patent,

Copyright and Licensing Office A84-337, Systems Programmer, Project

- Athena A84-336, Systems Programmer: Operations, Project Athena
- A84-381, Systems Programmer, Information Processing Services C84-105, Assistant Engineering Librar
- ian, Barker Library C84-104, Head, Science Library
 - A84-365, Industrial Liaison Officer, Industrial Liaison Program A84-361, Program Manager, Physical

Plant

- A84-356, Major Gift Officer, Resource Development A83-336, Systems Programmer, Project
- Athena C83-083, Applications Programmer, Electrical Engineering & Computer Science

SPONSORED

- RESEARCH STAFF: R84-487, Technical Assistant, Whitaker
- College R84-474, SRS Administrative (Librar-
- ian), Plasma Fusion Center R84-469, Research Specialist/Program mer, Earth, Atmospheric, and Plane

tary Sciences R84-468, Research Specialist, Whitaker

College R84-467, Research Specialist/Associate,

Civil Engineering R84-463, R84-465, Registered Nurses,

Clinical Research Center R84-464, Research Scientist, Earth, Atmospheric, and Planetary Sciences R84-460, Microbiologist, Division of **Comparative** Medicine R84-455, RF Heating Engineer, Plasma **Fusion** Center R84-457, Fiscal Officer, Laboratory for Architecture and Planning R84-402, Research Associate, Research Laboratory of Electronics R84-387, Chief of Telescope Operations, Haystack Observatory R84-459, Technical Assistant, Whitaker College R84-457, Fiscal Officer, Laboratory for Architecture and Planning R84-452, Physicist/Engineer, Bates Linear Accelerator R84-451, 450, 449, 448, Postdoctoral/ Research Scientists, Laboratory for Nuclear Science R84-447, Postdoctoral Research Staff, Laboratory for Nuclear Science R84-445, Research Scientist, Energy Laboratory R84-444, Sponsored Research Staff. Francis Bitter National Magnet Lab oratory R84-441, Technical Assistant, Biology R84-439, Postdoctoral Research Scien tist, Laboratory for Nuclear Science R84-438, Computer System Manager, Laboratory for Nuclear Science R84-433, RF Engineer, Plasma Fusion Center R84-431, Systems Programmer, Labo ratory for Computer Science R84-430, Systems Programmer, Labo

R84-419, Technical Assistant, Nutrition & Food Science R84-416, Technical Assistant, Center

for Cancer Research R84-418, Electronics Engineer, Plasma

Fusion Center R84-409, Research Scientist-Exp., Plasma Fusion

R84-408, Research Scientist-Exp., Plasma Fusion R84-405, Technical Assistant, Biology

R84-400, Technical Assistant, Biology R84-399, Research Scientist, Labora-tory for Nuclear Science R84-392, Research Scientist-Exp., Plae-R84-392, Research Scientist-Exp., Plae-

ma Fusion Center R84-310, Computer Facilities Program

mer/Manager R84-389, Technical Assistant, Nutrition

& Food Science R84-381, R84-383, R84-384, SRS Postdoctoral Positions, Spectroscopy Lab R84-378, Research Specialist, Aeronau-

tics & Astronautics R84-373, Research Engineer, Aeronau

tics & Astronautics R84-370, Research Scientist, Artificial

Intelligence Laboratory R84-358, Principal Research Scientist, Lab for Nuclear Science Ref 252, Balician Science R84-353, Radiochemist, Nuclear Reactor

Lab R84-340, Research Scientist, A.I. Lab.

R84-335, Technical Assistant, Center for Cancer Research

R84-334, Manager, Tagged-Token Data-flow Project, Laboratory for Com-puter Science R84-333, R84-332, R84-331, Research

Staff and Principal Research Staff, Electrical Engineering and Computer Science

R84-327, Research Associate, Nutrition and Food Science R84-319, Research Associate, Materials

Science and Engineering R84-298, Research Specialist (6 mos.),

Energy Lab.

R83-289, Magnet Design Engineer, Plasma Fusion Center R83-133, Research Engineer/Scientist,

Energy Laboratory R83-132, Research Engineer, Energy

Laboratory R83-210, Research Specialist, Artificial

Intelligence Laboratory R83-185, Systems Programmer, Lab-oratory for Computer Science

R83-183, Research Associate, Techogy Adaptation Program

nology Adaptation Program R83-175, Sponsored Research Staff, Center for Materials Science & En

gineering R83-172, NMR Spectroscopist, National

Magnet Laboratory R83-140, Research Associate, Materials Science & Engineering R83-135, Research Scientist, Earth,

Atmospheric & Planetary Sciences R83-124, R83-126, Sponsored Research Staff, Laboratory for Nuclear Science

R83-125, Sponsored Research Staff

Laboratory for Nuclear Science R83-084, R83-086, Research Scientist-

Experimental, Plasma Fusion Center

R83-080, Materials Scientist, Materials

R83-988, Experimental Physicist, Cen-ter for Space Research R83-986, Postdoctoral, Center for Space

L84-148, Library Asst. IV, Dewey Li-

L84-147, Library Asst. IV, Barker En-

gineering L84-137, Library Asst. III (pt), Hayden

Library L84413, Library Assistant V (temp), Catalogue Dept. L84-029, Library Assistant III (pt), Retrospective Collection SECRETARY/STAFF ASSISTANT Deat 155

B84-156, Administrative Secretary,

Aeronautics & Astronautics B84-152, Sr. Secretary-Tech. (pt), Ocean

B84-150, Sr. Secretary, Center for Cancer

Research B84-146, Sr. Secretary, Materials Science

& Engineering 884-143, Sr. Secretary, Personnel 884-142, Sr. Secretary, Francis Bitter National Magnet Laboratory 884-140, Sr. Secretary, Sloan School 884-133, Sr. Secretary, Political Science 884-132, Sr. Secretary, Main School

B\$4-132, Sr. Secretary, Materials Pro-

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B844071, Sr. Secretary, Materials Science & Engineering B84-078, Sr. Staff Assistant, Manage

ment of Technology Project Athena B84-058, Sr. Secretary, Project Athena B84-054, Sr. Secretary, Materials Science

& Engineering B84-050, Sr. Secretary, Music B84-046, Sr. Secretary Technical, Labo

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B84-944, Sr. Secretary, Research Labo-

ratory of Electronics B84-704, Sr. Secretary-Technical, Chem

istry B83-677, Sr. Staff Assistant, Center for

Processing Center

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proposals, technical reports and class notes; make travel arrangements; schedule appointments; photocopy; answer phones; run office errands; and assist with general office coverage. Will be required to learn VAX Unix word processing system. Organization, ability to set priorities, take initiative and work well under pressure as part of team in busy office necessary. Must have good interpersonal skills and excellent secretarial, technical typing and proofreading skills. Attention to detail and accuracy essential. Some weekend work required. Minimum 2.5 years direct/ related experience. NON-SMOKING OFFICE (40 hrs/wk) B84-164

Sr. Secretary, Research Laboratory of Electronics, to type, prepare Institute forms, answer telephones, greet visitors and file in the Laboratory's headquar ters office. Will maintain records via database management system. Assist with purchasing and fiscal functions for the Laboratory. Involves substantial interaction with faculty, students and staff. Requires 2.5 years related experience or the equivalent combination of education and experience interpersonal Excellent typing, organizational skills necessary. Experience with dictaphone and database systems helpful. B84-162

Sr. Secretary, Chemical Engineering, to assist three faculty members in their academic and research responsibilities. Will type class materials, technical

Secretary, Resource Development, to provide secretarial and clerical support to a professional staff of four in the Office of Communications. Type proposals, correspondence, speeches, and text for publication; proofread; main-tain office filing system; and photocopy and distribute materials. Will be trained

Sr. Office Assistant, Quarter Century Club, to serve as administrator for MITAC, a large Institute-wide volunteer committee sponsoring recreational activities for the MIT community. Attend committee meetings and coordi nate editing and distribution of bi monthly flyer with circulation of 10,500

Waiter/Waitress (part-time), Faculty Club, to perform such duties as may be

ratory for Computer Science R84-429, Technical Assistant, Biology R84-426, Research Scientist, Plasma Fusion Center

Advanced Engineering Study B84-610, Sr. Secretary, Center for Advanced Engineering Study B84-155, Secretary, Psychology B84-151, Secretary/Receptionist, Nutrition & Food Science B84-127, Secretary (temp), Office of **Career Services** B84-126, Secretary, Athletics B84-109, Administrative Secretary, Laboratory for Information & Decision Systems B84-117, Sr. Secretary, Physical Plant B84-111, Sr. Secretary, Center for Inter-national Studies B84-107, Sr. Secretary, Laboratory for Computer Science B84-103, Sr. Secretary, Biology B84-099, Sr. Staff Assistant, Center for Advanced Engineering Study B84-097, Sr. Secretary, Sloan School B84-092, Sr. Secretary (pt), Center for Materials Research in Archaeology and Ethnology B84-907, Sr. Secretary, Sloan School B84-118, Secretary, Nutrition & Food Science B84-108, Secretary, Architecture B84-085, Administrative Secretary, Treasurer's Office B84-081, Sr. Secretary, Physics B84-079, Sr. Secretary, Sloan School B84-072, Sr. Staff Assistant, Urban Studies & Planning B84-065, Sr. Secretary, Aeronautics & Astronautics

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Class of 1988 has 300+ women

(continued from page 1)

matical and verbal skills necessary for academic success at MIT.

This year's entering class includes representatives of all 50 states and the District of Columbia. Fifty-seven of the new students are foreign nationals.

The class was selected not only for high academic achievement in high school but also for individual interests and talents its members could bring to enrich the MIT community. Among them are:

-A unicyclist who square dances on his machine and another who juggles while riding hers

-Many musical performers of accomplish-

ment. —An entrepreneur who owns both an electronics firm and a catering service.

-A first runner-up in a Junior Miss competition, a model and a television actor.

-A young woman who served as a translator for Russian immigrants when she was eight years old.

-Athletes ranging from an Olympic speed skater to champions in ping pong, judo, track, diving, horsemanship, sailing, bowling, tennis and karate.

The Class of '88 began arriving at MIT last week for a Residence/Orientation Program that began August 31 with the Freshman Picnic. During the 10-day period the freshmen are choosing their living arrangements in dormitories or fraternities; meeting with their faculty advisors to select courses; taking a diagnostic writing test and tests for advanced placement in a number of subjects; being introduced to the sports and extracurricular activities available, and attending a reception hosted by MIT President and Mrs. Paul E. Gray

Registration for the fall term will be held Monday, Sept. 10.

City arrived on the campus carrying "Theo," her teddy bear in her backpack. -Photo by Calvin Campbell

Symposium focus: future of autos

(continued from page 1)

John F. Smith, president, General Motors of Canada.

Labor leaders who will participate include Irving Bluestone, retired vice president of the United Auto Workers Union, and Collin Gonze, director of the Auto and Aerospace Depart-ment of the International Metalworkers' Federation.

Seven nations-France, Italy, Japan, Sweden, the United Kingdom, the United States and West Germany-were involved in the study. Among them, the seven nations account for three-fourths of the world's motor-vehicle production and two-thirds of new-vehicle sales. In addition, they are the home countries of all the transnational automobile manufacturers.

The German Marshall Fund of the United States and the Lilly Endowment Fund provided support for the international coordination of the program. In addition, each national research team obtained funds from public and private organizations in its home country.

The co-directors of the Future of the Automobile study are Professor Daniel Roos and Professor Alan Altshuler. Professor Roos heads MIT's Center for Transportation Studies and is a faculty member in the Department of Civil Engineering. Professor Altshuler, now dean of the School of Public Administration at New York University, formerly headed the Department of Political Science at MIT.

The MIT Press will publish in September the final report in a book, The Future of the Automobile (\$16.95 plus \$1.50 for postage and handling).

Looking toward the end of the century, the symposium will focus on these key issues:

How many autos will be purchased? Where will market growth occur? Will there be chronic excess capacity in the world industry?

Is automotive technology adequate to deal with future energy, environmental and safety challenges?

How does technology evolve in the auto industry? Will the future be characterized by evolutionary or radical advances in product and production technology? What role will technology play in competition among final assemblers and among suppliers?

tions take in an era of intensifying international competition and rapid technological change?

How will relations between the members of the auto production system-final assemblers, suppliers, financing sources-evolve? What new forms of collaboration and cooperation will develop among final assemblers and among suppliers?

Symposium sessions will be held in Kresge Auditorium. The program begins at 9am Tuesday, Sept. 18, with a welcome to attendees by MIT President Paul E. Gray.

Sessions on September 18 will deal with the key issues facing the auto and the auto industry; the future shape of the world auto industry; the future of automotive employment and labor relations; the future of automotive technology, and (running simultaneously with the previous session) future trends in auto demand and use.

Sessions on Wednesday, Sept. 19, include the future of trade relations, public and private choices for the future, and the future of the North American auto industry.

Pinker wins APA award

Dr. Steven Pinker, assistant professor of psychology at MIT, has been given the Distinguished Scientific Award for an Early Career Contribution to Psychology by the American Psychological Association. Dr. Pinker received the award in August at the annual APA Convention in Toronto, Canada.

Dr. Pinker received his BA at McGill University in 1976 and PhD from Harvard in 1979. He has served on the faculty at Stanford University and Harvard University, and began teaching at MIT in 1982. He has written numerous articles in scientific journals on cognitive science, visual cognition, and psycholinguistics, and has served as Guest Editor for a special issue of Cognition. Dr. Pinker is the author of Language Learnability and Language Development, published by Harvard University Press and is co-author Graphs for People and Computers, to be of

MIT issues policy statement on sexually explicit films

(continued from page 1)

statement was developed because of "con-tinuous and sustained complaints" about the showing of sexually explicit or pornographic films by the Lecture Series Committee. She said complaints have come from many segments of the community, including students, faculty, staff, committees, senior administrators and visiting faculty. In addition, individuals and groups have staged protests against the showing of such films on campus and have organized boycotts, she noted.

Dean McBay said the statement was "an effort to handle a difficult and sensitive issue in a manner that takes into consideration both the freedom of academic expression and the sensibilities of the community.

The policy statement, which was developed over the summer by Dean McBay's office in consultation with faculty, staff members and students, says the decision against an outright ban of sexually explicit films was made because the Institute "wished to protect the expression of ideas even when these ideas might be unpopular and offensive."

At the same time, the statement says, MIT has the right to "make decisions regarding the time, circumstances and location of the showing of such films without compromising the protection of expression.

To accomplish this, the statement says, Dean McBay will appoint a committee of about 12 persons to develop or adopt criteria for sexually explicit films that may be shown on campus. The committee also will review X-rated or unrated sexually explicit films, prior to public showing, to determine whether the films meet the criteria established by the committee.

If the committee finds that a film meets the established criteria, then it may be shown on campus on the same basis as any other film, the statement says.

Dean McBay said the policy statement is effective beginning with the 1984-85 academic year, and that she hopes to have the screening committee in place by the end of September. She said the committee will include Lecture Series Committee and non-LSC student members, as well as faculty and staff members. The policy, she added, will be reviewed after

a trial period of not less than a year. "On the grounds of academic freedom," Dean McBay said, "MIT has steadfastly refused to forbid the use of Institute space for such showings even though repeated attempts by students, faculty and administrators to persuade the LSC to voluntarily end the showing of pornographic films have been unsuccessful.

"Our office has solicited and relied heavily upon the advice of faculty, staff and students in the formulation of the policy statement. We have taken into consideration the views of members of the executive committee of the Lecture Series Committee and were pleased to learn in our discussions with them that LSC

itself had planned to take many of the steps outlined in the statement. In addition, the statement has received the endorsement of the Academic Council.'

While LSC representatives initially raised objections to the establishment of the screen-ing committee, she said, these objections appeared later to be resolved.

Their strongest objection, not satisfactorily resolved, she said, was to the denial of the use of Kresge Auditorium for the showing of films not meeting established criteria.

Their arguments, she said, included a potential loss of income, the need for additional late showings if a smaller room had to be used and an increased likelihood of unpleasant incidents if people had to be turned away

In denying the use of Kresge for unapproved films, the policy statement notes that "several unpleasant incidents" have occurred following past showings of sexually explicit films. It also comments that the auditorium is close to McCormick and Green Halls, the women's dormitories on campus. "In order to avoid possible disruptions and unpleasant encounters for students, especially women students, as they move within their normal environment, Kresge will no longer be used for such films, the policy statement says.

Films not meeting the criteria of the screening committee cannot be shown during or at the end of freshman orientation, the statement says, because they are "not an appropriate introduction to this community for incoming students." Showing them on the registration of either term, it adds, "serves to establish an undesirable tradition of such showings."

On the matter of giving sufficient prior notice for the showing of unapproved films, the statement says that groups must notify the dean's office of their intent "at least six weeks prior to the proposed showing date."

In establishing criteria that sexually ex-plicit films should meet for approved showing, the screening committee may adopt criteria similar to that recommended by an earlier ad hoc committee in April, 1983.

That group, convened by the LSC and the dean's office, was known as the Repeta Committee for its chairman, Mike Repeta, a member of the LSC.

Its four criteria were these:

1. Films should reflect believable reality or more normalcy in the relationships and sexuality displayed.

2. The sexuality portrayed should not be objectified as being separate from the individuals involved.

3. The sexually explicit content and the emotional content should strive to equally reflect the viewpoint and the sexual feelings of both men and women.

4. The films should generally promote a positive attitude toward sexuality.

Mall approach may benefit cities generally, researchers report

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an assistant professor in MIT's Department of Urban Studies and Planning.

Professors Frieden and Sagalyn note that more than 100 downtown retail centers have been developed since 1970, indicating that a growing number of cities are finding ways to compete effectively against the suburbs for a share of retail sales.

The downtown centers follow several different retailing strategies, they said. "Some, such as Plaza Pasadena, are regional shopping malls offering a wide variety of goods aimed at the middle of the market. Others, such as Boston's Faneuil Hall Marketplace, are specialty malls that draw people by offering foods and festive atmosphere. Still others, such as Town Square in St. Paul, are mixeduse projects combining stores with hotels, offices, convention centers or other activities. As in urban renewal, public sector money has been an important ingredient in the downtown retail projects, according to the researchers.

"City staff members who have had personal experience with public-private developments are still a very small minority of their profession," the researchers comment, "and the details of the process are still not well known.

Yet there is widespread interest in the entrepreneurial style of public administration, and by now similar methods have been applied to a number of other developments besides the downtown retail centers."

According to Professors Frieden and Sagalyn, the public-private process for downtown retail projects has four key elements that are broadly applicable to other settings:

-Assembling a mix of local and private funds.



How will society cope with probable reductions in the size of the auto industry work force? What path will labor-management rela-

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MIT Press OFFICE ASSISTANT B84-005, Sr. Secretary (pt), Aeronautics and Astronautics B84-055, Secretary, Nutrition & Food S84-145, Administrative Assistant, Economics B84-047, Secretary, Nutrition & Food S84-139, Administrative Assistant, Graphic Arts Service S84-154, Office Assistant, Registrar's B84-042, Secretary, Resource Develop-Office S84-153, Office Assistant, Credit Union S84-134, Office Assistant, Francis Bitter B84-013, Secretary, Nutrition & Food B84-975, Administrative Secretary, In-National Laboratory dustrial Liaison Program B84-995, Sr. Secretary, Physical Plant S84-129, Clerical Assistant (pt), Libraries S84-116, Administrative Assistant. B84-969, Administrative Secretary, Economics B84-915, Sr. Secretary, Provost's Office Sloan School S84-114, Sr. Office Assistant, Medical Science B84-836, Sr. Secretary Mathematics B84-798, Sr. Secretary, Whitaker Col-S84-920, Sr. Office Asst./Data Entry Op. (temp), Libraries S84-104, Office Assistant, Resource lege TECHNICAL SUPPORT STAFF Development T84-123, Sr. Word Processor (pt), Tech-nology Adaptation Program T84-135, Technical Assistant, Haystack S84-098, Office Assistant, Comptroller's Accounting Office S84-091, Office Assistant, Medical S84-911, Office Assistant, Chemistry Observatory T84-942, Diet Aide, Clinical Research tivity S84-067, Administrative Assistant, T84-106, Asst. Computer Operator, Graphic Arts S84-012, Administrative Assistant, Haystack Observatory T84-978, Word Processing Operator, Alumni Association \$84-025, Sr. Office Assistant, Alumni tute Association S84-884, Sr. Office Assistant (part-Page 8, Tech Talk, September 5, 1984

published by Holt, Rinehart, and Winston.

Dr. Pinker is a member of the Advisory Editorial Board at the MIT Press and is the research director for experimental laboratory facilities at the Center for Cognitive Science.

> time), Biology SERVICE STAFF H84-009, Gardener, Physical Plant H84-008, Technician A (Electronic), Haystack Observatory H84-006, Technician A (E-M), Electrical Engineering & Computer Science H84-005, Technician B (Electronic), Laboratory for Nuclear Science H84-003, Technician B (Electronic), Laboratory for Nuclear Science H84-002, Technician B (E-M), Plasma

> Fusion Center H84-959, Technician A (Electronic), Electrical Engineering & Computer H84-004, Building Attendant (pt), Office

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cal Plant H84-960, Laboratory Assistant, Mate-

nals Processing Center H84-951, Sr. Technician (E-M), Labor-atory for Manufacturing & Produc-

H84-923, Technician A (electronic), **Telecommunications** Systems

WHITEHEAD INSTITUTE Technical Assistant, Whitehead Insti-Sr. Secretary, Whitehead Institute

In a sample of 32 projects, they found, the public share ranged from as little as three per cent to as much as 81 per cent, with a median of 30 per cent. While federal grants supplied most of the public funds in the earlier projects, the survey showed, local financing either complemented or substituted for federal sources in more recent ones.

A question for the future, they say, is whether the new public-private relationship that produced the centers was simply ' temporary expedient brought on by the special circumstances of the 1970s, or part of a learning process likely to continue in the future.

Their research suggests, they write, that city officials and developers who have made use of the new public-private management style "are unlikely to give it up without compelling reasons, such as the emergence of scandals from these relationships."

-Establishing political and economic feasibility during early stages of project planning

-Utilizing ongoing negotiation rather than an arm's length regulation of the private sector, with a continuing role for the city in decisions throughout the development process. -Trading public sector sharing of frontend risks for participation in future benefits.

Downtown retailing has been a good proving ground for these strategies, and many cities are likely to turn their attention next to other types of projects in other parts of the community, say the researchers.

Some of the same methods, they say, may prove applicable to small commercial centers, recreation facilities and housing renovation, for example, all of which are necessary to restore and rebuild residential neighborhoods.

They conclude, "If public-private developments continue to spread as they have in the past few years, and if the cities can make their new managerial methods work for a broader development agenda, then the process that built the downtown shopping malls could turn out to be even more important than the malls themselves.