Massachusetts Institute of Technology



November 1, 1978 Volume 23 Number 13

— Bruce, Hansen –

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# Physical Chemistry Anniversary Planned

A Nobel laureate, the director of research for the US Department of Energy, the president of E.I. du-Pont de Nemours and Company and a distinguished professor of chemistry will be the speakers Nov. 17 at a day-long program marking the 75th anniversary of the Research Laboratory of Physical Chemistry at MIT. The Laboratory was established

in 1903 by the late Dr. Arthur Amos Noyes, who later served as acting president of MIT (1907-1909) and in 1919 left MIT to help develop the newly established California Institute of Technology

Speakers at the commemorative program will include Dr. Linus C. Pauling, the recipient of two Nobel prizes; Dr. John M. Deutch, director of research for the Depart-(Continued on page 8)

### Bruce as **ILP** Head Dr. James D. Bruce, associate dean of the School of Engineering since 1971 and a professor of elec-

trical engineering, has been named director of industrial liaison at MIT. Professor Bruce, a member of the faculty in the Department of Electrical Engineering and Computer Science since 1964, succeeds Dr. Samuel A. Goldblith as director of MIT's efforts to stimulate contacts and information exchanges between faculty members and industry. Dr. Goldblith, Underwood-Prescott Professor of Food Science at MIT, was ap-

pointed vice president for resource development last month. Professor Bruce's appointment, announced by Dr. Goldblith, is effective Jan. 1.

"The Institute is fortunate."



**Professor Bruce** 

Professor Goldblith said, "in obtaining a faculty member of Professor Bruce's stature to direct its industrial liaison activities. The (Continued on page 8)

## Hansen in Engineering

Kent F. Hansen, widely Dr. noted as an expert in nuclear reactor theory, nuclear fuel management and reactor safety analysis, has been appointed associate dean of the School of Engineering.

Professor Hansen, a faculty member in the Department of Nuclear Engineering since 1961, succeeds Dr. James D. Bruce, who has served as associate dean since 1971. Professor Bruce has been named director of Industrial Liaison at MIT.

The appointment, announced by Dean Robert C. Seamans, Jr., of the School of Engineering, is effective Jan. 1.

'Kent Hansen," Dean Seamans said, "is a talented educator and a skilled administrator. As associate dean, he will add strength and



**Professor Hansen** 

vitality to the School of Engineering by virtue of his keen interest in the application of engineering to the needs of society. I look forward

(Continued on page 3)

# Rep. Mitchell to Keynote Conference

The challenge and opportunities that will face minority businesses in the 1980s will be explored at a two-day conference, November 17-18, to be held at MIT.

The keynote address will be given by US Rep. Parren J. Mitch-ell of Maryland, chairman of the Congressional Black Caucus and a member of the House Budget Committee and the Banking, Finance and Urban Affairs Committee. He will discuss ways to enhance opportunities available to minority businesses

The conference is sponsored by MIT, the National Business League's Boston chapter, and Small Business Development Corp., a consulting firm under contract to the US Department of Commerce to provide management and technical assistance to minority businesses in Massachusetts, Maine and New Hampshire.

Dr. Clarence G. Williams, spe-

# **MIT-Wellesley** Exchange Faculty Lectures to Begin

A sixth lecture has been scheduled in the series commemorating the tenth anniversary of the MIT-Wellesley exchange program. "Hellenism and Romanticism:

Changing European Views of Greece as an Artistic and Political Entity from Late Classicism to Romanticism," will be presented by Jonathan B. Knudsen, assistant professor of history at Wellesley, on Wednesday, Feb. 21, at 4pm in Rm. 66-110. MIT host for the lecture will be Robert E. Jones, professor of French and humanities.

Meanwhile, the series of exchange lectures will begin today (Wednesday, Nov. 1) with a lecture by Marshall I. Goldman, professor of economics at Wellesley and associate director of the Russian Research Center at Harvard, at 4:30pm in Rm. 66-110. His topic will be "Can the USSR Become an

Autarky by 1984?" Professor Evsey D. Domer of the MIT economics department will be respondent.

Two lectures are planned on Wednesday, Nov. 8, one here and one at Wellesley.

Speaking here, in Rm. E53-482 at 4pm, will be Wellesley professor Marion R. Just on "Media Pathology: TV and the Democratic Process." Her respondent will be MIT professor Walter Dean Burnham.

Samuel J. Keyser, professor and head of the Department of Linguistics and Philosophy, will speak at Wellesley at 7:30pm on "A Linguist's Approach to Literary Analysis." The lecture will be held in the Margaret Clapp Lecture Hall in the Wellesley Library and the respondent will be Michel Grimaud, assistant professor of French at Wellesley. cial assistant to the president and to the chancellor at MIT, is coordinating conference arrangements at the Institute. Dr. Williams pro-vides a focus for MIT's efforts to share the knowledge developed by its educational and research programs with individuals and organizations in the minority community.

"MIT is pleased," he said, "to join with the nation's largest and oldest black business organization-the National Business League-as well as with Small Business Development Corp., in focusing attention on the special problems and unique opportunities that will be confronted by minority businesses in the next decade.

Several state and federal officials will take part in the conference as members of a panel dis-(Continued on page 7)

### **CPR** Courses

Spaces are still available for courses in cardio-pulmonary resuscitation (CPR) offered by the MIT Women's League.

Four eight-hour courses are planned, to be held in Rm. 66-319, Monday and Wednesday evenings, 6-10pm, beginning Monday, Nov. 6. Classes will be taught by Joseph F. safety engineer in the Kuchta **MIT Safety Office.** To sign up, call Mary Pinson in the Women's League office, x3-3656, or Alice Bilodeau, x3-6661.

#### To the MIT Community:

Today marks the beginning of the annual MIT-Red Cross Fall Blood Drive. I encourage all eligible members of the MIT Communityfaculty, staff and other employees, and students alike-to consider giving of themselves by participating in this important and beneficial activity.

Donating blood is a vital service to the community and to our neighbors and associates, for only if sufficient donations are made will there be an adequate and timely supply for those in need. As in the past, it is Institute policy to allow time off, wherever possible, for employees who wish to donate blood.

The turnout at past blood drives has been so good that MIT has become a significant source of blood for the surrounding Massachusetts-Maine region. I sincerely hope that the response to the drive which begins today will continue this tradition.

OFFICE OF THE CHANCELLOR

Vantillay

# Paper Beaver

Oh to be a sportswriter. We have always envied sportswriters. Within the guild of journalism, they form a special brotherhood. The elite of the pica pack, they have special privi-leges. They can write one-sentence lead paragraphs. They can write short sentences. They can even write one-word sentences. Pow. Paf! They get to use, seri-ously, neat words like destiny and gonfalon. They get free tickets. They get the front seats at the human comedy. And they are our most knowledgeable critics, for unlike theater reviewers they cover not only first nights but the

entire season of a given band of roving players. If the Bard were alive today, he'd be writing sports, chronicling the tragic demise of the '78 Red Sox rather than that of an obscure Danish swordsman. Is not sport the essence of living theater? The real difference between a Hamlet and a Grogan, as we watch the one scramble into the grave and the other out of the pocket, is that the Prince is played by an actor and the Patriot by . . . himself. At his best, the dramatist writes so that we may suspend our disbelief. At his best, the sportswriter writes to sustain our belief and to con-

vince us for a brief spell that all the world's a playing field. The true accomplishment of a George Plimpton in a book like Paper Lion is to reduce the imaginary distance between spectator and player, to reinforce the illusionor the truth-that we are all in some sense player-participants in the greatest game of them all.

Yessiree Bob! For old-fashioned, straightforward, mindbending, cliche-ridden, hardhitting prose (pow!), give us a sportswriter. We know what we have to do. Paf!

So it was with not a little anticipation that we set off to cover the MIT football game with Siena College last Saturday. It was a fine day with firsts. This was

MIT's first intercollegiate football season in 77 years. This was the first (and only) home game of the season. It might be MIT's first win, for despite an 0-4 record to date, fan sentiment was at a three-quarter of a century high. It was the first time, as far as we knew, that a university of worldwide reputation had taken the gridiron against a foe we'd never heard of before. And it was also our first sports assignment. Consequently, when it appeared that our date would be a bit delayed we left her to play catch up and legged it for Steinbrenner Stadium with all the zeal of a Deep Threat doing the 40 into the end zone. We made it just before the kickoff and found ourself

standing on the MIT sideline next to an attractive young woman who turned out to be Harriet Pearce, head women's trainer in the MIT Athletic Department and one of the team's two trainers. As the teams took the field, a player rushed up to her. "Got any sticky stuff?" he asked.

MIT kicks off, a wobbly job that goes all the way to the Siena 38 yard line. Siena's first play is a run for three yards. Second and seven from the 41. "Get him," shouts an MIT player from the sideline. They don't get him. Siena first and ten from the 50. Siena runs again. First and ten from the MIT 40. Again the run,

(Continued on page 5)

### Second Salon Planned Tonight

"Problems of the Upright Man on Earth and in Space" will be the topic of the second Women's League Salon, to be held tonight (Wednesday, Nov. 1) at 5:30pm at Historical Collections.

Featured speakers will be Professor Jerome Y. Lettvin of the Department of Biology and of Electrical Engineering and Com-puter Science; Maggie Lettvin, lecturer in the Department of Athletics; and Professor Robert M. Rose of the Department of Materials Science and Engineering. Wine and cheese will be served.

Those planning to attend are asked to sign up, today only, with Sonia Tuller, 237-5288.

### Maggie Lettvin to Talk on Jogging

Maggie Lettvin, MIT's own expert on physical fitness, will discuss jogging at a meeting of the MIT Minority Interest Group on Wednesday, Nov. 8, at 1pm in the Bush Room (10-105). The meeting is open to the entire Institute community.

A lecturer in the Department of Athletics, Ms. Lettvin has offered IAP courses in self-designed fitness for various sorts of people. She is the author of The Beautiful Machine, Maggie's Back Book and chapter entitled "Aging and а Exercise" in the medical book The Guide to Fitness After 50.

### **Proposals** Due

Deadline for submission of proposals for Special Summer Programs in 1979 is Friday, Nov. 3, Professor James M. Austin, director of the Summer Session, has announced

The one- and two-week programs provide an opportunity for professional men and women from outside MIT to keep pace with new developments in their fields.

Professor Austin said he would be available to discuss ground rules and various formats for Special Summer Programs with faculty members who have not given one in recent years. Those interested may call Professor Austin or Maria Murphy, x3-2101.



#### Conversation Exchange\*\*-The MIT Wives Group has compiled a list of international women interested in exchanging foreign language conversation for English conversation. Contact: Carol Mirti, x3-1614

Former Marines of MIT community\*\*-Con-

Beginning Sailing Instruction\*\*-every Monday and Thursday, 5:15pm, through Novem-ber, at MIT Sailing Pavilion.

MIT Bridge Club\*-ACBL duplicate open pairs game Thursdays, 7pm, Rm W20-473. Info: 494-8593. Admission .25.

MIT/DL Bridge Club\*\*-ACBL Duplicate Bridge, Tuesdays 6pm, Rm W20-473

MIT Chess Club\*-Informal speed chess, analysis, etc., Saturdays, 1-7pm, Student Center Rm 407. Info: Charlie, dl5-6170, or Ed, dl5-6574.

Club Latino-MIT \*\*\*- Regular meetings to organize activities and discuss future plans, Tuesdays, 7:30pm, place variable; call Juan, 494-0330, or Jesus, dl5-8327, for info. Wellesley students welcome.

MIT Go Club®-Regular meetings, games, in-struction, lessons and books on strategy and tactics, Mondays and Thursdays, 8pm, Rm 7-102.

Graduate Student Council\*\*\*-Academic Projects and Policy Committee Meeting, Tuesday, Nov 7, 5pm, Rm 50-210. Executive Committee Meeting, Thursday, Nov 9, 5pm, Rm 50-210. Council Meeting, Thursday, Nov 16, dinner 5:30pm, meeting 6pm, Walker Blue Room.

Hobby Shop\*\*-Mon-Fri, 10am-6pm, Rm W30-031. Fees: \$10/term for students, \$15/term for community. Info: x3-4343.

MIT Judo Club\*-Practice every Monday, Wednesday and Friday, 5-7pm, duPont Exer-cise Room (2nd fl). Beginners welcome. Info: Lance, x3-1570.

MIT Juggling Club\*—Thursdays 7:30-11pm Rm 491 Student Center; Sundays 1-4pm Kresge Oval. Visitors welcome.

MIT Motorcycle Research Association\*-Monthly meetings, first Tuesday of each month, 7pm, Muddy Charles Pub (Rm 50-110). Info: Rm 13-5146, x3-6924.

MIT Pershing Rifles\*\*\*-Commando Platoon meetings every Tuesday, 8pm, Rm 20E-017, monthly field training exercises. Drill Platoon practice every Monday, Wednesday and Fri-day, 7:30am, duPont. Rifle Platoon, range firevery Thursday, 6-8pm, duPont Range. Info: Rm 20B-101, 623-0233.

MIT Pistol and Rifle Club\*\*-Basic Pistol Marksmanship Course starts Thursday, Nov 9, 6:30pm, du Pont Range. Course stresses safety and skills and assumes little or no knowledge of firearms. Fee \$20. Info or preregister: Andy Platais, x8-1419, Draper

MIT Women's Rugby Club\*\*-Practice every Friday 5:30-7:30pm. Games alternate Satur-days. Any woman with athletic card welcome. Info, call Sharon x3-6825.

MIT Rugby Football Club\*-Practice Tues-days and Thursdays, 5pm, Briggs Field. Games every Saturday. Beginners welcome. Info: Joel Lederman, 738-1662, Bruce Glaeser, x3-6733

MIT's Journal of Arts and Letters\*\*-Deadline for Rune 4 issue, Dec 1. Bring mss. to 14N305. Staff meetings, Thursdays, 5pm, Rm 14N-305. All people interested in editing, production and writing invited. Info: Abby Shevitz, dl5-7153, Leslie Chow, 262-6844.

MIT Shotokan Karate Club\*\*-Rigorous training for self-defense and spiritual well-being. Practice Mondays and Thursdays, 7:20-8:30am; Tuesdays and Fridays, 6-7:30pm; Varsity Club Lounge. Beginners welcome. Info: Jim, x3-3283.

MIT Tae Kwon-Do Club\*-Korean style karate. General meetings, Tuesdays, 8-10pm, Saturdays, 3-5pm, T-Club Lounge. Beginners welcome. Info: dl5-9278.

MIT T'ai Chi Club\*\*-Meetings, Thursdays, 4:15pm to 6pm, the Dance Studio, Rm W31-225. Teacher, Prof Eugene Liu, encourages partici-pation at all levels. Info: Janesh Vaidyana-than, x3-6813.

MIT Tiddlywinks Association\*-Weekly meetings, practice, coaching, preparation for tour-naments and strategy sessions, Wednesdays, 8-11pm, Student Center West Lounge or W20-473 if pre-empted.

Undergraduate Math Club\*\*-Meets Sundays, 4:30pm, Rm 4-182. All undergraduates welcome. Info: dl5-8439

Wu-Tang, MIT Chinese Martial Art Club\*meets Monday, 8-10pm, W20-407, Wednesday, 8-10pm, W20-491, and Saturday, 1-3pm, W20-491. Learn physical and mental discipline through practice of Kung-fu, also Northern

shit, info: 3-2982. Conservative Services, Satur-days, 10am, 312 Memorial Drive. Reform Services Fridays 6:30pm, Chapel. Schedule, Hillel Office.

Bible Study\*-Friday afternoons 1-2pm, Rm 20E-207. Bible class, music, guest speakers. Miriam R. Eccles, founder-director, Alpha and Omega Missionary Society.

MIT Vedanta Society\*-Meditation and discourses on the Gita by Swami Sarvagatananda of the Ramakrishna Vedanta Society of Bos-ton. Fridays, 5pm, Chapel.

#### Placement

The following companies will be interviewing during the time period covered by the cur-rent Institute Calendar. Those interested may sign up in the Career Planning and Placement Office, Mon-Fri, 9am-3pm, Rm 12-170, x3-4733. Nov. 1-Bell System; Caltex Petroleum Cor poration; Chevron Companies; Continental Oil Company; Exxon Corporation and USA Affiliates; General Dynamics Corporation; The Institute of Paper Chemistry; Lawrence Livermore Laboratory; Microwave Research Cor-poration; MIT Lincoln Laboratory; The MITRE Corporation; The Shell Companies.

Nov. 2-The Aerospace Corporation; Ampex Corporation; The Boeing Company; The Charles Stark Draper Lab.; Eastman Kodak Company; Engelhard Minerals & Chemicals Corporation; HRB-Singer, Inc.; Prime Computer, Inc.; R.R. Donnelley & Sons Company; L.D. Schreiber Cheese Co., Inc.; Tektronix, Inc.; TRW Defense and Space Systems.

Nov. 3-The Aerospace Corporation; The Boeing Company; Harris Corporation/Web Press Division; Melpar Division, E-Systems; Outboard Marine Corporation; TRW Defense and Space Systems; U.S. Army Materiel Development.

Nov. 6-American Sterilizer Company; Allied Chemical Corporation; ARINC Research Corporation; Bell Telephone Laboratories, Inc.; General Motors Technical Center; Physics International Company; The Analytic Science Corporation.

Nov. 7-ARINC Research Corporation; Bell Telephone Laboratories, Inc.; Codex Corporation; Combustion Engineering, Inc.; General Motors Technical Center; Perkin-Elmer Corporation; Sandia Laboratories; Xerox Corporation.

Nov. 8-Advanced Marine Enterprises, Inc.; Digital Communications Corporation; Frito-Lay, Inc.; Hazeltine Corporation; Hughes Air-craft Company; Inland Steel Company; Insti-tute for Defense Analyses; Kaiser Engineers, Inc.; McDonnell Douglas Corporation; Mobil Oil Corporation; Sanders Associates, Inc.; Sandia Laboratories; Signatron, Inc.

#### New UROP Listings

For more detailed information on UROP opportunities listed. MIT undergraduates should call or visit the Undergraduate Re-search Opportunities Program Office, Room 20B-141, Ext. 3-5049 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.

System Modeling

Opportunity for a student to do system modeling and analysis of transportation alternatives for a federally-funded demand-respon-sive transportation demonstration in Roches ter, N.Y. The student would work with a research team in the Transportation Systems Division of the civil engineering department. Some background in systems modeling desirable. Previous work in econometrics and/or simulation analysis would be helpful. Good pay available. Contact John Montgomery, x3-7942 or 494-8779.

Tactile Art for the Blind

A psychiatrist/artist at McLean Hospital. Belmont, is interested in working with students to develop a technique for tactile appre-ciation of drawings and paintings, with an aim



of exposing blind people to visual art. The theoretical part of the project will involve basic concepts of perception and symbol for-mation. There will be considerable contact with blind subjects. Students could expect to commit about 12 hours non-weak for the semcommit about 12 hours per week for two sem-

Nutrition and Food Science Opportunity for a student to participate in a project involving structure-activity relation-ships in a series of hydroxamic acids and derivatives therof. These compounds may be involved in processes leading to the induction of intestinal cancers. Our goal is the identifica-tion of structural features responsible for biological activity. The work will consist mainly of synthetic organic chemistry, and may include microbiological testing. Some experi-ence in organic chemistry required. Contact Dr. Paul Skipper, 16-227, x3-6749/3106.

Dynatech R/D Company

Dynatech would like to meet students inter-ested in the area of Fuel Gas Production. Dynatech is carrying out a program to develop a process for fuel gas production from bio-mass. The conversion is by anaerobic digestion, a conventional biological fermentation technique. For credit only.

**Computer Science** 

number of related student projects are available on the following two projects are ect one: Networking the "Enhanced-Input Computer Terminal" on the Video-Cable Sys-tem. Student projects: (a) minicomputer (DEC PDP-11) programming; (b) electrical and mechanical engineering for communications and storage devices. Project two: Com-munity information and learning computer system. Student projects: (a) minicomputer (DEC PDP-11) programming; (b) applications programming; (c) construction of com-munity information data base. Contact Prof. Roy Kaplow, 13-5106, x3-3322.

Neuropsychopharmacology Laboratory

The Massachusetts Mental Health Center invites a student to participate in a project which entails the study of the effects of psychoactive drugs on electrical self-stimulation of the brain in rats. Requires a minimum of 16-20 hours per week (preferably Monday, Wednesday or Friday). A background in biology and psychology, and/or a knowledge of basic electronics and programming techniques is helpful but not required.

**Malnutrition of Developing Rats** 

An undergraduate concentrating in biology, preferably a junior, is invited to assist in a project involving malnutrition of developing rats and its effect on neuronal protein synthesis and on later behavior. Student would learn assay procedures and some behavioral tests, and would also be expected to help pre-pare food, feed animals, and clean cages. Eventually he or she will work on a small, independent project. Hours are flexible. Credit is available. Contact Sydne J. Pilistine, 56-218, x3-6708, or Dr. S. A. Miller, E18-564, x3-7021.

African Environmental Interrelationships Boston Zoological Society

The Boston Zoological Society is integrating African cultural information into zoological and botanical exhibits planned for their new zoo. Library research is planned on environ mental interrelationships, including African people's relationships with their environ-ments, human activities which are altering environments and the results to animal and plant population from these changes.

#### Graduate Studies

NSF National Needs Postdoctoral Fellow-tific problems related to national needs. The fellowships provide a stipend of \$1,000 per month for up to 12 months of tenure. Appli-cants must be US citizens or nationals who will have earned a doctoral degree in the mathe-matical, physical, medical, biological, engineering or social sciences by the beginning of their fellowship tenure. Preapplications and further information are available in the Graduate School Office, Rm 3-136. Application deadline: November 3, 1978.

| n          | AMERICAN TELEVISION: A<br>CULTURAL HISTORY. Repeat,<br>Wed., Nov. 1, 4-6pm.                                      |
|------------|--|
| 0pm        | POLITICS, TELEVISION, AND<br>THE NEWS: Live from 9-150. Ed<br>Diamond, Dept. of Political Sci-<br>ence           |
| nnel 10:   | 12 MA 20 2 19 6 14   |
| (pm        | NOON HITS: Harvard student-<br>produced weekly show  |
|            | PRO-INSULIN FROM BAC-<br>TERIA: Dr. Walter Gilbert, Dept.<br>of Biochemistry and Molecular Bi-<br>ology, Harvard |
| ay, Novem  | her 3  |
| nnel 8:    |  |
| n-1pm<br>m | CARL SAGAN: Video Club<br>A MUSICAL EVENING TO RE-   |

NATO Postdoctoral Fellowships\*\*-Approxi-mately 40 NATO Postdoctoral Fellowships will be offered for further study in the sciences at institutions outside the US. Applicants must be US citizens or nationals who have demonstrated ability and special aptitude for ad-vanced training in the sciences and who will have, by the beginning of the fellowship tenures, earned doctoral degrees in any of the qualifying fields of science. The stipend is \$920 per month for up to 12 months of tenure. Fel-lows are also provided with dependency allow-ances. Info: Graduate School Office, Rm 3-136. Application deadline: November 3, 1978

Churchill Foundation Scholarships\*\*-Ap proximately 10 scholarships awarded annually to US citizens between ages of 19 and 26 for the study of engineering, mathematics or science at Churchill College, Cambridge University. Applicants must have taken the Graduate Record Examinations (aptitude and ad-vanced) no later than Oct 20, 1978. Application deadline: Nov 10. Info: Graduate School Of fice, Rm 3-136.

German Academic Exchange Service (DAAD) Scholarships\*-For graduate study in any academic field in the Federal Republic of Germany. Candidates must be between 18 and 32, must hold bachelor's degree at time of award, and should be fluent in German. Application deadline, Nov 10, 1978. Info: Graduate School Office, Rm 3-136.

NSF Graduate Fellowships\*\*-Three-year graduate fellowships for study leading to master's or doctoral degrees in the mathe-matical, physical, medical, biological, engineering and social sciences. The fellowships provide a cost-of-education allowance in lieu of tuition and required fees, plus a stipend of \$325 per month. Applicants must be US citizens or nationals at the time of application and must not have completed postbaccalaureate study in excess of 12 semester hours, or equivalent, in any field of science, engineering, social science or mathematics. Preapplications and info: Graduate School Office, Rm 3-136. Application deadline: Nov 30.

Regents Physician Shortage Scholarships\*\* Available to residents of New York State who agree to practice medicine in an area of New York State designated as having a shortage of physicians. Awards based on MCAT scores, provide \$1,000 to \$4,000 each year for four years of professional study. Applications available in Preprofessional Advising and Educa-tion Office, 10-186, x3-4158. Application dead-

Oct. 29 - Nov. 4

The new laboratory for research in inorganic chemistry was named the Henry Paul Talbot Laboratory. The late Dr. Talbot ('85) was previously Dean of Students, and internationally known for his contributions to chemistry.

With the tension before Field Day becoming more concentrated, the discovery of the abduction of Horace S. Ford, Jr., '31 has given a surprising advantage to the freshmen. Sophomores are hopeful that their President will make his escape in order to attend the mass rally planned for tonight.

#### 40 Years Ago

Dr. Karl T. Compton announced that James R. Killian, Jr., '26, editor of the Technology Review and treasurer of the Alumni Association, has been appointed to the newly created post of Executive Assistant to the President. Professor Frederick Fassett, Jr., will be the new editor of the Review and Ralph T. Jope '28 is to be treasurer of the Alumni Association.

### 25 Years Ago

Tau Beta Pi, the national engineering society founded in 1885, has voted to admit women students to the association. Until this time, only a special award, the Women's Badge, was authorized for presentation to outstanding female engineers.

# 4-6pr

7-9:3

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12:30

4pm

1-3pr

4-6pm

11am-1pm

1-2:30pm

2:30-3pm

Channel 10: (Harvard)

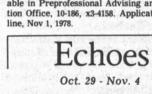
11am-12noon

4:30pm

4-6pm

#### Frid Char 11am

50 Years Ago



tact Capt. Palermo, x3-2991, concerning Marine Corps birthday celebration Nov. 9.

79 R/O Coordinator\*\*-Office of Freshman Advising will soon select a student R/O Coor-dinator for 1979. Will coordinate activities such as freshman picnic, academic orientation, athletic and activities midways, orientation programs for special groups, tours-many others. Must be able to put in fair amount of time during academic year and a great deal of time during summer of '79. Will be paid \$1,000 and gain much experience. Info: come to meeting, 5pm, Nov 1, in Rm 7-105.

Tickets for Boston Ballet\*-Performances of Nov 9-12 may be ordered at TCA office, Student Center Rm 450, x3-4885, 11:15am-3:15pm. Student discounts available

#### **Club Notes**

Actor's Workshop\*-Meeting Saturdays. 4:30pm, Little Theatre. Theatre games, improvisations, cold script readings. No experience necessary. Info: Albert Ruesga, dl5-7343 or x3-2908

MIT Raha'i Association\*-Discussion series Science and Religion in Accord, Tuesday, Nov 7, 7:30pm, Student Center Mezzanine Lounge. Info: Laura, x3-3521.

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Praying Mantis and T'ai Chi. Beginners welcome. Info: Chen-dao Lin, dl5-9640

#### **Religious Activities**

The Chapel is open for private meditation 7am-12-1pm 11pm daily.

Tech Catholic Community\*-Sunday masses: 9:15am, 12:15 and 5:15pm. Weekday masses: Tuesdays and Thursdays, 5:05pm, Fridays, noon, in the Chapel.

Tech Catholic Community\*-Feast of All Saints, Wednesday, Nov 1, 8am, 12noon, MIT Chapel: 5pm, Kresge Little Theatre: Feast of All Souls, Thursday, Nov 2, 5:05pm, MIT Chapel.

Interdenominational-Worship and holy communion, Wednesdays, 5:05pm, Chapel, spon-sored by Lutheran-Episcopal Ministry.

MIT Islamic Society\*-Weekly Friday prayers, 1pm, Kresge Auditorium, Rehearsal Room B. Weekly Quranic Study Class, Fridays, 6:30pm, Rm 4-153.

Christian Service\*-Sundays, 10:30am, Chapel. All invited.

Jewish Religious Services\*-Traditional services, daily 8am Rm 7-102. Friday night, Sundown Kosher Kitchen, 50-005. Saturday, 9am, Bush Room 10-105. Mincha and Seudah Shli-

November 1 - 7, 1978 Wednesday, November 1

Channel 8

11am-12noon

1-2pm

2-3pm

4-6pm

5pm

NATIONAL SCENE: A VIEW FROM EUROPE. Prof. Jacques Freymond, Institut des Hautes Etudes International, Geneva. Etudes International, Geneva. EPIDEMIOLOGICAL FIELD STUDIES: ANALYSIS OF RE-SULTS. Prof. John Gordon, Har-vard School of Public Health PAUL WINTER CONSORT: Basement Video POPULATION AND HEALTH POPULATION AND HEALTH POLICY IN THE PEOPLES RE-PUBLIC OF CHINA: Dr. Fred Sai, World Hunger Program, United Nations University AMERICAN TELEVISION: A CULTURAL HISTORY. "Televi-sion Comedy." Prof. David Thor-burn, Dept. of Humanities.

THE CONTEMPORARY INTER

Channel 10 (Harvard)

H-2 RESTRICTION OF T HELP-ER FUNCTION IN VIVO: Dr. Jonathan Sprent, Univ. of Pennsyl-vania, Dept. of Pathology.

11am 12:30pm

1-3pm

Thursday, Nove Channel 8: mber 2 12-2pm AIRCRAFT AND SPACECRAFT NAVIGATION: Charles Stark Draper HAYSTACK LABORATORY. -3pm 12:30-1pm 4-6pm WOODS HOLE OCEANOGRAPH IC INSTITUTE. A VIEW FROM KENMORE SQUARE: MITV STROBOSCOPY: Prof. Harold Channel 10: 5-11pm

MEMBER The MIT Chorallaries AMERICAN TELEVISION: A CULTURAL HISTORY. Repeat, Wed., Nov. 1, 4-6pm.

#### Monday, November 6 Channel 8

POLITICS AND TELEVISION: Ed Diamond and guest Terry Ann Knopf, freelance writer for the Boston Globe and Miami Herald FOUNDATION ENGINEERING FOUNDATION ENGINEERING FOR OFFSHORE GRAVITY PLATFORMS: Dr. Kaare Hoeg HENRY MOORE SCULPTURE DANCE: Basement Video AMERICAN TELEVISION: A CULTURAL HISTORY. "Televi-sion Comedy II." Prof. David Thorburn, Dept. of Humanities.

UNUSUAL FEATURES OF YEAST CHROMATIN AND HIS-TONE GENES: Dr. Lynna Here-ford, Brandeis University.

### Tuesday, November Channel 8:

DRESS REHEARSAL WITH THE BOSTON REPERTORY BAL LET: Basement Video INTRODUCTION TO TELEVI-SION: By the Prudential Insur-SION: By the Provential Insur-ance Co. THE MIT JAZZ BAND: Video Club AMERICAN TELEVISION: A CULTURAL HISTORY. Repeat, Mon., Nov. 6, 4-6pm.

8.01 REVIEW SESSION

Prepared by Marcia Conroy, MIT Historical Collections, x4444.

#### **TECH TALK** Volume 23, Number 13 November 1, 1978

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### **Jannis Xenakis** To Give Lecture On Composition

MIT will host renowned architect, mathematician, musician and composer Iannis Xenakis in a lecture on "Approaches to Problems in Music Composition," Monday, Nov. 6, at 4:30pm in Huntington Hall (10-250)

A mathematician at heart, Mr. Xenakis freely composes his works as a result of highly complex calculations blended with an unquestionable musical endowment. He is presently associated with the Center for Mathematical and Automated Music in Paris and is exhibiting at the Center Beauborg, in a building which he designed.

After graduating from the Athens Institute of Technology, Mr. Xenakis studied composition in France with Arthur Honegger, Darius Milhaud and Olivier Messiaen. As an architect, he collaborated with Le Corbusier for several years, designing with him the Philips Pavilion at the Brussels World's Fair, 1958. More recently, he designed the Polytope of the French Pavilion at the Montreal Expo '67.

Although his main interest is the composition of music, Mr. Xenakis continues to write mathematical and architectural essays. At the Center for Mathematical and Automated Music he works with a group of mathematicians, psychol-ogists, aestheticians, anthropologists and representatives of IBM, with the objective of analyzing the fundamental structures of music and transposing those findings into sound by means of electronics.

The lecture at MIT will be free and open to the public.

### **DSRE** Sponsors Halsey Lecture

The MIT Division for Study and Research in Education (DSRE) will sponsor a seminar featuring A.H. Halsey, known universally as "Chelly," on "Change in British Society: Relations Between the Generations."

The seminar will be held this afternoon (Wednesday, Nov. 1) in Rm. 20C-117, noon-2pm.

An eminent sociologist of education, Dr. Halsey is professor of sociology and director of the Department of Social and Administrative Studies at the University of Oxford, Professorial Fellow of Nuffield College at Oxford and visiting professor at the Center for Study of Higher Education, University of California, Berkeley.

Dr. Halsey was Reith Lecturer earlier this year and is author of numerous books and monographs, including Education, Economy and Society (1961); The British Academics with Martin Trow (1971); and editor of Power and Ideology in Education with Jerome Karabel (1977). He is also an energetic contributor to British and American journals of sociology and education as well as more general publications, such as the New Statesman, Times Literary Supplement and the Times Higher

Education Supplement.



2.70 WINNER-John Dieken of Oklahoma City, a junior in mechanical engineering, won this year's design contest-The Brass Rat Race-surviving the "academic rat race" in better shape than the 177 other contestants. Wearing an appropriate tee shirt for a rat race, Mr. Dieken holds up his prize-a stuffed beaver-and his winning machine.

## Academic Brass Rat Race **Teaches Design Principles**

#### **By ROBERT C. DI IORIO** Staff Writer

Trust MIT to find a way to turn the academic rat race into a method for teaching the principles of engineering design through a contest-The Brass Rat Race.

And trust the students in 2.70, Introduction to Design, to rise to the challenge with machines that walked, stalked, flew, and cata-pulted their way through the hazards of Academic Substance, some more successfully than others.

When the polystyrene pellet dust cleared (the Academic Substance was a seven-inch deep bed of polystyrene pellets in an Academic Arena eight feet by three feet) the winner, last Oct. 26, was John M. Dieken, a junior in mechanical engineering from Oklahoma City. His device out-achieved that of Keith Kasunic, who is doublemajoring in management and engineering. Mr. Kasunic is from East Brunswick, N.J.

Among those congratulating the winner were his parents, Mr. and Mrs. Jack Dieken, who had come east from Oklahoma on business and to see their son play in a water polo tournament. The 2.70 contest was an unexpected bonus, Mrs. Dieken said.

The winner of the Brass Rat Race had to win eight contests, said Professor Woodie Flowers, coordinator of the design class offered in the Department of Mechanical Engineering. One hundred seventy-eight students competed.

Each device had to carry a fourounce replica of the Brass Rat as it sought to out-achieve the opponent device. The Brass Rat replicas were hooked together through a pulley attached to a rod mounted on the starting line. The machine in the lead thus could pull its opponent backward as it advanced.

students a feeling of the kinds of trade-offs confronted in the real world by engineers.

"We tried to scale the problem this year so that it was difficult to decide exactly what to do. The result was very diverse solutions. And that led to the fact that more students lost because of Murphy's Law than for any other reason.

The identical kits of parts from which each student had to build a machine offered two power sources-an electric motor (donated by Polaroid Corp.) from the SX-70 camera, and some springs. Mr. Dieken's winning device relied on spring power to catapult his Brass Rat forward.

Other students ignored the "keep it simple" dictum and produced some complex devices.

Some of the more remarkable designs included:

A device that launched a biplane which flew over the Academic Substance, then folded one of its wings into a shape that served as an anchor in the polystyrene pellets and dived in. A winch on the device back at the starting line was supposed to pull the portion of the device carrying the Brass Rat forward.

A device that deployed a small fence into the path of the opponent machine. The fence deployed properly, but not where it would interfere with the opponent.

As usual, the contest drew a large, enthusiastic audience to 26-100. Cheers, a trumpet sounding the cavalry charge, jeers and hisses filled the air.

Others involved in teaching 2.70 are Professor Robert W. Mann, Whitaker Professor of Biomedical Engineering, Professor David Gordon Wilson, associate professor Shawn Buckley, associate professor Igor Paul, assistant professor Warren Seering, lecturers Ernest Blanco and Neville Hogan, technical instructor Roy Richard, Joseph Smith and Peter Griffith.

# Hansen Named Associate Dean in Engineering School

(Continued from page 1) to the same close association with Kent Hansen that I have enjoyed with Jim Bruce."

Professor Hansen, who served as executive officer of the Department of Nuclear Engineering from 1972-74 and as acting department head in 1975, received the SB in physics in 1953 and the ScD in nuclear engineering in 1959, both from MIT.

His professional interests, developed during 25 years of study, research and consulting in the field of nuclear engineering, include numerical analysis, computational methods, modeling of engineering systems, nuclear reactor theory and mathematics, reactor safety analysis, nuclear fuel management and engineering education.

From 1958-59, Professor Hansen was a senior research engineer at Sylvania Electric Products. From 1959-60 he was a research associate at the MIT Computation Center. From 1960-61 he was a Ford Postdoctoral Fellow at MIT.

He was appointed an assistant professor in the Department of Nuclear Engineering here in 1961. Four years later, in 1965, he became an associate professor. In 1969 he was appointed a professor.

Professor Hansen has been a consultant to the US Veterans Administration, the US Air Force, Wolf Research and Development Corp., MITRE Corp., General Electric Co., Westinghouse Electric Co., Gulf General Atomic Corp., E.I. duPont, Savannah River Laboratory, Electricite de France, Boston Edison Co., the Nuclear Regulatory Commission and Brookhaven National Laboratory.

President Carter, in June, 1977, nominated Professor Hansen as a commissioner of the Nuclear Regulatory Commission. The nomination failed to receive the required confirmation from the US Senate.

Professor Hansen, 47, a native of Chicago, is a member of the So-ciety for Industrial and Applied Mathematics, the Association for Computing Machinery, the American Society for Engineering Education, the American Nuclear Society, the Society of Sigma Xi and Sigma Chi Fraternity.

From 1965-69 he was a member of the executive committee of the American Nuclear Society's Mathematics and Computation Division, the division's vice chairman from 1967-68 and its chairman from 1968-69. He served on the board of directors of the society from 1971-74 and was elected a Fellow of the society in 1973.

He was married in 1959 to the former Katherine Elizabeth Kavanaugh, who died Dec. 3, 1975. Their children are Thomas Kay, 18, and Katherine Mary, 16. In June, 1977, Professor Hansen and Deborah Hill were married. The family lives in Bedford, Mass.

### The IAP Corner 300 + Varieties Listed In First Guide to January

#### **By MARY ENTERLINE** Editor, IAP Guide

Whether you want to tour Boston or Paris, learn about the geochemistry of the Amazon River or of beer, play your guitar in a classical style or your violin as an "old timey" fiddle, you will find something to your liking in the First Guide to IAP '79. Distributed on campus today, the First Guide lists 320 activities being planned for Independent Activities Period, January 8-31.

Although a couple hundred other offerings will probably be added by publication of the Final Guide in early December, the listings in the First Guide are plentiful enough to make you start worrying how to fit everything you like into three-anda-half weeks

IAP '79 will start off with a "Seabrook Week" of activities sponsored by the nuclear engineering department, and it will end with two other "weeks" which coin-cide—"Ocean Week," sponsored by the Sea Grant Program, and "Spanish Dance Week," sponsored by the Ballroom Dance Club and Club Latino and featuring Ramon de los Reyes Spanish Dance Theatre. In between and during these weeks, lots more will be going on.

One of the most active groups during IAP '79 will be the mathematics department. The 22 math offerings include serious fare, like lectures on the Ax-Kochen transfer principle, chemical oscillations and wave patterns, and the Big Bang, and some not-so-serious fare, such as sessions on mental mathematics, building ships in bottles, knotting, gambling, and even a musical recital by members of the department. In ocean engineering, there's a lecture series entitled "Untold Stories of the Ocean Engineering Faculty," during which professors may talk about anything they wish except things they teach in regular classes. The psychology depart-ment has titled its series "Can You Fool All of the People All of the Time?" Other lecture series will deal with topics ranging from animal psychology to "ESP and Parapsychology.' In addition to lecture series, IAP '79 will have a number of film series on topics such as cellular and developmental biology, water resources development, aeronau-

tics and astronautics, mathematics, earth and planetary sciences, and microwave optics. Barker Engineering Library is scheduling its own series of movies called "Action and Animation Under the Dome.'

Other IAP offerings are interdepartmental efforts. Professor Leo Marx of Humanities, Professor Richard Leacock of Architecture, and Professor Robert Hollister of Urban Studies and Planning are collaborating on an activity entitled "Visions of the City," in which participants will study urban portraits in print and on film and then create their own versions of cities. Professor Reginald Newell of Meteorology proposes that meteorologists look at discontinuities in the climate for the past 6,000 years as revealed in physical records while historians look for discontinuities in human history, for example, settlement abandonments, and then they compare their findings to see if history has been shaped by climate fluctuations.

The Center for Cancer Research is gathering representatives of different departments together to discuss "The Biological Basis of Behavior," while the psychology department is sponsoring a symposium on the specific issue, "Female vs. Male: Biological Correlates of Sex Differences in Behavior." If you have old photographs in need of restoration, IAP offers two activities to help you. The Institute Archives and the Historical Collections are sponsoring a one-day open house when their experts will give advice on preserving not only photographs, but old books, documents, and other papers. Or you can join William Fecych of the Nuclear Reactor Laboratory in using a neutron beam from the MIT reactor to restore old photographs. IAP '79 also marks a revival of interest in wall painting, dormant at MIT since the main corridors were painted in the late 1960s. A group of students wants to paint murals for MIT and other places, while the architecture department is sponsoring a minicourse studying "Popular Wall Hanging" in the United States, Europe and Africa.

### MTG to Present Musical 'Zorba'

The MIT Musical Theatre Guild will present "Zorba," based on the book and film "Zorba the Greek," at Kresge Auditorium at 8pm, November 3, 4, 9, 10 and 11, with a matinee at 3pm, November 5.

David Waggett, second-year architecture student, will take the lead role of Zorba. Producers will be Jack Peers, '72, and Jon Golblithe. The production will be directed by Joe Cacaci.

The Musical Theatre Guild includes some 100 members who are MIT students, faculty, staff and Boston area residents. The group usually presents two major productions in the academic year.

Tickets for "Zorba" may be purchased for \$4 or \$2.50 with an MIT ID for the evening performances, and \$3.50 or \$2 for the matinee. For reservations call x3-6294 or stop by the MTG ticket booth in Lobby 10.

The annual contests, Professor Flowers said, are intended to give

### 'Human Knowledge' Lectures to Begin

The first in a series of lectures on "Human Knowledge" sponsored by the Department of Linguistics and Philosophy will be given by Professor Jeremy Bernstein of the Stevens Institute of Technology on Friday (Nov. 3) at 4pm in Rm. 4-231. He will speak on "Ernst Mach and the Quarks.'

Professor Bernstein holds a PhD in physics from Harvard University. He has held posts at the Princeton Institute for Advanced Research, Brookhaven, C.E.R.N., **Oxford University and Rockefeller** University. He is a staff writer for New Yorker magazine, and is the

author of nine books, including Einstein, The Analytical Engine and Experiencing Science.

The "Human Knowledge" lectures, which will be delivered by scientists and philosophers, are financed in part by a grant from the Franklin J. Matchette Foundation.

The dates of future lectures will be announced. They will include talks by Professor Nelson Goodman of the Harvard philosophy department, Professor Harry Frankfurt of the Yale philosophy department, and Professor Gerald Holton of Harvard and MIT.

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### November 1 through November 12

in Alley - Mail?

### **Events of Special Interest**

Can the USSR Become an Autarky by 1984?\* - Marshall I. Goldman, professor of economics, Wellesley College and Associate Director of the Russian Research Center, Harvard; Evsey D. Domar, Respondent, professor of economics, MIT. The Wellesley-MIT Exchange Seminar Series. Wed, Nov 1, 4:30pm, Gilliland Auditorium, Rm 66-100.

Problems of the Upright Man on Earth and in Space\*\* - Dr. Jerome Y. Lettvin, professor of electrical and bioengineering and of communications physiology; Maggie Lettvin, lecturer in the Department of Athletics; and **Dr. Robert M. Rose**, professor of materials science and engineering. Sponsored by the MIT Women's League. Wed, Nov 1, 5:30pm, Historical Collections. Wine and cheese served. Reservations required call x3-3656.

Media Pathology: TV and the Democratic Process\* - Marion R. Just, associate professor of political science, Wellesley; Walter D. Burnham, Respondent, professor of political science, MIT. The Wellesley-MIT Exchange Seminar Series. Wed, Nov 8, 4pm, Millikan Room, E53-482.

A Linguist's Approach to Literary Analysis\* - Samuel J. Keyser, head of the department of philosophy and linguistics, MIT; Michel Grimaud, Respondent, assistant professor of french, Wellesley. The Wellesley-MIT Exchange Seminar Series. Wed, Nov 8, 7:30pm, Margaret Clapp Lecture Hall, Wellesley Library.

Dick Gregory Lecture\* - Sponsored by the Lecture Series Committee. Wed, Nov 8, 8pm, Kresge Auditorium. Admission: \$3; \$1.50 w/MIT ID. Ticket info: LSC Office W20-469 or Lobby 10.

### Seminars and Lectures

#### Wednesday, November 1

A Review of Industrial Development in India\* - T.A. Pai, former Minister of Industries, Government of India. Center for International Studies Seminar, Noon-1:30pm, Rm E38-615, 292 Main Street, everyone welcome, bring your own lunch.

Eddy-Induced Mean Circulations\* - Dr. Peter Rhines, W.H.O.I. Oceanography Sack Lunch Seminar, 12:10pm, Rm 54-915. Coffee provided.

Arms Control of Weapon Systems in the Early R&D Phases\* - William Kincaid, Executive Director, Arms Control Association. Defense and Arms Control Students Seminar, 12:30-1:30pm, Rm E53-482, everyone welcome.

Impact of the Space Shuttle on the Design of Geosynchronous Orbiting Spacecraft\* - Dr. Leo Stoolman, Director of Engineering, Hughes Aircraft Company, California. Aeronautics and Astronautics General Seminar, 3pm, Rm 35-225. Coffee served at 2:30pm. Rm 33-222.

An Application of the Maximum-Entropy Principle to Turbulence\* -Stephen B. Pope, assistant professor, mechanical engineering. Thermodynamics Seminar, 4pm, Rm 1-114. Coffee served 3:45pm.

COGNAC: Building The World's Tallest Offshore Platform\*\* - F.J. Fischer, Shell Oil Company. Ocean Engineering Seminar, 4pm, Rm 3-133.

Flow Mixing in Saved-Wire LMFBR Blanket Bundle\* - S. Wang, Doctoral Seminar, Nuclear Engineering, 4-4:30pm, Rm NW12-222.

Gonadal Effects on Food Intake and Adiposity: A Metabolic Hypothesis\* - Dr. George Wade, psychology, University of Massachusetts. Program in Neural and Endocrine Regulation Seminar, 4pm, Rm 66-144.

Interplanetary Plasma Electrons - How They Defy the Maxims of Traditional Thermodynamics\* - Prof Stanislaw Olbert, physics. Undergraduate Physics Colloquium, 4:15pm, Rm. 4-339. Social Hour Fol-

Conformations of Oligopeptides in the Crystalline State\* - Isabella L. Karle, Head, X-Ray Analytical Section, United States Naval Research Laboratories, Washington, DC. Abby Rockefeller Mauze Visiting Lecturer. Sponsored by the Department of Chemistry, 4:30pm, Rm 2-390.

Thermal Hydraulic Analysis of a Pressurized Water Reactor Due to Total Loss of Electrical Power Accident\* - F. Bamdad, Doctoral Seminar, Nuclear Engineering Department, 4:30-5pm, Rm NW12-222.

Wednesday Afternoon Photography Lecture Series\* - Peter Anderson, photographer, (LIFE, Time, Esquire, London Times, New York Times, etc.), will lecture on "Let Us Consider the Most Rewarding, Complex and Meaningful Branch of Photography: Photojournalism." Made possible by a grant from the Minolta Corporation. Creative Photography Gallery, 120

#### Friday, November 3

The New England Railroad Situation\* - David Hughes, Vice President of Engineering, Boston and Maine Railroad, Center for Transportation Studies Luncheon Seminar, 12:45-2pm. Optional luncheon Noon-12:45pm, Mezzanine Lounge, Student Center. Luncheon fee: \$1.25.

Chemical Engineering Seminar\* - Selahattin Gultekin, Kinetic of Hydrodenitrogenation of Quinoline, 2pm. Prof A. Acrivos, Stanford University, Enhanced Sedimentation, 3pm. Rm 66-110 Coffee served.

Defense and Arms Control Students Seminar\* - Michael Lynch, Ph.D student, Political Science Department, 3-4:30pm, Rm E53-482, everyone welcome.

Railroad Technology - A Comparison of US and USSR Approaches\* -Bill Harris, Vice President of Research and Testing, Association of American Railroads, Washington, DC. Mechanical Engineering Seminar, 3pm, Rm 3-133. Coffee at 4pm, Rm 1-114.

Ernst Mach and the Quarks\* - Prof Jeremy Bernstein, Steven's Institute of Technology. Linguistics and Philosophy series of lectures on "Human Knowledge," sponsored in part by a grant from the Franklin J. Matchette Foundation, 4pm, Rm 4-231.

Synchrotron Radiations Properties, Sources and Uses\* - Dr. Martin Blume, Brookhaven National Laboratory. Center for Material Science and Engineering Colloquium, 4pm, Rm 9-150. Coffee served at 3:30pm.

A Televisionary Approach Towards Media Equity\* - Topper Carew, former producer at Channel 2 'Rebop,' director of 'Rainbow' Television Workshop. The Visible Language Workshop, Architecture Department, and the Community Fellows Program, Department of Urban Studies and Planning Seminar series of video tape and film screening, 4pm, Rm 7-403. For info: Peter Droege x3-4416.

Neuronal Activity Related to Fine Force Control in the Primate Motor Cortex\* — Marie-Claude Hepp-Reymond, Institut fur Hirnforschung, Zurich. Psychology Colloquium, 4:30pm, Rm E10-013. Coffee at 4:15pm.

#### Monday, November 6

Airline Corporate Planning in the New Regulatory Environment\* - Dr. Morton Ehrlich, Senior Vice President, Planning, Eastern Air Lines. Flight Transportation Laboratory, Aeronautics and Astronautics Seminar, 2pm, Rm 35-225.

Boundary Layer Circulation and Stability in Disk-Halo Galaxies, or GFD of a Galaxy<sup>•</sup> — Dr. Allen M. Waxman, mathematics. Applied Mathematics Colloquium, 4pm, Rm 2-338. Refreshments at 3:30pm, Rm 2-338. Refreshments at 3:30pm, Rm 2-349.

Nutrition Issues in US: Problems and Process\* - Carol Tucker Foreman, Assistant Secretary of Agriculture. MIT-Harvard International Nutrition and Food Program Seminar, 4pm, Rm 66-110.

Photosynthesis in the Sea\* - Dr. Ian Morris, Bigelow Laboratory for Ocean Science, Maine. Water Resources and Environmental Engineering Seminar, 4-5pm, Rm 48-316. Coffee at 5pm, Rm 48-410.

The Role of Modern Control Theory for Closed-Loop Automotive Engine Control\* - Prof Michael Athans, director, Laboratory for Information and Decision Systems. Laboratory for Information and Decision Systems Colloquium, 4pm, Rm 37-212.

Steady Flow in Collapsible Tubes — Numerical Simulation of Supercritical Transitions\* — Mike McClurken, research assistant. Fluid Mechanics Seminar, 4-5pm, Rm 5-234. Coffee at 3:55pm.

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#### ALLER W BELL ON IS OF DESERT Tuesday, November 7

Linear Theory of Gyrothrons\* - Kenneth Kreischer, Doctoral Seminar - Fusion, Noon, Rm 38-166.

Prenatal and Parent Education Group Meetings\* — The Time-Life film strip "Life Before Birth" will be shown, Noon, 3rd Floor Conference Room, Infirmary. Bring your lunch coffee, tea, juice provided, children welcome.

Cabin Noise Control Diagnostics and Treatments for the Augusta 109 - Dr. Joseph I. Smullen, Cambridge Collaborative, Helicopter\* Cambridge, Mass. Applied Mechanics Seminar, 3pm, Rm 3-270. Coffee served after seminar, Rm 1-114.

Engineering Approaches to the Study of Cardiac Musle Mechanics\* -Allen W. Wiegner, Beth Israel Hospital. Sponsored by the Committee on Biomedical Engineering, 4-5:30pm, Rm 37-212. Refreshments served.

A General Method for Computing Exact Kolmogorov-Smirnov and Renyi type Distributions\* — Dr. Heinrich Niederhausen, currently visiting from Graz University, Austria. Statistics Seminar, 4pm, Rm 2-338. Tea and coffee 3:30pm, Rm 2-349.

Laser Fluorescence Studies of Gas Phase Collisional Processes\* - Prof Paul J. Dagdigian, chemistry, Johns Hopkins University. Seminar in Physical Chemistry, 4pm, Rm 4-370. Coffee at 3:45pm, Rm 6-321.

The Politics of SALT: The Making of Ratification\*\* - Larry Smith, Administrative Assistant to Senator Gary Hart. Sponsored by Center for International Studies. Seminar on Technology and International Security, 4pm, Rm E38-615.

Strength of Fibers for Optical Wave Guides\* - Dr. Charles Kurkjian, Bell Laboratories. Materials Science and Engineering Colloquium, 4pm, Rm 4-270. Refreshments at 3:30pm.

MCDM — The State and Future of the Art\* — Dr. Milan Zeleny, Graduate School of Business, Columbia University, New York. Operations Research Center Seminar, 4pm, Rm 24-115. Coffee and cookies served.

> Thermoeconomics\* - Prof Myron Tribus, Director, Center for Advanced Engineering Study. Thermodynamics Seminar, 4pm, Rm 1-114. Coffee served 3:45pm.

> Institutional Solutions to "Impossible" Technological Problems; Les. sons from Japan's Success with Auto Emissions Controls\* - Prof Julian Gresser, Law School, University of Hawaii, specialist in Japanese and American Regulatory Law, Policies and Practices. Alfred P. Sloan School of Management Seminar, 4:30-6:30pm, Rm E52-542.

> Photographs of the Altered Landscape\* - John Pfahl, photographer, will lecture, 4:30pm, Creative Photography Gallery, 120 Mass Ave, Cambridge, MA.

> Wire-Wrapped Rod Bundle Heat Transfer Analysis\* - C. Wong, Doc. toral Seminar, Nuclear Engineering, 4:30-5pm, Rm NW12-222.

#### Thursday, November 9

Static and Dynamic Neutron Depolarization in Ferromagnetic Domain Structures\* - Dr. M. Th. Rekveldt, Interuniversitair Reactor Instituut, Netherlands. Magnet Laboratory Seminar, 11am, 2nd Floor Conference Room, Rm NW14-2209. Coffee served at 10:45am.

Ultra-High Power Microwave Generation\* - Prof George Bekefi, physics. Modern Optics and Spectroscopy Seminar, Spectroscopy Laboratory and Research Laboratory of Electronics, 11am-Noon, Rm 66-110. Coffee served at 10:30am.

Mexican Petroleum, US Energy Policy, and US National Security\* Prof Richard R. Fagen, professor of political science, Stanford University, and co-author of Rich and Poor Nations in the Global Economy. Center for International Studies Seminar, Noon-2pm, Rm E38-615, 292 Main Street, everyone welcome.

Thermal Transport Inhibition in Laser Produces Plasmas\* - Dr. Claire Max, Lawrence Livermore Laboratory. Plasma Fusion Seminar, 3pm, Rm NW16-212.

An Approach to the Total Synthesis of Chlorotricolide, a Macrolide Antibiotic\* - Robert E. Ireland, California Institute of Technology, Karl Pfister Visiting Professor. Chemistry Seminar, 4pm, Rm 3-370.

Continuous Measurement of Volatile Compounds in Aqueous Solution by Mass Spectrometry: Method and Applications<sup>\*</sup> — Dr. James C. Weaver, Harvard-MIT Division of Health Sciences and Technology and MIT Department of Nutrition and Food Science. Analytical Chemistry Seminar, 4pm, Rm 8-205.

Idealized Models for Metastable Turbulent Regimes\* - Prof James A. Yorke, I.P.S.T. University of Maryland, mathematics. Meteorology Seminar, 4pm, Rm 54-100. Tea and coffee served 3:30pm, Rm 54-923.

The New Hadronic Spectroscopy\* - Prof Kurt Gottfried, Cornell University. Physics Colloquium, 4pm, Rm 26-100. Tea served 3:30pm, Rm 26-110

The Threat of the Arms Race\* - Dr. Bernard Feld, physics; Dr. Michael Mandelbaum, Kennedy School of Government, Harvard. Technology and Culture Seminar, 4:30pm, Rm 9-150.

### **Community Meetings**

Wives' Group\*\* - Wed, Nov 1, Elizabeth Soenarjati, member of the Wives' Group from the Netherlands and Indonesia, will demonstrate "The Relation Between Shadow Puppets and Batik," 3-5pm, Mezzanine Lounge, Student Center.

Tour of Gen Rad\*\* - Sponsored by the Electrical Engineering and Com puter Science Student-Faculty Committee. Thurs, Nov 2, 1pm, Lobby Building 39. Ticket info: EECS Under Graduates Office, Rm 38-476. Info: Dennis Martinez x5-7502 Dorm.

Relaxation and Breathing<sup>\*</sup> — Cynthia Friedman, relaxation and breathing through Yoga techniques. Fri, Nov 3, 7-9pm. Register in advance, contact Cynthia Friedman for details, 661-2648 or x3-7101.

New England Regional Juggling Convention\* - Sponsored by the Juggling Club. Sat, Nov 4, Noon-5pm, Sala de Puerto Rico. Free. Beginners and spectators are welcome.

MIT Benefits and How They Affect You\* - Sponsored by the Women's Forum. A representative of the Benefits Office will lead a discussion of the benefits program, and answer questions you may have and entertain your suggestions. Mon, Nov 6, Noon-1pm, Rm 10-105.

Wives' Group\*\* - Wed, Nov 8, Members of the organization, Boston by Foot, will present a program "Boston By Slides" on interesting sites to visit in Boston, 3-5pm, Mezzanine Lounge, Student Center. Babysitting provided.

Technology Wives Organization International Cooking Group\*\* - Cook Roberta Caton will demonstrate malasadas, a Portuguese dessert. Partici pants will observe and sample results. Wed, Nov 8, 8pm, Rm 10-340. Members 50¢, non-members \$1. For information call Debbie Kreischer 494 8296.

Technology Wives Organization Weekly Exercise Class\*\* - An hour of serious exercise led by professional Marilyn de Kleer. Every Monday through Dec 18, 8pm, Exercise room, 2nd floor, Du Pont Gym. Info: call

Mass Ave, Cambridge, 4:30pm. For information call x3-4424.

#### Thursday, November 2

Boulder Laser Cooling of Atoms\* - David Wineland, National Bureau of Standards. Modern Optics and Spectroscopy, Spectroscopy Laboratory and Research Laboratory of Electronics Seminar, 11am-Noon, Rm 66-110. Coffee Served at 10:30am.

The Discovery of the Britannic, The USS Monitor, and Vineyard Lightship by Sonar\* - Harold E. Edgerton, Professor Emeritus, Noon, Rm 4-402

Learning from Examples and Learning by Doing\* - Prof Herbert Simon, professor of Computer Science and Psychology, Carnegie-Mellon University. Laboratory for Computer Science Distinguished Lecture Series, 3:30pm, Rm 10-250. Refreshment served at 3pm.

Solar Neutrino Experiments\* - Prof John Bahcall, Princeton University. Physics Colloquium, 4pm, Rm 26-100. Tea served 3:30pm, Rm 26-110.

Agricultural Development in Egypt\* - Judith Tucker, MERIP. International Students Seminar, 5:30pm, Rm 14E-304.

The Puerto Rican Status Question: A Lecture Series\* - Lic. Ruben Berrios, President, Puerto Rican Independence Party. Sponsored by the Club Latino. Conference and discussion on the alternative of Puerto Rico as a new republic, 8pm, Rm 10-250. Refreshments served. Information call Juan Fernandez 494-0330 or Jesus Alvarez 494-9039 or x5-8327 Dorm.

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New Survey for Quasar\* - Dr. Daniel W. Weedman, Vanderbilt University. Astrophysics Colloquium, 4:15pm, Rm 37-252. Coffee at 3:45pm.

Aspects of Molecular and Organismal Evolution\* - Dr. Allan Wilson, Biochemistry, University of California, Berkeley. Biology Colloquium, 4:30pm, Rm 6-120. Coffee served at 4pm, 5th Floor, Bldg 56.

The Puerto Rican Status Question: A Lecture Series\* - Don Luis A. Ferre, '24, former Governor of Puerto Rico, 1968-72; Actual President of the Senate. Sponsored by the Club Latino. Conference and discussion on the possibility of Puerto Rico becoming the 51st state, 8pm, Rm 10-250, Info: call Juan Fernandez 494-0330 or Jesus Alvarez 494-9039 or x5-8327 Dorm. Refreshments served afterwards.

#### Wednesday, November 8

Preprofessional Advising and Education Office Seminar\* - Information Meeting for Applicants, Duke University, School of Medicine, 9am, Rm 4-163. Information call x3-4158.

The Claisen Rearrangement: A Personal Overview of Its Use in Natural Product Synthesis\* - Robert E. Ireland, California Institute of Technology, Karl Pfister Visiting Professor. Chemistry Seminar, 2pm, Rm 3-270.

Turbomachinery Flutter\* - F.O. Carta, Supervisor Aeroelasticity Group, United Technologies Research Center, Hartford. Aeronautics and Astronautics General Seminar, 3pm, Rm 37-252. Coffee served 2:30pm, Rm 33-222.

Numerical Analysis of Node Packing Problem\* - S. Kim, Doctoral Seminar, Nuclear Engineering, 4-4:30pm, Rm NW12-222.

Marilyn de Kleer 494-9056.

### Lobby 7 Events

The Alabame Troubadour\* - Stephen Sedberry, plays guitar and autoharp. Wed, Nov 1, Noon-1pm.

Barbara Dacy Band\* - Performing Fri, Nov 3, Noon.

Brass Ensemble\* - Performing Mon, Nov 6, Noon.

Sidewalk Sam\* - Boston artist is going to create an MIT caricature in the afternoon. Wed, Nov 7, 1-4pm.

The Don Chamberlain Group\* - Mainstream jazz quartet. Fri, Nov 10. Noon

Wellesley

Wellesley College Museum Exhibitions\* - Homage to John McAndrew an exhibition honoring the memory of Professor McAndrew who taught a Wellesley from 1944 through 1968 and was director of the museum from 1947-1959, on view through Feb 13. The Inclusive Image: Density and Complexity in Late 20th Century Photography, on view through Nov 26 Jewett Arts Center, Wellesley College campus, Mon-Fri, 8:30am to 5pm Sat, 8:30am to Noon & 1 to 5pm; Sun, 2 to 5pm. Gallery talks Sun, 3pm Free.

### ocial Events

at's **Rat\*** — Sponsored by the SCC. Dancing and drinking; live DJ; r, wine, and soda 35¢/glass; wine available by the bottle. Fri, Nov 3, jpm-1am, 2nd floor, Student Center. Free. College ID required.

ace\* — Sponsored by the Ballroom Dance Club. Come Dance all your prite dances, live band, dress: semi-formal. Sat, Nov 4, 8:30pminight, Sala de Puerto Rico, Student Center.

ulty Club\*\* — Open Monday through Friday: Luncheon served Noon-Dinner served 5:30-8pm. Happy Hour: Monday through Friday, 4:30pm, wide variety of drinks \$1.05.

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utte-1\*\* —Sponsored by the Department of Humanities. Thurs, Nov 2, n. Rm 66-310. Free.

gram of Fluid Mechanics Films<sup>•</sup> — Low Reynolds Number Flows An erview with G.I. Taylor. Thurs, Nov 2, 4-5pm, Rm 3-270. Lasts 33 utes.

Grande Illusion\*\* — In French with English subtitles. Sponsored by the partment of Humanities. Thurs, Nov 2, 7pm, Rm 66-110. Free.

don **Mon Affaire\*\*** — LSC movie. Fri, Nov 3, 7 & 9:30pm, Rm 26-100. nission: 75¢ w/MIT or Wellesley ID.

h Noon\*\* — LSC classic film. Fri, Nov 3, 7:30pm, Rm 10-250. Admist: 75¢ w/MIT or Wellesley ID.

Flowers of Tienshan\* — Sponsored by the Film Lecture Series on na. Sat, Nov 4, 2pm, Rm 3-370. Donation \$1.

toon Festival\*\* — LSC movie. Sat, Nov 4, 7 & 9:30pm, Rm 26-100. Adsion: 75¢ w/MIT or Wellesley ID.

hot in the **Dark\*\*** — SCC Midnite movie. Sat, Nov 4, Midnight, Sala Puerto Rico, Student Center. Free. Bring your blankets and sit on the r.

Mouse That Roared\*\* - LSC movie. Sun, Nov 5, 6:30 & 9pm, Rm 10-Admission: 75¢ w/MIT or Wellesley ID.

Enfants Terribles\*\* — In French with English subtitles. Sponsored by Department of Humanities. Wed, Nov 8, 7pm, Rm 66-110. Free.

dow **Catcher\*\*** — Sponsored by the Department of Humanities. Thurs, 9, 3pm, Rm 66-056. Free.

gram of Fluid Mechanics Films\* — Rheological Behavior of Fluids, 22 minutes; Rotating Flows, last 29 minutes. Thurs, Nov 9, 4-5pm, Rm 70.

aret\*\* — LSC movie. Fri, Nov 10, 7 & 10pm, Rm 26-100. Admission: w/MIT or Wellesley ID.

ary V<sup>\*\*</sup> — LSC classic film. Starring Laurence Olivier. Fri, Nov 10, ppm, Rm 10-250. Admission: 75¢ w/MIT or Wellesley ID. A Bridge Too Far\*\* - LSC movie. Sat, Nov 11, 6:30 & 10pm, Rm 26-100. Admission: 75¢ w/MIT or Wellesley ID.

The Spy Who Came in From the Cold\*\* - LSC movie. Sun, Nov 12, 6:30 & 9pm, Rm 10-250. Admission: 75¢ w/MIT or Wellesley ID.

### Music

Noon Hour Chapel Concert\* — James Johnson plays organ music by J.S. Bach. Thurs, Nov 2, Noon-1pm. Free.

Noon Hour Chapel Concert\* — Hortet Musarum plays early Italian Baroque music. Thurs, Nov 9, Noon-1pm. Free.

Faculty Recital\* — Marcus Thompson, viola, plays Telemann's Sonata in A minor, Schumann's Marchenbilder, Opus 113, Anderson's Variations on A Theme by Alban Berg 1977, Overton's Sonata 1958 and von Weber's Andante and Hungarian Rondo, Seth Carlin, piano. Sun, Nov 12, 2pm, Kresge Auditorium. Free.

### **Exhibits**

Department of Architecture Fourth Floor Exhibition Program\* — Last Year's Studio Projects. On view daily through Nov 2, Bldg 7.

Carol Beckwith, Photographs<sup>•</sup> — Sponsored by the Committee on the Visual Arts. On view through Nov 3, 7 days a week, 10-4pm; Wed, 6-9pm. 160 Memorial Drive, Camb, MA.

Metamorphosis: Totems, Masks and Objects<sup>•</sup> — Sponsored by the Committee on the Visual Arts. By San Francisco artists Phil Pasquini (icons, reliquaries and monstrances); Ivan Majdradoff (box-like totemic environments filled with artifacts of the 50s and 60s); Elin Elisofpm (fetish objects). On view through Nov 3, daily, 10-4pm; Wed 6-9pm. Hayden Gallery. 160 Memorial Drive, Camb, MA.

Facades\* — A group show including works by photographers Neal Rantoul, Roswell Angier, Robyn Wessner, Lewis Baltz, Robert Adams, Joe Cameron, and Philip Trager. On view through Nov 8, Mon-Fri, 9am-10pm; Sat, 10am-6pm; Sun, Noon-8pm, Creative Photography Laboratory, 120 Mass Ave, Camb, MA. For information call 253-4424.

**Images and Spaces\*** — Exhibition of photographs by Linda Cuccurullo, Rotch Library Cataloguer. On view Mon-Fri, 8:30am-5:30pm, through Nov 10, Rotch Library Visual Collections, Rm 7-304.

Department of Architecture Fourth Floor Exhibition Program\* — From the MIT Historical Collections. On view daily Nov 6 through Nov 16, Bldg 7.

Aspects of Art and Science<sup>\*</sup> — An exhibition of diverse art objects illustrating the concepts of Cyril Stanley Smith. On view through Dec 22, 9:30am-5pm, Margaret Hutchinson Compton Gallery, Bldg 10, 77 Mass Ave, Cambridge, MA. Organized by the National Museum of History and Technology, Smithsonian Institution. Presented by the Compton Gallery Committee with the assistance of the Committee on the Visual Arts.

Faust and Music\* — Music Library, Rm 14E-109. Musical and pictorial representations of the Faust legend.

Strobe Alley\* — High speed photographs by Harold E. Edgerton, Institute Professor and Professor of Electrical Measurement, Emeritus. Bldg 4, 4th fl.

Hart Nautical Museum<sup>\*</sup> — Permanent exhibit of rigged merchant and naval ship models, half models of yachts and engine models. Open daily in Bldg 5, 1st floor.

The Outdoor Collection\* — There are many fine pieces of contemporary sculpture displayed on the MIT campus, including works by Alexander Calder, Louise Nevelson, Pablo Picasso, Henry Moore, Tony Smith and Jacques Lipschitz. For information and guides to the campus, call the Information Office, 253-4795.

MIT Science Fiction Society\* — Come and visit the world's largest lending science fiction library. Hours posted on door, Rm W20-421.

MIT Historical Collections\* — In house exhibits include antique globes; The Ellsworth A. Wente Collection of motors and meters; rare instruments including compasses, sundials and other measuring devices from the 17th and 18th centuries; Early Alumni and several exhibits of memorabilia and photographs honoring prominent graduates of the Institute; Charles Stark Draper: Many Facets of the Man; The Compton Years, a photographic essay of the lives of Dr. & Mrs. Karl Taylor Compton. On view daily, 9am-5pm, 265 Mass Ave, 2nd floor, Camb, Mass.

MIT Historical Collections\* — Permanent exhibition Mon-Fri, 9am-5pm, Bldg N52, 2nd floor. Katherine Dexter McCormick, '04; Vannevar Bush, '16; Bldg 4 corridor. The New Technology Exhibit 2nd floor balcony of Lobby 7. Energy Exhibit, bldg E40, 1st floor. Solar Energy, Bldg 8, main corridor. Center for Space Research, Astrophysics Exhibit, main corridor, Bldg. 4. Bldg 6 Dedication Exhibit. Rogers Building Exhibit, Bldg 4.

### Theater

Zorba\* — Presented by the Musical Theatre Guild. Fri & Sat, Nov 3, 4, 10, 11, 8pm, \$4; \$2.50 w/MIT ID. Sun, Nov 5, 3pm, Thurs, Nov 9, 8pm, \$3.50; \$2 w/MIT ID, Kresge Auditorium. For information or reservation call 253-6294. Group rates available, all seats reserved, tickets available Lobby 10.

### Dance

**Dance Workshop\*\*** — Workshop director Beth Soll will teach both technique and composition/improvisation classes. Class meets Mon & Wed, 3-5pm, T-Club Lounge, Du Pont Gymnasium. For further information call x3-2908.

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

\*Open to the public

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

Send notices for November 8 through November 19 to Calendar Editor, Rm 5-113, x3-3270, before Noon, Friday November 3.

# Paper Beaver

(Continued from page 1) stopped this time for a gain of only a yard. Roars of approval from the Stand. "Let's go animal!" cries one of the players on the MIT bench. Siena runs off tackle. "Linehan the ball carrier. Gain of seven yards on the play," the PA intones. "Come on ani-mal," cries the MIT player. "Let's get tough!" Fourth and one. Linehan bursts through the center of the MIT line. First down at the MIT 25. Linehan carries again. Siena first down at the MIT 11. Time out. My God, we think, this guy Linehan is tearing the place apart. We have a vision of Linehan going in the first round of next year's draft to Oakland. The next play gathers, pauses, explodes-and the MIT line rises up to throw Siena for a loss. The Stand erupts into prolonged cheers. Second and fourteen. Linehan gains eight yards to the MIT 6. But then on the next down he is stopped for no gain and fourth down produces an incomplete pass. "Let's go Beaver!" cries an MIT player as the offense trots onto the field. MIT's first play is a tricky one, featuring a man in motion upon whom we fix our eyes until we realize the ball has gone elsewhere. Siena, however, is not fooled and the play gains one yard. After two more attempts, MIT is forced to punt. Siena takes over with good field position on the MIT 49 yard line, but the MIT Football Club settles down to serious business stopping the formidable Linehan twice. The Siena quarterback runs back to pass and (paf!) goes down under a swarm of orange and white jerseys. The Stand screams with pleasure at the sack; Siena punts. And now the MIT team mounts a sustained drive which is perhaps something less than awesome but is nevertheless convincing and which carries all the way to the Siena 2 yard line. The drive is engineered by Bruce Wrobel, the MIT quarterback, who executes a lovely screen pass, and by the determined rushes of halfbacks

Jeff Olson and Jim Dunlay and the fullback, Roger Sacillotto. First and goal. But the attack unravels. The first play results in a three yard loss. "Come on, you turkeys," mutters an MIT player on the sideline. An apparent touchdown pass is called back by an illegal motion penalty. Second and goal from the 9. Wrobel is sacked on the next play and as he hits the ground the ball pops loose to be recovered by Siena, after a wild scramble, on its own 20 yard line. The first quarter ends. No score.

The MIT Marching Band, under the direction of Lee Silverstein and firmly ensconced in one end of the Stand, strikes up King Cotton March. The MIT Homecoming float, a brown paper replica of Building 7, rolls smoothly along the track in front of the Stand, bearing the Homecoming King, whom we instantly recognize as one of the UMOC contestants. He is wearing a black coat and shorts and a pink blanket around his shoulders. The crowd loves him. The PA system says it wishes to extend the special thanks of the MIT Football Club to Jerry Wiesner and Paul Gray and calls attention to the Homecoming Party to be held that evening. Play resumes. Siena drives. But then MIT intercepts a pass on its 30 yard line and begins a drive of its own. On fourth and sixteen from the Siena 25, Wrobel lofts a beautiful spiral pass. The ball falls in a tangle of bodies. But there's a flag on the play. Pass interference, MIT first down at the one foot line. Jim Dunlay smashes through the line for a touchdown with 10:59 remaining in the half. The extra point kick rises in a slow arc that just barely clears the crossbar, MIT 7-Siena 0. The Stand roars: "We want more!' We say hello to Ross Smith, Director of Athletics at MIT, who is watching the game from the sideline. "Nice day," he says. "Great enthusiasm. The Football Club is doing a good job. So is the coach. The Club is paying him

Free.

themselves. I'm not sure MIT will have a varsity football team. The budget's tough."

Wrobel tries a sneak, gets stacked up at the line of scrimmage and limps off the field. Dr. Robert Runyan, the team physician, talks to him on the bench. "Just cramped up on me," Wrobel says, kneading his left calf.

Siena has been grinding toward the MIT goal line; then with a first down on the MIT 21, it fumbles and MIT recovers. The players on the sideline explode with delight. "Yah! Yah! Yah!" "Houn'dog!" "Aww-riiiight!" "Let's go O!" But the offense cannot muster a drive and gives the ball back. Siena resumes its march. "Go for the ball," the coach urges a player. "Get between him and the ball, Steve. At your height you wouldn't even see it." Siena first and ten at the MIT 45. "Gotta keep them off the board this half," a player mutters to himself. "One thirty-seven left to do it." Another player, seeing our notebook, asks us where we're from. "MIT," we say, somewhat startled. "Oh," he replies, turning his attention back to the game. "I thought

had graduated from MIT in chemical engineering in 1915. "I remember Tech in Boston," he said. "This is all pretty different. But I live at 100 Memorial Drive, so I get around. The athletic department has been very helpful, letting me use their whirlpool from time to time, and one of them invited me to the game. It's a beautiful day so here I am."

We crossed the field to chat for a minute with the opposition and learned, first, that Siena is a coeducational college with 2500 students two miles north of Albany, N.Y., and second, that the Siena team has a habit of strong finishes. On the MIT side of the field, the band played while the float swept back and forth emitting small cannon salutes. A line of cheerleaders formed and did intricate steps. They were wearing crimson tunics over white turtlenecks and blue jeans. Clap! Clap! "We don't mess around!" "We do," cried an answering voice from the Stand. As the teams trotted back onto the field, the thought struck us that this was also the first football game we'd seen played in a stadium built for track, given by a baseball magnate, at which the cheerleaders were from the girls' eludes one defender and races untouched into the end zone. The play covers 76 yards. The kick is good. In a matter of seconds, it is MIT 14-Siena 13. We search our program for number 81. Bobby Joe Anderson, Class of '81, Ht. 6-3, Wt. 200, Pos. TE, Hometown Oakland, CA. Bobby Joe Anderson, we think. The big tight end. From Oakland! We have a vision of Bobby Joe going in the draft to the Patriots in a few years.

After this spectacular play, however, MIT does not score again. Siena does. We keep our eye on a slim red-headed kid who is trying to collect autographs on his program. His first catch is Harriet Pearce. Next he tackles Bruce Wrobel, who is off the field because the defense is on it, having a very tough time. "What's your name?" Wrobel asks the kid. "Sam," the kid says hopefully. Wrobel writes: "Good luck, Sam. Bruce Wrobel." The kid also gets autographs from Bobby Joe Anderson and Brad Pines, a safety who seems to be all over the field trying to stem the Siena tide.

When the game ends the score is MIT 14-Siena 30 and we ask the head coach, Ted Rose, if he has a comment. Rose, who has been an assistant coach at Brown, Tufts and Harvard is a short, solid man with an agreeably energetic tone in his voice. "Well, it's our fifth straight loss," he says. "I suppose it should be frustrating. It's just inexperience, you know. I think maybe the kids were a little awed by today's game, playing at MIT for the first time. There's such a thing as being too high. We made a lot of mistakes. We could execute better. We will with experience. But they played to the final gun. I'm very, very proud of them. It's been a good year. And next year will be better. We'll be back. We're not discouraged. Neither were the players. As they formed a line to shake hands with each member of the other team, they were smiling. The spectators were giving them a standing O.

maybe you were from Stonybrook scouting next week's game."

Siena has a first down at the MIT 25 with 53 seconds left in the half. But they are long seconds. "Heads up," shouts the coach. "Watch that hand-tackling." "Pass, pass," the players scream as the next play develops. The pass, sent like a bullet from the shot-gun formation, gives Siena first and goal at the 5. There are 31 seconds left. "D! D! D!" "Hold that line!" "Watch the play action!" The Siena quarterback rolls out, tosses a soft lob into the end zone, and with 10 seconds on the clock, the extra point attempt is made. MIT 7-Siena 7.

During the half we had a chance to inspect the scene. Our date had caught up with us and we were glad she was there, chatting with Vice President Constantine Simonides, who was standing by. Another bystander was Azel W. Mack, who told us he basketball team.

Big cheer for the Engineers. Enthusiasm on the bench: "Let's go O!" "Fire off!" "Hit somebody now!" But soon Siena is threatening again. We are standing near the MIT goal line between Harriet Pearce and the team's two statisticians, both girls. The Siena quarterback flips the ball neatly into the end zone for six. "Nice pass to the open man," Ms. Pearce remarks. We ask her if there are many girl trainers for football teams. "Female trainers," she replies. "No, I suppose you could count us on the fingers of one hand." Tom Fawcett of MIT blocks the extra point attempt. MIT 7-Siena 13.

And on the very next play from scrimmage, MIT uncorks what proves to be the play of the game. Wrobel takes several quick steps backward. The ball spirals high toward the far sideline, where it is gathered smoothly in by number 81. The bomb. Number 81

Tech Talk, November 1, 1978, Page 5

Gianinni rosewood 12 strng guitar, exc cond, \$75; br custom made leather vest, med \$25; Garrard trntbl \$20. Call Susan x3-4701. Pr snows D78-14 Sears best belted bias usd yr \$50/pr. Call x5386 Lincl.

Snows, pr B-78x13, mntd, usd half season, \$40 pr. Call Bob x3-5239.

M furnishings incl wool sportscoat, suit, sweater, jean jacket, pants, shirts, shoes, silk ties, etc, all 1-2 yrs old & in exc shape & cheap, some Eurpeon designers, sz sm & med. Call x3-6594 or 494-9220

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Ads are limited to one per person per issue

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extension. Persons who have no extensions or who wish to list only home telephones may submit ads by coming in person to the *Tech Talk* office, Rm 5-113, and presenting Institute identification. Ads

113. Dead line is noon Friday before publication.

Guitar Aria f-hole, 2 pickups w/independent tone & vol control, \$75 or trade for bass. Call Mike

Copper/brass fire extinguishers for lamps, etc, \$9,

Girls bike 20" Schwinn Hollywood mod, 1 spd, coaster brks, vy gd cond, \$35; Schwinn hvy duty training whls, lk nw, \$5. Call x409 Lincl.

Fine quality Iranian oriental carpets, mstly Belouchi, geom patterns, scatter to med sz 1x1-7x11. Call 489-2298 for appt.

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Pr snows G78-14, decent tread, on rims, \$30. Pete

Tires 8.25-14, snows & regs, bargain \$4-\$5 ea. Call

Thorens trntble TD160 mk 2, exc cond. Call x5-

Pr snows mntd on rims, sz A78-13, pr \$50 firm. Call

Dune buggy, bdy & frme, exc cond, nw tires, nw top & drs, eng nds work. Call Ken 322-8592 wkeves

Roof & gutter heat cable app 250' w/instructions & clips, \$20; recond rotary lawn mower, \$25 & \$40; Yashika 35mm camera, mod IC \$35. Call Arthur

M 10 spd Dodson bike, slvr blue, exc cond usd 2x, org \$179, ask \$125. Call Judy x3-2686.

Skates, G white Hyde figure, sz 3, \$15; yng B Hyde hockey skates, sz 13, \$15; both in perfect cond; sm grn swivel rocker, \$50. Call 933-2741.

Infant crib, \$30; tw beds, \$40; rechargable electronic flash, \$40. Call x3-7798.

Portacrib brand port crib, exc cond, \$30 incl matt;

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Next to new Estes Electric Organ, \$75 & music.

W bike, coaster brks, \$20. Call 661-8440. Transistor Testing Instrument, Heathkit mod IM-

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XCountry ski boots, M sz 712, usd 2x, \$17; 2 lg white K cabs, exc cond, \$15 ea. Call 876-3014 eves.

Br leather high-heeled pumps, sz 712B, worn 2x, \$15, org \$25. Call Lisa x3-2701.

Pr BSO tickets, Nov 4, 2nd bal, \$12 pr. Call Phil

Bikes, 10 spd Columbia, Lexington 27", \$45; 10 spd Columbia Andover 26", \$45; Huffy Thunder Road, \$25; DR tble w/5 chrs, \$75. Call Oliveira x3-5573 or 233-5904 eves.

Ice skates, tubular type on leather shoes, B szs, old but usable,  $2 \ pr.$  Call Harry x3-5837.

Pr VW 15" snows, mntd on rims, usd 1K, \$45. Call

Foam beads for bean bag chrs, nxt to new, cheap.

M 10 spd bike, Raleigh Grand Prix, beautiful cond, w/chain & lock, \$125 or best. Call Vijay 661-7794 or

3pc sofa, exc cond, \$190 best. Call 395-7265. Ski boots, sz 9, San Giorgio lk nw, \$30. Call R. Price x8-3430 Draper or 587-9885.

Sunbeam elect frypan, usd 2x, org box \$19

AM radio, \$35

Panasonic port record player +

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be telephoned to x3-3270 or mailed to Rm 5-

Free refrig/frzr, nds recharge. Call Dick x3-6472. Scuba gear, wet suit, hood, sngle hose regulator. Call Dick x3-6572.

Pr Sears snows w/stdd, 775-15 w/rims, \$40; fits Olds, Chevy, Buicks. Call Al x8-3714 Draper.

Alum storm windows, assrtd szs. Call Randy x3-

90" Colonial sofa & overszd chr, cushioned, back & arm rests, skirted, exc cond, only  $2^{1_2}$  yrs old, ask \$235; venetian blinds, assrtd szs, auto tire rims,  $13^{2}$ &  $15^{2}$ . Teac 2000, reel to reel tape deck, super machine; 9 cu it chest type frzr, usd only 6 mos. Call x3-2772 or 396-4221.

Ice skating boots, M sz 812 only usd 1x, \$20. Call

Pr snows, B78-13 incl rims, \$70, Call Jeff 864-0429.

Pr snows, C78-13, replcs 685-13, 5 hole rims, Delta-Suretrac, from Comet Mercury, usd 3 mos, gd cond. Call Al 861-0636 11am-1pm or 5pm-7pm

Br wood coffee tble w/blck stone top, 54"x22", \$150 or best; br velvet sofa w/beige & br velvet pillows 64x35, \$125 or best; both items in exc cond, lk nw; dk br platform water bed, walnut frme, qu sz where, increases, included, mst sell \$300 or best. Call 289-5641.

20 wood frme storm windows, \$5 ea; yellow mail cart \$15; Garrard trntbl 42C, \$10; Datel 30 ter-minal \$350 or best; wicker crib, \$35; Sears tape recorder \$20; child record player, \$10; 37 square tble, \$10. Call Roger x3-4882 or 783-3123 aft 7 or wkends

RX-402 recvr, mint cond, 30W/ch, low distortion, best ratings, mst sell, ask \$150. Call Elliot x5-7161 Dorm.

Pr Dynaco A-35 spkrs, 50W, 4 yrs old, well cared for. \$80. Call 327-6246 aft 5pm.

Air carrier for dog; carry on container for sm pup or cat, other dog supplies. Call x5341 Lincl or 876-1316

Super quad sys, mst sell, JVC DC-4, 4 VR 5446 x discrete 4/ch w/equalizer 200W, 50/ch; 4 KLH mod 6; BSR belt drv trntbl; nw Shure cart, all for \$850 nego. Call Mike 661-8857 lv msg.

Power tools, variable spd reciprocating saw \$25; unusual radial drill press 500-20,000 rpm; shapes, routs; 5/8 hp, \$250; die grinder \$30; Saab 96 whls w/tires, 2 for \$25. Call M. O'Hare x3-7955 or 354-

Skis Avanti, 160 cm, Look bindings w/poles, sz 5 boot, yng boys, usd 2x, \$65. Call Peter x3-5203.

Store fixtures, electronic cash reg, illum showcases 4' & 6' A-1 cond, new clothing & jewelry going out of business. Call 438-7094 for info.

### Vehicles

'65 VW Bug, new eng 20K, bdy super, brks, etc, gd shape, ask \$450. Call Ron x3-5593 & lv msg. '66 Int Scout, 4 cyl, r/end nds work, \$275. Call Earl

'68 VW Bug, 30K, reblt eng, trans & carb, radio, peppy, \$600. Call Charotte x3-4390.

Call Robert x3-3707

6pm

'70 Plymouth Duster 225 slant 6, std 3 spd, 86K, \$600. Call x3-1445 or x5-9837 Dorm.

71 Ply, 4 dr sedan, gd cond, \$795 or best. Call x3-

'71 VW Bug, no rust, reblt eng, immaculate cond, insd & out, mst sell have 3 other cars, \$1500. Call

666-1540 am.

'72 Ford Torino, 2 dr, 6 cyl, std shift, trailer hitch, stdd snows, fall sticker, 86K, gd run cond, \$550. Call Bill x8-1811 Draper.

best Call x3-2982 or 354-3005

'75 Ford Mustang Ghia, 4 cyl, 4 spd, exc cond, no rust, \$2300. Call Jean 876-4679 aft 7:30 eves.

'76 Buick Century Custom, PS & PB, A/C, landau roof, nw rads, \$3300. Call Larry x3-6186

#### Animals

Free to gd home 2 parakeets & cage. Call Carol x3-

M&F AKC red doberman pups, docked, claws done, shots, parents on premises. Call 783-2309 or done, shots, parents on prem 924-9176 if no answer.

Adult F (spayed), German Shepherd, mid sz, nds care & home gd w/children. Call x3-4435.

### Lost and Found

Reward for lost blue '78 appointment book, 6x7" Call Jessie x3-8067.

Found: pr glasses, brn case, brn rims, Oct 25, nr bldg 37. Call Campus Patrol x3-1212. Found: M dble breasted beige raincoat, sz 40. Call x3-1493

### Wanted

Prof, family sk 2-3BR furn hse/apt, yard, greater Bos, Jan-Aug '79, exchange possible, Durham NC (919)682-5337 Collect.

Old (tube) stereo, wll sacrifice age for quality, about \$125. Call 776-3042.

Ceiling fan. Call Rick x5845 Lincl.

Piano for the hauling. Call Steve 666-4687. Seek ride Ipswich to MIT, arrive 8:30am. Call Dorothy x3-3604.

Stl desk w/drawrs both sides. Call 449-0386.

#### Roommates

Camb, spc 2 BR, nr river, free park, \$175/mo. Call x3-1716

F rmmte to shr beau huge 2 flr Arl apt w/W & 11 yr old daughter, exc loc, \$215 incl all util. Call x3-6046.

6 sk 1 more age 23-29 for lg coop hse, Newton Hghlnd, \$110-\$160/mo incl rent, util, food, no dogs, veg ecom, Near lake & T. Call Elizabeth x3-5677. Rmmate or couple for 3 BR ranch, Waltham, own rm, K prvledges, etc, lg finish bsmnt area. Call 899-5156.

#### Miscellaneous

Native french teacher w/vy gd references wl give prv lessons, flexible hrs. Call Danielle 492-3970. Tech or medical translation in Turkish available. Call Sue 864-5865 betw 8am-10am

Wl type anythng, tech, etc, IBM Correct Select, reas rates. Virginia 926-8894.

Exp sec wl do theses, MS, reports, fast & accurate, IBM Correct Select Call x3-4528

Wl type theses, MS, tech, fast & accurate, IBM Correct Select Call Debbie x3-1848.

Typing, tech, theses, MS, etc, IBM Correct Select Aisha Call x3-1879.

Typing done, any kind, fast service, Call x3-7736 or 729-0006 eves.

### Parking Stickers

Note to parking sticker swappers: please remember to inform your supervisor and the Campus Patrol of the exchange you have made so that their records accurately reflect your new parking area. Wl trade West gar & cash for Albany or East gar.

Call George x3-3250 or x3-3257 Wl swap 618 Albany for West. Call Marina x3-

Wl swap 618 Albany for West. Call Kip x3-7780.

POSITIONS AVAILABLE ecution. Applicants must be familiar with com puter applications techniques and systems analysis. A78-71 (11/1)

Admin. Staff, Asst. Director of Finance, in the Office of the Vice President for Financial Operations to develop modeling and analysis methods using the budget system and coordinate system develop ment with academic and administrative offices; provide liaison between Institute's overall financial plan and budgeting, fiscal planning and other financial activities of specific organizational units; direct or assist in major capital financing and other projects as required. A Bachelor's degree, or equivalent education/experience combination re-quired, as well as at least 5 years' experience in ac-counting, budget operations and financial plann-ing. Applicants must be knowledgeable of both the principle and practical aspects of using computer systems for modeling and analysis. A78-74 (11/1)

Admin. Staff, Systems Programmer, in Informa-Tombe Staff, Systems Programmer, in monitorial tion Processing Services Operations, will work in Relational Data Management System develop-ment group. Will aid in rewriting system and assist users to convert to new system; assist in maintenance of a VM/370 system with VS1; bring up now measure in the system in a weedwate and up new releases; install programming products and PTF's; perform documentation and consulting functions. Proficiency in systems programming in PL/1 and on a VM/370 system required. A78-75

Admin. Staff, Systems Programmer, in Informa-tion Processing Services Operations, will work in Relational Data Management System develop-ment group; aid in rewriting system and assist users to convert to new system; work on database development. Experience in sophisticated PL/1 programming and experience with a timesharing system required. A78-76 (11/1)

Acad. Staff, Associate Dewey Librarian, to be responsible for all reference services, user instruc-tion and orientation tours in Dewey Library. Sub-ject areas include management, economics, and public policy. Will also assist with book selection. and supervise and train other reference staff. Will be responsible for general operation of Library in absence of Head Librarian. An MLS degree in management or social sciences (preferably economics) required. Three years' reference experience in a research library also necessary. C78-32 (11/1)

Acad. Staff, Records Management Officer, in the Libraries, Institute Archives to be responsible for establishment of a records management program. Will study the creation, use, storage, and disposi n of records produced at MIT; inventory ords; create records retention and disposition schedules. schedules. Two years' experience in records management work is required. A Master's degree in history or business administration with records management and/or archives training also neces-sary. C78-33 (11/1)

Admin Staff in Information Processing Services Operations to develop budget requirements for department activities; prepare consolidated department budget; review expenses incurred, reports commitments and projects future expenditures; prepare cost analyses and operating reports; conduct funancial studies; maintain liaison with Institute administrative offices and departments re: accounting matters. Written and verbal communications skill and analytical ability required. Formal training and/or experience in financial administration required. Knowledge of MIT financial policy and procedures preferred. A78-72 (10/25)

Acad. Staff. Asst. Dean of Engineering, in the School of Engineering to have primary respon-sibility for resource management within the School; assist in developing budget targets for School departments and assist with budget management matters in general. Will also assist in faculty administration matters, in major purchase and space allocation matters as well as in a variety of areas related to general administration of the School. A Bachelor's degree, or equivalent educa-tion and experience required as well as 3-5 years' related administrative experience required. Knowledge of MIT particularly of its budgetary and personnel processes, is preferred. C78-31 (10/25) School departments and assist with budget (10/25)

Acad. Staff, Librarian, in the Resources Sharing Center Libraries to be responsible for planning and implementation of policy and procedures for the Resource Sharing Center; plan and supervise resource Sharing Center; plan and supervise transfer of materials to storage area; supervise and train support staff. An M.L.S. from an accredited library school is required. Experience in library processing, preferably at MIT, also necessary, as well as ability to organize and supervise. C78-30 (1995) (10/25)

Admin. Staff, Asst./Assoc. Director, in Resource Planning to perform a broad range of educational fund-raising activities: identify and evaluate fund-raising activities: identify and evaluate prospective donors, advise Institute officers and others with regard to visits with prospective donors; do an extensive amount of writing in-cluding specialized correspondence, proposals and other material. Position may include limited travel and donor contact. At least 3 years' active, con-secutive experience in fund-raising, preferably in a university environment, is desirable. A78-56 (8/30).

Sponsored Research Staff, in the Laboratory for Computer Science to work on improving a Morse network understanding program utilizing augmented transition networks: design and imple-ment grammar-oriented data base for multioperator and message transmission environments; research into knowledge-based systems for future projects. Will also be involved in operation and maintenance of computers used in current and future projects. Position requires a B.S. in electrical engineering or computer science plus systems programming experience using augmented transition networks. R78-246 (10/25)

Sponsored Research Staff, Research Associate, in Materials Science and Engineering. Position re-quires a Ph.D. in Materials Science, Metallurgy or "equivalent field, familiarity with martensitic phase transformations and allow "abapte memory" transformations and alloy

propriate accounts; interact with administrative offices on accounting and other aspects of account administration; supervise clerical employees; coorduministration, supervise clerical employees, coor-dinate student appointment process; oversee ad-ministrative procedures related to faculty and staff appointment process. Position requires experience with accounting and financial management procedures, preferably at M.I.T. Degree in ac-counting helpful. E78-59 (10/25)

Exempt, Technical Asst., in the Alumni Assn. Responsibility includes supervision of an Inforex 3000, 3 station key to disc, operation; prepare tapes for weekly update and edit of file; data quality con-trol; provide backup of basic technical support to in-house, on line data management system. Posi-tion requires 2 years' experience as senior key to disc operator or experience in software support disc operator or experience in software support capacity in customer service environment Programming experience in universal language or 2 high level command languages also necessary. E78 58 (10/25)

Secretary V to the Director of the Laboratory for Information and Decision Systems to support Director's academic and research responsibilities: type technical manuscripts, class material; main-tain and set up filing system; arrange travel; schedule meetings and appointments and perform a variety of other secretarial duties as necessary. Excellent secretarial and general office skills are required. Strong technical typing ability also necessary. B78-651 (10/25)

Sec. IV/V in the Nuclear Reactor Laboratory to ar range meetings; schedule appointments; arrange travel; type correspondence, technical reports and proposals; maintain files; maintain various acproposals; maintain files; maintain various ac-counts, payrolls and other records. Excellent secretarial and organization skills and technical typing ability required. Several years' secretarial experience, including shorthand and dictaphone skills, also required. B78-664 (11/1)

Secretary IV to a faculty, staff and student research group in the Laboratory for Nuclear Science to handle a wide range of secretarial duties including typing of technical material; arranging mailing travel; organizing meetings; coordinating mailing projects. Excellent general secretarial skills in-cluding shorthand required. Secretarial school training preferred. B78-658 (11/1)

Secretary IV in Nutrition and Food Science to provide secretarial support to research groups in-volved in research on nutrition in developing countries: transcribe machine dictation; compose short letters and memos; handle a variety of other general secretarial duties. Good organization and secretarial skills required as well as ability to speak and write Spanish. B78-666 (11/1)

Secretary IV to faculty and research staff in the Program in Science, Technology and Society, School of Humanities and Social Science. Will handle general secretarial duties: type, file, answer phones. Will occasionally do back up typing for Dean's Office. Ability to set priorities and to exer-cise judgment required in addition to secretarial skills. B78-542 (9/13)

Secretary IV. part-time, to four faculty members in Architecture who are involved in research and teaching on visual design, urban settlement in developing countries, and urban housing. Will type correspondence, manuscripts; maintain files and ercords; arrange travel and meetings. Good typing, ability to work with a wide range of people re-quired. 17.5 hrs./wk. Afternoon schedule preferred. quired. 17.5 h B78-521 (9/6)

Secretary IV in the Linguistics and Philosophy Dept. to answer phones; type correspondence, manuscripts and proposals; maintain records; handle inquiries; arrange travel. Good typing and machine transcription skills and ability to work with frequent interruptions required. Somm familiarity in an academic environment desirable B78-668 (11/1)

Secretary IV, part-time, in Civil Engineering to type technical material; answer phones; monitor research accounts; assist in maintaining small reference library. Technical typing and good com-munications skills required. 25 hrs./wk. B78-648 (10/25)

Secretary IV-V in the Analytical Studies a ning Group, Office of the President and Chancel lor. To provide secretarial and administrative sup port for ASPG staff members working on various projects for the central administration and the faculty committees. Position requires excellent organizational skills, discretion, exceptional typing and proofreading skills, willingness to assume responsibility, ability to anticipate needs and to set priorities, and to work both independently and as part of a team. Work includes arranging and coordinating appointment and meeting schedules, provision of basic information on committee procedures to students, general typing (including some lengthy reports), maintaining files, monitor-ing financial records, and providing assistance on special projects. Assistance in the area of Campus Information Services also necessary. Ability to work under pressure required. Some college ex-perience helpful. Secretarial training and reasonable experience working in business or in-dustry highly desirable. Position requires oc al overtime. 37.5 hrs./wk. Non-smoking of fice B78-525 (9/6)

Sec. III/IV in the Electrical Engineering and Computer Science Dept. to maintain department's perputer Science Dept. to maintain department sper-sonnel and management records using an on-line interactive computer system; process and keep records of key requests; answer phone; perform reception duties. Accurate typing skill, ability to set priorities and to follow through on details and initiative required. Previous computer experience helpful, but selected applicant will be trained on interactive computer system. B78-663 (11/1)

Secretary III in the Technology Review Office, Alumni Assn., to provide general secretarial sup-port for editorial activities; receive visitors; open and route messages and mail; type letters and articles. Will assist in operation of word processing equipment. Good general office skills and excellent typing required. Position requires occasional over-time B78 650 (10/55)

x8-1130 Draper 69 Buick Skylark, 2 dr sedan V8 eng, PS & PB.

'70 Audi 100LS white, eng complty reblt bdy in exc shape, \$1200. Call Mike x3-5163 or 527-7986 aft

'70 Plyr

'70 VW Beetle, eng recent redone, mech, exc bdy, flr, nds work, \$300. Call 729-6674 or x3-6073.

'70 VW Fastback w/'72 eng, 58K, runs ok, mny nw parts, bdy nds work, \$400 or best. Call x3-7786.

1877 or 272-7419 Harold.

David x3-2336. '72 Cutlass Olds, 4 dr, top cond, \$1600 firm. Call

'72 Toyota Corona, 68K, AM/FM, mny nw sys,

'72 Vega, 50K, auto/radio, exc cond, snows, \$550 or best, Call Yi x5-9795 Dorm

'75 Audi Fox, 2 dr, auto, stereo rads, top cond. 39K. Call x8-1418 Draper.

Dumont oscilloscope regency 4 ch scanner, 2 telephones, Ig color TV, several B&W TV's, mini tubes & other TV repr supplies, not working, best. Call Don x8-4218 Draper.

Oak bkcase 43x53", glass drs, \$100. Call 864-5862.

Br couch, folds down into bed, bought nw \$90, ask \$20. Call x8-1153 Draper kp try.

Old mod GE refrig w/sm freezer compart, mst move, in Braintree, \$30 or best. Call Jim x3-7477.

KLH 20-Stereo sys, phono & FM, \$175. Call x3-

Black Canon EF, flly auto, SLR w/50mm, Canon f/1.4 FDSSC lens, 2x teleconverter & case, \$350 or best; tape recorder, Akai, 630-D top-of-line reel to reel 3 head 3 motor, sound on sound, auto reel, 3 head, 3 motor, sound on sound, auto everything, etc. \$265 or best. Call Bill & lv msg x3-7141 or 391-7150.

10 spd Raleigh Record, gd cond, \$65. Call x3-5117.

Dble bed, matt, exc cond, w/box sprng & frme, \$60; wood fold breakfast tble 34"x34", \$20; 2 armless chrs, \$15; 2 wicker dining chrs, \$10. Call Peg easy chrs, gy x3-4841

F Wilson golf clubs, 5 irons, 2 woods & gold cart, \$40; apt sz sm refrig, walnut finish practically nw, usd 3 wks, org prc \$179, now \$75. Call Charlie x3-6555.

Ice skates F Hyde toddler sz 10, white sngl runner. lk nw, nw \$33 ask \$17, same, sz 12, nw \$36, ask \$20. Call Tony x8-3200 Draper.

Lg 4 dr dresser. Call 254-5068

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#### Housing

Brkline, job move, contemp twnhse, move-in cond, spectacular views fr 2 decks & thermopane windowalls, office w/sep entr, playrm, 3 BR,  $3^{1}_{2}$ B, all appl, other features, quiet st nr T, exc sch, high 90's. Call 232-5737 eves, wkends.

Camb. nw twnhse, 3BR, 212B, carpet, D&D, patios, Call 491-4258.

Dover, 4 BR furn hse, country setting, avail Jan-Aug 79, \$700/mo + util. Call x3-7818.

Harv Sq, 1 BR & 12B avail in lg sunny 3 BR apt, part-time living accommo Mon thru Fri, \$90 begin Dec 1. Call 491-1107 eves.

Lg 3 BR apt, Jamaica Plain, \$425 w/park + ht & util. Call x8-4402 Draper.

Ski 93, rental, Woodstock, NH, betw Loon & Waterville, mod elec ht, 3 &  $1^{\pm}{}_2BR,$  slps 12 & 6, avail for seas, now to thaw, \$220 & \$1000. Call Jack x8-3401 Draper.

White Mts chalet on 1.75 wooded acres on gravel 500ft from Rte 116, 1<sup>1</sup>/<sub>2</sub> stories 3 BR, sunken LR w/free stdg frpl, fl B, K, deck, furn built well, \$25-500. Call Eva x3-5742.

Somvlle apt, 3 fam owner-occupied hse off Bway, 1 lg & 1 sm BR, LR, lg K, tile B, off st park, \$250/mo + util. Call Anne Marie x3-2131.

Antique hse for sale, Sudbury, '78 renovation & restoration makes this lovely 200 yr old hme a collectors choice hme, 1 acre w/inground pool, \$129,900. Call 332-6004.

Wayland, cul de sac, 4 BR, 212B, dining, K, 2 Wayland, cul de sac, 4 br, 2 2B, drining, R, 2 lounges, 2 car gar, corral stable, 1<sup>1</sup><sub>2</sub> acre part wooded, \$95000 or consider short term rental. Call nus (SB physics 1941, PhD physics

This list includes all non-academic 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 Assistant for Women and Work (10-215) and Minority Affairs (10-211), and in the Personnel Office, (E19-239).

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

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

| Dick Higham   | 3-4278                     |
|---|----------------------------|
| Pat Williams  | 3-1594                     |
| Carolyn Scheer<br>(Secretary — Tertia Perkins)                                    | 3-1595                     |
| Virginia Bishop<br>Richard Cerrato<br>Ken Hewitt<br>(Secretary — Paulette Chiles) | 3-1591<br>3-4266<br>3-4267 |
| Sally Hansen  | 3-4275                     |
| Lawrence Milan  | 3-2928                     |
| kathleen Rick   | 3-4269                     |

Admin. Staff, Budget Officer, in the Fiscal Plan ing and Budget Office to assist in preparation of In stitute's budget and perform control function via budget/actual periodic analyses; maintain current computer budget file to produce reports; act as fiscal consultant to Deans and senior officers; assist in long range planning and forecasting ac-tivities. A Bachelor's degree or equivalent educa-tion and experience required in addition to 3 to 5 years' experience in budget development and ex-

(Secretary - Jenni Leibman)

mem phenomena. Experimental capabilities in diffraciton, optical and electron microscopy, electrical resistivity, ultrasonic wave propogation and other methods of materials research. Knowledge of materials structures and phase transformation behavior also necessary, R78-250 (10/25)

Sponsored Research Staff, Technical Computer Programmer, Temp., in the Energy Lab Aspen Project which is involved in developing an advanced computing system for simulation and design of fossil energy processes. Will design and code programs for a large, interactive Fortran process simulator; debug; document; develop specialized assembly language programs. Bachelor's degree in science of engineering with at least 1 year experience in technical computer programming. Proficiency in Fortran and IBM systems also necessary. R78-252 (10/25)

Exempt. Asst. Accountant, in the Laboratory for Nuclear Science will assist Laboratory ficers, will review computer reports and edit for allocation and forecasting functions; prepare sponsor reports; document current programs and maintain necessary backup on tape. An accounting degree or applicable accounting experience required. Ability to revise existing programs in Pl1 language required. Knowledge of a computer language, preferably Pl1, also necessary. E78-61 (11/1)

Exempt, Jr. Auditor, in the Audit Division, to perform operational and financial audits; assist in developing audit programs and questionnaires write and present reports. Position requires 1 of more years of diversified experience in public as requires 1 o ounting or internal audit. A degree is preferred E78-60 (10/25)

Exempt, Admin. Asst., in the Sloan School System Dynamics Group to develop project budgets; monitor accounts; allocate salaries to ap-

Sr. Clerk IV in the Alumni Records Office to perform data verification; process alumni fund con-tributions and matching company gifts; add new alumni to rolls; process all incoming and outgoing mail for all Alumni Center departments. Good typ ing skill, the ability to work with accuracy and i der occasional pressure required. B78-655 (10/25)

Payroll Clerk IV in the Comptroller's Accounting Office to review and log various types of data: research and respond to inquiries concerning payroll; arrange for correction as needed; calculate and prepare special checks; review appointment forms for specific information and notify department representatives of errors of other problem General office skills and ability to handle detailed work required. B78-652 (10/25)

Sr. Clerk IV in Information Processing Services to use computer terminal to enter data and generate reports; coordinate service requests; arrange repairs; order supplies; oversee operation of copying equipment; prepare payroll reports. Applicants ing equipment; prepare payroir reports. Applicants must be able to organize work, to gétablish formats and have good typing skills. A facility with figures, ability to work with frequent interruptions re-quired. Familiarity with word processing and/or use of computer terminals helpful. B78-649 (10/25)

Clerk IV, Asst. Corporations Analyst, in Research Planning to prepare backup materials on companies; maintain a tickler system; post data from correspondence onto cards; assist in answering written and telephone inquires. Communications skill, interest in research and ability to do detailed work with accuracy required. B78-653 (10/25)

Accts. Clerk III/IV in the Laboratory for Nuclear Science to secure, record and maintain data on Laboratory's financial commitments; keypunch data; distribute statements to appropriate supervisors; collect data for and type journal vouchers.

Applicants must have a facility with figures and with detailed work and have typing skill. Ability to keypunch also necessary. Accounting experience helpful. 37.5 hrs./wk. B78-659 (11/1)

Clerk III, Communications Console Operator, Physical Plant to maintain communications with Work Control Center and shops using telephones, radio pages, radio transceivers and other means; radio pages, radio transceivers and other means; respond to alarms and emergencies by notifying proper individuals' offices; perform related clerical duties; process and expedite incoming and outgo-ing MIT calls. High school graduation or equivalent command of English language, ability to react appropriately in urgent situations re-quired. Experience in comparable position desirable. Varied schedule including some weekend and holiday work required. B78-656 (11/1)

Clerk III, Data Entry Operator, in Administrative Computing Services to enter routine data; punch cards; operate verifier. High school training or equivalent plus basic ability to operate data entry equipment required. B78-657 (11/1)

Clerk III, part-time, in Architecture to student registration; maintain files and records and handle other clerical duties and errands as necessary. Typing skill desirable. Applicants should be able to work additional hours on occa-sion. 17.5 hrs./wk. B78-667 (11/1)

Clerk III, part-time, to assist the Campus Patrol Parking section with a variety of clerical duties and perform other general clerical functions as neces-sary. Typing skill, familiarity with office procedures required. 20 hrs./wk. B78-654 (10/25)

Sr. Clerk/Keypunch Operator III, in the Office of Sr. Clerk/Keypunch Operator III, in the Office of Personnel Serivces to keypunch data; analyze and interpret data to determine input and resolve data problems. At least 3 years' keypunch experience, preferably combined with clerical duties, and ability to understand detailed procedures required. Ability to design program control cards desirable. B78-414 (8/16).

Clerk II, Output Processing Clerk, in Ad-ministrative Computing Services to operate decol-lating/bursting equipment; deliver computer out-put to user offices; act as general messenger for Service. Applicants should be high school graduates or equivalent. Applicants who have had data processing course preferred. 40 hrs./wk. B78-665 (11/1)

Hourly, Laboratory Aide in the Center for Cancer Research to wash and prepare lab glassware by hand and machine; sort glassware and utensils; in-sure cleanliness of glassware; care for lab sinks, containers of disinfectant, etc.; collect glassware; occasionally clean glassware using chromic acid solution. Must be conscientious, attentive to detail and receptive to instructions. Must also be physically capable of lifting or manipulating moderately heavy containers and of working while standing. H78-175 (11/1)

Hourly, Clinical Matron, in the Clinical Research Center to act as ward attendant for a 12 bed unit. Will mop and dust patient and nurse areas; cleau bath areas; replenish supplies; stock linens; wash and disinfect beds as required, and perform related duties. High school graduate, or equivalent, re-quired. 40 hrs./wk. H78-177 (11/1)

Hourly, Plumber, in Physical Plant, to maintain complete range of plumbing system including air, gas and vacuum systems, working from blueprints, specifications, verbal instructions, or sketches. At least 5 years' related experience and Mass. State required. Will work an irregular schedule. H78-178 (11/1)

Hourly, Technician A, in the National Magnet Laboratory to construct, operate and maintain highly complex nuclear magnetic resonance spectrometers which employ VHF-UHF electronics, analog and digital circuitry and pulse systems. Will lay out, construct and test prototype systems, will also ut, construct and test prototypes circuits and systems; test and operate high field superconducting magnets. Graduation from a 2 year day technical school or its equivalent and a minimum of 5 years of applicable experience re-quired. Strong background in VHF-UHF electronics and digital and analog circuitry, ability to selact suitable components and aubenteme and to select suitable components and subsystems and to combine these to serve specific purposes also re-quired. Familiarity with machine shop practice and cryogenics desirable. 40 hrs./wk. H78-166 (10/25)

Hourly, Machinist B, in the Laboratory for Nuclear Science to work from blue prints, specifications, verbal instructions or sketches; will set up and operate commonly used machine tools. At least 3 years of applicable experience is re-quired 40 hrs./wk. H78-167 (10/25)

Hourly, Technician B, in the Laboratory for Nuclear Science to assist in lab or research work and operate experimental and technical equip-ment. Graduation from a 2 year day technical school or its equivalent in applicable experience re-quired. Ability to neatly construct circuitry (including solid state components) from Schematics and use about role also resulted Bergi schematics and use shop tools also required. Posi-tion is based at Middleton, MA. 40 hrs./wk. H78-168 (10/25)

Hourly, Waiter/Waitress in the Faculty Club to take members' orders; pick up food in kitchen and serve to members; clear and reset tables and per-form other duties relating to dining room service. take Applicants must be at least 18 years of age, and able to speak and read English. 20 hrs./wk., 11 AM-3PM. Mon.-Fri. with some weekend shifts possible, H78-174 (10/25).

The following positions were still available at TechTalk deadline. The date following each position is the date of the most recent Tech Talk in which the position was described.

ADMINISTRATIVE STAFF: A77-3, Admin. Staff, Systems Programmer, In-

(8/30)

BIWEEKLY

(7/26)

(4/19)

(4/26)

(10/4)

quarters (8/30)

formation Processing Services (2/16) A77-86, Admin. Staff, Systems Programmer, In-

formation Processing Services (1/11) A78-14, Admin. Staff, Asst. Dir., MIT As-sociates Program (4/12)

B78-453, Sec. IV, Nutrition & Food Sciences (8/30) B78-454, Clerk III, Resource Planning &

Development (10/18) B78-457, Sec. IV, Lab for Computer Science (9/6) B78-463, Sec. IV, Sloan School (9/6) B78-488, Sec. III/IV, Arteriosclerosis Center

(9/6)B78-494, Sec. IV, Patent & Copyright Office

(8/30)

(8/30)
B78-511, Sec. IV, Sloan School (9/13)
B78-515, Sec. IV, Center for Advanced Engineering Studies (9/13)
B78-517, Sec. IV, Economics (9/13)
B78-518, Tech. Typist IV/MagCard Operator,
Economics (9/13)
B78-523, Tech. Asst. V, Alumni Association (9/13)

B78-528, Sec. IV, Earth & Planetary Science

(9/20)B78-529, Sec. III/IV, Meteorology (9/20)

B78-542, Sec. IV, Office Chairman (10/18)
 B78-542, Sec. IV, Program in Science,
 Technology & Society (9/20)
 B78-545, Sec. IV, Center for Space Research (10/4)

(10/4)
 B78-547, Sec. V, temporary, Psychology (9/20)
 B78-549, Sec. III/IV, Mechanical Engineering

(9/27)

B78-561, Sec. IV, Research Lab. of Electronics (9/27) B78-562, Sec. IV, Energy Lab. (9/27) B78-570, Sec. IV, Civil Engineering (9/27) B78-571, Sec. III, Materials Science & Engineer-

ing (9/27) B78-573, Editorial Sec. V, Materials Science & Engineering (9/27) B78-578, Sec. IV, Alumni Association (9/27) B78-579, Sec. V. Plasma Fusion Center (9/27)

B78-598, Sec. IV, Research Lab of Electronics (10/4)

(10/4)
B78-604, Sec. III/IV, part-time, Mechanical Engineering (10/11)
B78-605, Sec. IV, Library/Archives (10/11)
B78-606, Sec. III/IV, Audit Division (10/11)
B78-617, Sr. Clerk III, Admissions (10/11)
B78-621, Clerk Typist III, Energy Lab (10/18)
B78-626, Sr. Clerk IV, part-time, temporary, NASIC Service, Libraries (10/18)
B78-620, Clerk IV, D

B78-632, Clerk IV/V, Documentation Librarian, Admin. Computing Services (10/18) B78-634, Sec. IV, Center for Policy Alternatives (10/18)

B78-636, Sec. IV, Urban Planning & Resource Development. (10/18) B78-637, Sec. IV, Center for Space Research

B78-639, Admin. Asst. V, Earth & Planetary Science (10/25) B78-644, Sec. III, National Magnet Lab, (10/25)

ACADEMIC STAFF:

ACADEMIC STAFF: C78-6, Acad. Staff, Asst. Eng. Librarian, Engineering Library (4/5) C78-17, Acad. Staff, Research Associate (7/12) C78-22, Acad. Staff, Asst. Librarian, Libraries

(8/16) C78-23, Acad. Staff, Marketing Representative,

Medical Dept. (8/30) C78-26, Librarian, Head, OCLC/LC Cataloguing Section, Libraries (9/20)

Section, Libraries (9/20) C78-27, Acad. Staff, Coordinator for Health In-formation and Education, Medical Dept. (10/4) C78-29, Acad. Staff, Applications Programmer, Electrical Engineering (10/11)

EXEMPT STAFF:

- E77-56, Exempt, Estimator/Scheduler, Physical Plant (11/9) E78-35, Exempt, Tech. Supervisor, Physical
- Plant/Telecommunications (8/16) E78-36, Exempt, Principal Operator, Physical
- Plant (8/16) E78-55, Exempt, Accounting Supervisor, Libraries (10/18)
- E78-57, Exempt, Food Production Supervisor, Food Science (10/25)

#### HOURLY

H77-89, HVAC Designer/Draftsperson, Physical Plant (10/5)

H78-23, Machinist A, Nutrition & Food Science (3/8)

H78-95, Sr. Technician, Aeronautics & Astronautics (10/11) H78-106, Sr. Technician, (Electronic), National

Magnet Lab (8/16)

H78-152, Mechanic B, Lab for Nuclear Science (9/27)

SPONSORED RESEARCH STAFF: R77-53, Spons. Res. Staff, Res. Lab. of Electronics (4/12)

Electronics (4/12)
 R77-91, Spons. Res. Staff, Sr. Accelerator
 Physicist, Lab. for Nuclear Science (5/18)
 R77-97, Spons. Res. Staff, Chemical Engineer,
 Energy Lab. (6/1)
 R77-137, Spons. Res. Staff, Experimental
 Physicist, Bates Linear Accelerator (8/31)
 PR7 161
 Spong Day Science (8/31)

Arystels, Dartes Linear Accelerator (0/31) R77-161, Spons. Res. Staff, Elec. Engineer, Mechanical Engineering (9/7) R77-201, Spons. Res. Staff, Prog./Data Analyst, Forth & Bloartens Science (0/00)

Michanical Engineering (9/7)
R77-201, Spons. Res. Staff, Prog./Data Analyst, Earth & Planetary Science (10/26)
R77-209, Spons. Res. Staff, Res. Scientist, Energy Lab. (11/30)
R77-211, Spons. Res. Staff, Computer Systems
Design, Lab. for Computer Science (12/7)
R77-213, Spons. Res. Staff, Prog. Language
Design, Lab. for Computer Science (12/7)
R77-213, Spons. Res. Staff, Computer Software
Design, Lab. of Computer Science (12/7)
R77-214, Spons. Res. Staff, Computer Software
Design, Lab. of Electronics (1/4)
R77-230, Spons. Res. Staff, Computer Software
Designer, Lab. of Computer Science (12/7)

Arteriosclerosis Center (4/5) R78-55, Spons, Res. Staff, Science (1/1) R78-55, Spons, Res. Staff, Staff Scientist, Arteriosclerosis Center (4/5) R78-58, Spons, Res. Staff, National Magnet Lab. (4/12)

Lab. (4/12) R78-60, Spons. Res. Staff, Combustion Engineer, Energy Lab. (4/12) R78-64, Spons. Res. Staff, Earth & Planetary Science (4/12) R78-70, Spons. Res. Staff, Energy Analyst, Energy Lab. (4/12) R78-73, Spons. Res. Staff, Computer Program-Deve Energy Lab. (5/10) sociates Program (4/12) A78-20, Admin. Staff, Alumni Association (5/3) A78-38, Admin. Staff, Systems Programmer, In-formation Processing Services (8/30) A78-44, Admin. Staff, Industrial Liaison Officer (8/20). R78-81, Spons. Res. Staff, Computer Program-mer, Energy Lab. (5/10) R78-81, Spons. Res. Staff, Lab. for Nuclear Science (4/19) R78-83, Spons. Res. Staff, Lab. for Nuclear Science (4/19) R78-85, Spons. Res. Staff, Technical Asst., Nutrition & Food Science (4/19) R78-93, Spons. Res. Staff, Res. Engineer, Civil Eventseering (5/10) A78-66, Admin. Staff, Real Estate Property Mng., Treasurer's Office (9/27) + A78-67, Admin. Staff, Director of Systems Plan-ning and Development, Information Processing Services (10/4) R(8-35, Spons, Res. Staff, Lab. for Nuclear Science (5/31) R78-102, Spons, Res. Staff, Lab. for Nuclear Science (5/31) R78-104, Physicist, Temp., Lab. for Nuclear Science (6/7) A78-69, Admin. Staff, Fiscal Officer, School of A78-69, Admin. Stall, Fiscal Officer, Schult, Engineering (10-11) Asst. Director, Consortium on Financing Higher Education (10/18) A78-70, Admin. Staff, Managing Editor, Technology Review (Alum. Assoc.) (10/25) Science (6/7) R78-105, Physicist, Temp., Lab. for Nuclear Science (5/31) R78-108, Programmer, Temp., Res. Lab. of Electronics (5/31) R78-113, Spons. Res. Staff, Sloan School of WEEKLY:
 B77-655, Sec. IV, Chemical Engineering, (10/25) B78-4, Sec. IV, Civil Engineering (10/11)
 B78-129, Sec. IV, Biology (4/12)
 B78-154, Sec. III/IV, Lab for Nuclear Science 7/96) Management (7/12) R78-117, Spons. Res. Staff, Temp., Economics Dept. (7/12) R78-119, Theoretical Plasma Physicist, National R78-119, Theoretical Plasma Physicist, National Magnet Laboratory (7/12)
 R78-125, Spons, Res. Staff, Electrical Systems Laboratory (7/12)
 R78-133, Spons, Res. Staff, Sr. Microwave Systems Engineer, Natl. Magnet Lab. (7/26)
 R78-135, Spons, Res. Staff, Research Lab. of Electronics (7/26)
 B78,136, Spons, Res. Staff, Lab. for Computer B78-160, Sec, IV, Center for Policy Alternatives B78-167, Sec. III/IV, Mechanical Engineering (4/26) B78-178, Sec. IV, Provost's Office, Upward Bound Program (10/11) B78-185, Account Rep. V, Administrative Com-tage 14/2001 B78-103, Account Rep. V, Administrative Com-puter Serv. (4/26) B78-275, Sec. IV, Harvard-MIT Division of Health Sciences & Technology (6/7) B78-306, Sec. IV, Research Lab of Electronics (7/12) B78-306, Sec. IV, Research Lab of Electronics R78-136, Spons. Res. Staff, Lab. for Computer ence (8/16) R78-145, Spons. Res. Staff, Electronics Engineer, Lab for Nuclear Science (8/16) R78-146, Spons. Res. Staff, Electrical Engineer, B78-329, Sec. IV, part-time, Medical Dept. Bates Linear Accelerator (8/16) R78-147, Spons. Res. Staff, Systems Program-mer, Lab for Nuclear Science (8/16) R78-148, Spons. Res. Staff, Organic Chemist, National Magnet Lab. (8/16) B78-647 A78-30 B78-343, Sec. IV, Energy Lab (7/26) B78-436, Sec./Receptionist III, Math Head-R78-229 H78-172

### Rep. Mitchell to Keynote **Black Business Conference**

that program will begin at 10am

and involve officials from Massa-

chusetts, Connecticut, the Massa-

chusetts Bay Transportation

Authority, and the Office of the

The keynote address by Rep.

Mitchell is scheduled for 12:30pm

at the Sala de Puerto Rico. Rep.

Mitchell is now serving his second

two-year term as chairman of the

Congressional Black Caucus. A

recent feature article on the con-

gressman in The New National

Black Monitor, a supplement car-

ried by more than 125 newspapers,

said it was more "than a happy

accident for all black Americans

that-when full employment and

the encouragement of lagging and

faltering efforts to build and ex-

tend black business enterprise be-

came primary issues for the Con-

gressional Black Caucus-Rep.

Parren Mitchell became the

Caucus chairman. 'Black eco-

nomics' had by then become al-

most a middle name for Parren

In addition to chairing the Con-

gressional Black Caucus, Rep.

Mitchell is chairman of its sub-

committee on housing, minority

enterprise and economic develop-

ment. He chairs the House of Rep-

resentative's Budget Committee

Task Force on Human Resources

and is a member of that commit-

tee's Task Force on Community

Resources. He is chairman of the

Subcommittee on Domestic Mone-

tary Policy for the House Banking

Finance and Urban Affairs Com-

mittee and a member of subcom-

mittees on housing and community

development and on general over-

sight and renegotiation. In addi-

tion, he serves on the Joint Com-

The National Business League

was founded in Boston in 1900 by

Booker T. Washington. There are

now chapters in 38 states. The

organization, headquartered in

Washington, is headed by Dr. Berkley Burrell, national presi-

Small Business Development

Corp. has been involved in many

facets of minority business opera-

tion during the last seven years,

including managing the Depart-

ment of Transportation's minority

resource center's local outreach

Its executive director, Geoffrey

B. Anku, said the corporation's

involvement in the conference re-

flects its belief that "some overall

direction should be given to the

planning efforts of minority busi-

nesses and support organizations if

opportunities and resources are to

be maximized during the next

Persons interested in attending

the conference may telephone the

office of Dr. Williams at x3-5446.

Students interested in the con-

ference should also contact Dr.

Williams' office for information

about special arrangements for

The registration fee is \$20.

dent.

effort.

decade."

students.

mittee on Defense Production.

Mitchell'."

Mayor of Boston.

#### (Continued from page 1)

cussing the role of key agencies in the Northeast Corridor Improvement Program, which will upgrade rail services between Boston and Washington, D.C., and as members of a workshop that will discuss the development of Boston's Southwest Corridor and the renewal of Blue Hill Avenue, a main business artery in Boston's black business community.

The conference will begin Friday at 6pm with registration. At 7pm, several speakers will discuss the role of minority financial institutions in the development and growth of minority business in the 1980s. Among them will be Charles Grisby, president of the Massachusetts Venture Capital Corp.; Theodore Wilkins, conservator and chief operating officer, Unity Bank and Trust Co.; Edward Duggar, president, Urban National Corp.; Vernal Mendez, executive director, Cominvest of Hartford, Inc.; and Rita Lee, treasurer, Progressive Credit Union.

Saturday's session will begin with welcoming comments from Geoffrey B. Anku, executive director of Small Business Development Corp., and Frank L. Bispham, regional vice president of the National Business League. Mr. Bispham also is New England project officer in the Office of Minority Business Enterprise, US Department of Commerce.

At 9:30am, Gary Gayton, special assistant to the US Secretary of Transportation, and others, will discuss the opportunities offered minority businesses through the Northeast Corridor Improvement Project.

A panel discussion on the role of various government agencies in

R78-154, Spons. Res. Staff, Program Director, Neurosciences Research Program (8/30) R78-160, Spons. Res. Staff, Programmer, Center

for Space Research (8/30)

for Space Research (8/30) R78-162, Spons. Res. Staff, Systems/Scientific Programmer, National Magnet Lab. (8/30) R78-166, Spons. Res. Staff, Research Analyst, Center for Policy Alternatives (8/30) R78-168, Spons. Res. Staff, Programmer, Center for Space Research (8/30) R78-170, Spons. Res. Staff, Programmer, Center for Space Research (8/30) R78-184, Research Engineer, Artificial Intel-ligence Lab. (9/6)

ligence Lab. (9/6) R78-185, Medical Technologist, Clinical

R78-165, Wedicat Technologist, Chinical Research Center Lab. (9/6)
 R78-189, Spons. Res. Staff, Radiochemist, Nuclear Reactor Lab. (9/13)
 R78-194, Spons. Res. Staff, Research Specialist/Research Asst., Center for Policy Alter-natives (9/13)
 R78-195, Spons. Res. Staff, Project Manager

R78-195, Spons. Res. Staff, Project Manager,

Center for Transportation Studies (9/13) – R78-197, Spons. Res. Staff, Research Engineer, Energy Laboratory (9/13) R78-199, Spons. Res. Staff, Postdoctoral Scien-tist, Nutrition & Food Science (9/20) R78-201, Spons. Res. Staff, Earth & Planetary Science (9/20)

Science (9/20)

Science (9/20) R78-206, Spons. Res. Staff, Tech, Asst., Arteriosclerosis Center (9/27) R78-207, Spons. Res. Staff, Applied Magnetism Research, National Magnet Lab. (9/27) R78-208, Spons. Res. Staff, Postdoctoral Research, Nuclear Materials, Nuclear Reactor (9/27) (9/27

(9/27) R78-209, Spons. Res. Staff, Postdoctoral Research, Nuclear Materials, Nuclear Reactor (9/27)

R78-210, Spons. Res. Staff, Minicomputer Programmer, Material Science & Engineering

R78-211, Spons. Res. Staff, Postdoctoral Scien-R/8-211, Spons. Res. Staff, Postdoctoral Scientist, Physics, Center for Space Research (10/4)
 R78-212, Spons. Res. Staff, Postdoctoral Scientist, Physics, Center for Space Research (10/4)
 R78-217, Spons. Res. Staff, Research Associate, Civil Engineering (10/18)
 R78-218, Spons. Res. Staff, Financial Administrator, part-time, School of Engineering (10/4)

(10/4)

 (10/4)
 R78-225, Spons. Res. Staff, Research Associate,
 Nutrition & Food Science (10/18)
 R78-228, Spons. Res. Staff, Research Engineer, Temporary, Energy Lab (10/18) R78-238, Spons. Res. Staff, National Magnet Lab (10/25) Lab (10/25) R78-240, Spons. Res. Staff, Electron Microscope R78-240, Spons. Res. Staff, Electron Microscope The following positions have geen filled since the last issue of *Tech Talk*. H78-99 Hourly Hourly Sec. IV B78-599 Spons. Res. Staff Sec. IV Sec. IV R78-196 B78-564 B78-60' Clerk III B78-643 Sec. IV Hourly Sec. III Sec. IV B78-635 H78-137 B78-613 Sr. Lib. Asst. IV B78-627 B78-625 Sec. IV Exempt Sr. Clerl Sec. III E78-53 B78-622 erk III (canceled) B78-576 B78-647 Sec. IV Sec. IV B78-563 Spons. Res. Staff Sec. IV Sec. IV R78-224 B78-503 H78-169 Hourly H78-172 Hourly R78-84 Spons. Res. Staff Sec. IV B78-387

Spons. Res. Staff Sec. IV Admin. Staff Spons. Res. Staff Hourly

Carol Tucker Foreman, Assistant Secretary of Agriculture, will discuss "Nutrition Issues in the United States: Problems and Process" on Monday, Nov. 6, at 4pm in Rm. 66-110.

Ms. Forman, formerly president of the Consumer Federation of America, is responsible for all domestic nutrition programs of the Department of Agriculture including food stamps, school lunches and the special program for pregnant and nursing women, infants

and small children. Her office also has been involved with the recent controversy over the use of nitrites as a meat preservative, about which a recent study was conducted in the MIT Department of Nutrition and Food Science.

**VLW** to Present

**Discussion Series** 

The Visible Language Workshop

of the MIT architecture depart-

ment and the Community Fellows

Program of the Department of Ur-

ban Studies and Planning will

sponsor a series of screenings and

discussions Friday afternoons be-

ginning November 3, 4pm, Rm.

new experimental seminar, "Pub-

lishing and Broadcasting in Com-

munity Development," and is open

The workshop/seminar will inte-

grate the technical, experimental

and empirical aspects of visual

communication in a creative, re-

sourceful and conceptual fashion.

Design and printing sessions will

alternate with discussions of re-

searched and introduced material

on the use of printed media and

television in community develop-

TV producer ("Rebop") and di-rector of "Rainbow" Television

Workshop, will open the series on

Friday, Nov. 3, with a session on

"A Televisionary Approach Toward Media Equity."

Piper, video producer, MIT Labo-

ratory of Architecture and Plan-

ning (Nov. 17); Russell Peters,

president of the Mashpee Indian

Tribal Council (Dec. 1); Tomas

Rivera, director of the South End

Telecommunications Demonstra-

tion Project IBA (Dec. 8); and

Antonio Muntadas, Fellow, MIT

Center for Advanced Visual Stu-

**Seminars Focus** 

On Conservation

The MIT Historical Collections

will give a series of seminars on

the Conservation of Museum and

Library Materials beginning

Sponsored by a grant from the

MIT Council for the Arts, the sem-

inars will be oriented to the prac-

tical operations of small museums.

historical societies and libraries

and will be limited to professionals

currently concerned with the prob-

Nationally known experts who

will conduct the full-day seminars

include Carolyn Horton, of Carolyn

Horton & Associates, Inc., on rare

books and works of art on paper

(Wednesday, Nov. 8); Doris

Freitag of Harvard University on

general books and library ma-

terials (Wednesday, Dec. 6); Jose

Orraca of Winterthur on photo-

graphs (Friday, January 26); Gus-

tav Klimann of Gustav Klimann,

Inc., on oil paintings (Wednesday,

Feb. 28); and Martha Goodway of

the Smithsonian Institution on

For more information call

metals (Friday, April 6).

253-4444

Agriculture Official to Speak Here

For further information contact

dies (Dec. 15).

Peter Droege, 253-4416.

Wednesday, Nov. 8.

lems of conservation.

Future sessions will feature Tom

Topper Carew, former WGBH-

The series is part of the VLW's

7-403 (Emerson Room).

to the MIT community.

ment.

The talk will be a special presentation of the International Food and Nutrition Policy Seminar Series sponsored by MIT and the Harvard School of Public Health. The lecture is open to the public, free of charge.

### Sinsheimer Inaugurated at UCSC

Dr. Robert L. Sinsheimer, an MIT alumnus (SB biology 1941, PhD biophysics 1948) and until recently chairman of the Division of Biology at California Institute of Technology, has been inaugurated as the fourth president of the University of California at Santa Cruz. David S. Saxon, president of the

1944), performed the investiture at Dr. Sinsheimer's inauguration October 26. MIT Provost Walter A. Rosenblith represented MIT and, at an inauguration symposium on "Liberal Education for the 21st Century" October 27, delivered an address on liberal education in the age of science and technology.

Tech Talk, November 1, 1978, Page 7

University of California statewide system and himself an MIT alumnus (SB physics 1941, PhD physics

#### The following positions are on hold pending further decision R78-216

### Bruce Appointed Director Of Industrial Liaison Program

(Continued from page 1)

appointment of such a senior member of its faculty to this position underscores the importance the Institute places on the vital interchange of information between MIT and industry.

"In discharging his new responsibility in industrial liaison, Professor Bruce will continue to play a key part in the MIT Leadership Campaign to raise \$225 million in capital funds by April, 1980. Professor Bruce has already made significant contributions to the Leadership Campaign effort while serving as associate dean of the School of Engineering."

A primary goal in his new position, Professor Bruce said, will be the continued development of both the Industrial Liaison Program and the MIT Associates Program. In both these programs, he noted, there is the opportunity to continue the pattern of growth begun under Professor Goldblith's leadership and to increase, in quality and kind, the services these programs offer to their member companies.

"To accomplish this," Professor Bruce said, "we must continue to rely upon the Institute's faculty who already participate to an impressive extent—over 50 per cent of the faculty during the past academic year—in industrial liaison activities. Interaction of our faculty with the member companies is the key to the program's success and it is much appreciated by both the companies and the program staff."

The MIT Industrial Liaison Program—now international in scope—was organized in 1948 to give large companies access to the state-of-the-art in the fields of engineering, science, architecture, the humanities, labor relations, economics, finance and management. This is done in a number of ways, including the assigning of an industrial liaison officer to each company, faculty visits to companies, research briefings, seminars and symposia at MIT.

The MIT Associates Program was founded in 1961 as a result of MIT's Second Century Campaign and performs similar services for smaller companies, located largely in the Northeast.

As associate dean, Professor Bruce has been responsible for resource management and development within the School of Engineering. In this connection he has developed several computerbased systems useful as decisionmaking aids for both long-range planning and daily operation in academic institutions.

Portions of these systems he developed for the School are now used on an Institute-wide basis. In his last year as associate dean he carried the full responsibilities as dean following the resignation of Professor Alfred A.H. Keil from that post.

Last June, at Technology Day ceremonies, Professor Bruce was presented the Gordon Y. Billard Award for service to the MIT community. The citation read in part: "With seemingly unlimited energy, he has successfully combined research, teaching and administration with each contributing in a highly effective way to the others. With great skill and insight he has applied his knowledge of computational systems to the management of large and complex academic structures, generously sharing his time, his knowledge and his programs with others struggling less successfully to master this task." Professor Bruce, born in Livingston, Texas, in 1936, received BS degrees in electrical engineering and mathematics from Lamar State College of Technology, Beaumont, Texas, in 1958. He received the SM and ScD degrees in electrical engineering from MIT in 1960 and 1964.

year Professor Bruce was a Ford Foundation Postdoctoral Fellow in Engineering at MIT. That same year he was appointed an assistant professor of electrical engineering. He was promoted to associate professor in 1968 and the following year was named executive officer of the department. His appointment as a professor came in 1973.

He has consulted extensively for industry and government, including teaching seminars in digital signal processing on a nationwide basis in that field's infancy.

Professor Bruce's current research and professional interests include information management systems, developing an understanding and model of universities, and digital signal processing.

He is a member of the Institute of Electrical and Electronics Engineers, the American Society for Engineering Education, Sigma Xi, Tau Beta Pi and Eta Kappa Nu. He has served on numerous national committees and task forces including the Black Engineering **Colleges Development Committee** and the Task Force on Graduate Education of the National Research Council's Committee on Minorities in Engineering. He is currently serving on a committee studying programs and curricula in engineering education.

For the last two years, Professor Bruce, his wife, the former Eleanor MacLaren, and their three children have lived in Lexington, Mass. For several years before moving to Lexington, the family lived at Burton-Connor House where they were the Senior Faculty Family in Residence. Women's Forum A representative of the

Benefits Office will lead a discussion of MIT's benefits program at a meeting of the Women's Forum at 12noon, Monday, Nov. 6, in the Bush Room (10-150).

The Women's Forum meets periodically throughout the academic year. All meetings are held from noon to 1pm in the Bush Room.

#### Werner W. Burow

Funeral Mass was said at St. Suzanna's Church, West Roxbury, on October 24 for Werner W. Burow, an instrument maker in the chemistry department since 1962, who died following a long illness October 21. He was 54 years old.

Mr. Burow, who lived in Dedham, leaves his wife, Helen (Rettman) Burow, a son, William Burow, a daughter, Jeanne M. Burow, both of Dedham, and a grandson, William W. Burow.

#### Carl H. Schaub

Carl H. Schaub, a watchman in Physical Plant from 1951 until his retirement in 1961, died October 25 at the age of 77.

Mr. Schaub, who lived in Bedford, leaves his wife, Dorothy B. (Ford) Schaub; two daughters, Barbara A. Bentle of Littleton and Marilyn K. Weisentaner of Bedford; a son, Paul A. Schaub, also of Bedford; and eight grandchildren.

#### Frank J. Dewey

Frank J. Dewey, a janitor at the Physical Plant from 1943 until his retirement in 1955, died September 27 at the age of 89.

Mr. Dewey, who lived in Boston, leaves a niece, Elaine Dewey of Plattsburg, New York.

### **Report on Negotiations**

(The following report was prepared by the MIT Office of Labor Relations.)

At a meeting called by the Federal Mediator on October 30, the Research, Development and Technical Employees Union Committee agreed for the first time in six appearances before the Mediation Service to meet face to face with the Institute Committee. We, accordingly, submitted in writing a new and complete offer to the Union.

Another Mediation Session has been scheduled for Wednesday, November 1, to further discuss this offer. Copies of the complete offer are available in the Office of Labor Relations on Campus and at the Lincoln Laboratory Personnel Office for interested members of the community. Terms of this offer are summarized below:

TERM, three (3) years.

WAGE INCREASES. Increases of seven (7) per cent, effective on or about July 1 of 1978, 1979 and 1980. The increase will be computed on the basis of the average rates paid for each classification, or for each group of classifications presently having the same maximum rate, as explained in detail in the written offer age and sex of retiree and spouse. For example, a male employee retiring at age 65 who elects to continue his full pension after his death for his spouse aged 62 will receive a pension which is 16.2% higher under the new tables than under those presently in effect.

4. Late Retirement. Pensions applying to female employees who take late retirement (after age 65) will be increased to equal those presently applying to male employees retiring at the same age.

CHILDRENS' SCHOLARSHIPS AT MIT Employees' children who are accepted as full-time undergraduate students at MIT will be entitled to tuition remission as follows:

Employees hired prior to July 1, 1978: Full tuition per academic year for four years.

Employees hired on or after July 1, 1978: \$4,000 per academic year for four years.

SUPERSENIORITY Limits superseniority to principal officers and three Executive Board Members each from the Campus and Lincoln.

ACCRUAL OF VACATION AND SICK LEAVE. Changes and clarifies the basis on which vacation and sick leave are credited when employees are on leave of absence without pay, on extended illness leave or industrial accident leave. PAY FOR GRIEVANCE TIME. Stipulates the numbers of grievants and Union representatives who will be paid by the Institute for time lost at the various steps of the grievance procedure. TIME OFF FOR UNION BUSI-NESS. Establishes criteria to determine when Union representatives will and will not be paid by the Institute for time off for Union business; identifies the responsibilities and obligations of the Institute and its supervisory personnel, and of the Union and its representatives, with respect to such time off; prescribes the procedure to be followed in the event of a dispute about the matter. NOTE: This offer is necessarily subject to compliance with the President's wage and price guidelines as they may be interpreted and applied to the Institute.

### Pauling, Deutch to Speak At Anniversary Program

(Continued from page 1) ment of Energy; Dr. Edward R. Kane, president of E.I. duPont de Nemours and Company; and Dr. John Ross, Frederick G. Keyes Professor of Chemistry at MIT. The program is open to the public.

Dr. Deutch will speak at 10am and Dr. Kane at 11am, both in MIT's Kresge Auditorium. Dr. Ross will speak at 2pm and Dr. Pauling at 3pm in MIT's Compton Lecture Hall (Rm. 26-100).

Dr. Pauling will give the 1978 Karl Taylor Compton Lecture entitled "Arthur Amos Noyes and the Research Laboratory of Physical Chemistry." Dr. Ross will speak on the present and future of physical chemistry, while Dr. Deutch will describe the contributions of physical chemistry to national needs, particularly energy technologies. Dr. Kane will deliver a lecture entitled, "Restoring the Environment for Research and Development."

Dr. John S. Waugh, Arthur Amos Noyes Professor of Chemistry at MIT, will be chairman of the morning session. Dr. Robert A. Alberty, professor of chemistry and dean of the MIT School of Science, will be chairman of the afternoon session.

Dr. Noyes has been called the dean of American physical chemists.

"It is hard to overestimate the importance of the laboratory," chemist Linus Pauling has written in a biographical memoir of Dr. Noyes. "Many of the leading American physical chemists of the past 50 years received training and inspiration in this laboratory, where Dr. Noyes set the high standard for American physical chemistry that contributed to its rapid progress to a preeminent position in the world."

After receiving the SM in organic chemistry from MIT in 1887, Dr. Noyes went to Europe to study with Wilhelm Ostwald, who had just begun lecturing on the new field of physical chemistry. Dr. Noyes received a doctorate in physical chemistry in 1890, and then returned to MIT as a member of the chemistry faculty.

The Research Laboratory of Physical Chemistry was established with Dr. Noyes as director on September 20, 1903. The first PhD ever awarded by MIT was conferred in 1907 on a graduate student working in this laboratory.

Dr. Noyes remained director of the Research Laboratory of Physical Chemistry for 16 years, during which time he contributed half the money for the laboratory's support. His textbook on physical chemistry, developed at the laboratory, has been credited, according to Dr. Pauling, with "revolutionizing the teaching of physical chemistry in America."

Dr. Pauling, now president of Linus Pauling Institute of Science and Medicine, received his PhD in chemistry from Caltech in 1925 and taught there until 1964, teaching later at the University of California at San Diego and at Stanford University. It was while he was at Caltech that he received the Nobel Prize in Chemistry in 1954 and the Nobel Peace Prize in 1962. In his early years at Caltech, he was an associate of Dr. Noyes.

Dr. Deutch was head of the MIT Department of Chemistry in late 1977 when he was appointed DOE research director by President Carter. He received the SB degree in chemical engineering from MIT in 1961, the ScD degree from MIT in chemistry in 1965 and taught at Princeton until 1969 when he joined the MIT chemistry faculty. He became head of the department in 1976.

Dr. Kane received his PhD in physical chemistry from MIT in 1943, and later the same year joined duPont. He became a vice president in 1969 and president in 1973.

Dr. Ross is a former head of the MIT Department of Chemistry. He received the PhD in chemistry from MIT in 1951, performed research at MIT and Yale and taught at Brown University from 1953 to 1966 when he returned to MIT as head of the Department of Chemistry, the post he held until 1971 when he became Keyes Professor.

An exhibit from the MIT Historical Collections will be displayed. Further information is available from the chemistry headquarters, Rm. 18-399, x3-1801.

### Weiner Appointed To Advisory Board

Charles Weiner, professor of the history of science and technology and director of the Oral History Program at MIT, has been named to the newly formed WGBH Radio Humanities Advisory Board.

The board will assist in conducting a survey and assessment of available resources in the traditional humanities disciplines and in the new, interdisciplinary fields such as American studies, women's studies and black studies, to generate humanities program and production format ideas for development by WGBH-FM.

# Employment Q & A

Q: In light of the upcoming elections, is there any Institute policy regarding time off for voting?

A: Employees are expected to vote during non-working hours, as the polls in the Commonwealth of Massachusetts are open beyond the hours of most normal work schedules. However, an employee who is unable to vote during non-working hours may request, in advance, time off to vote up to a maximum of two hours, which may be granted on a leave without pay basis. Alternatively, the time may be made up at a mutually agreeable time at the discretion of the supervisor. Such make-up time may not incur overtime

During the 1964-65 academic

the WEILLOUI OILOI.

BLUE CROSS-BLUE SHIELD MASTER MEDICAL PLAN. The rate paid by employees will remain at 13.7% of the total cost, estimated in the usual manner for each year of the Agreement. Improved in-hospital maternity coverage, having a maximum of \$1,000 as compared with the present \$400, is available at the election of the Union at an additional cost to family members of \$1.18 per month.

PENSION (RPE) IMPROVE-MENTS 1. Early Retirement

- a. Employees with 20 years of service may retire at age 62 or thereafter with no reduction in the earned benefit.
- b. Date of eligibility for early retirement changed from July 1 following birthday to first of month following birthday.

2. Minimum Pension. Increased from \$8.00 to \$8.50 per month per year of service.

3. Contingent Annuities. Improvements varying according to capcilisto.

Q: When I began work several years ago, there was no orientation program for biweekly employees. Would I find attending an orientation program useful now? What topics are covered?
A: The Orientation Program for Biweekly Employees covers three major areas: 1) insured benefits; 2) personnel policies such as vacation, sick leave, salary reviews, probationary period, etc.; and 3) activities, publications and resources available to all employees. Any employees who would like to attend an Orientation Program are welcome. Programs are normally held on Friday mornings, from 9:15 to 12:00, in E18-320. Please call Donna Roux, x4076, at the Office of Personnel Development, for further information.

Q: What is MIT's stance with respect to homosexuals in this community?

A: MIT's practice has been consistent with respect to students, faculty and employees. Sexual orientation is not taken into account in admissions, employment, promotion, compensation or termination. Anyone who feels discriminated against for this reason should feel free to use the grievance procedure as described in *Policies and Procedures*, You and MIT, and other Institute publications.

Questions and answers for this column will be printed periodically, as space allows, without reference to the person who submitted the question. Those not selected for printing will be answered individually when the name and room number of the person is enclosed. Questions of general interest may be submitted in writing to Susan Lester, Communications Officer in the Office of Personnel Services, E19-297.

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