Massachusetts Institute of Technology

April 2, 1986
Volume 30, Number 26

## Faculty meeting

A special meeting of the faculty will be held Thursday, April 3, at 4pm in Compton Hall (Rm 26-100) to consider the following resolution proposed by Professor Kalonji and seconded at the regular March meeting of the faculty.
"We, the MIT faculty, regret the arrest of the 8 students on the Kresge Oval on
Friday, March 14. We urge the MIT administration to take all feasible steps to persuade the Commonwealth of Massachusetts to terminate the prosecution of ing criminal records. We also urge the ing criminal records. We also urge the for the court costs and legal expenses for the court costs and legal expenses Please note the unusual for the meeting.

## Awards deadline

Friday, April 4, is the deadline for filing nominations for Institute-wide awards. Descriptions of the various awards were published in this space March 5 and are available from the
tee, $\mathrm{Rm} 7-143$, $\times 3-3561$.

## Arts for all

The Museum of Fine Arts is inviting students and everybody else at MIT to a party, next Wednesday night (April 9), 7 erable MFA is host to 15 colleges and erable MFA is host to 15 colleges and sion is by valid current ID. Some of MIT's sion is by valid current ID. Some of Miris
student music groups will help provide student music groups will help provide
entertainment, including some of our pianists who will alternate performing on a piano set up in the Museum's beautiful baroque rotunda.

## Audit slot open

 Interested members of the MIT Em-ployees Federal Credit Union are invited ployees Federal Credit Union are invited to apply to fill a vacancy on the Supervisory Audit Committee. This five member Chairman and is responsible for the audits of the Credit Unions books. A background in or knowledge of accounting is ground in
Please send applications in writing to the Credit Union Office, attention of Leo Green, manager. Room E19-437 no later than April 15.

## Women in poverty

Economics Professor Teresa Amott of Wellesley College will address "Women A Poverty: Myth and Reality" Monday, April 7, at noon in the Emma Rogers Room (10-340). Professor Amott is a ject for Women.

## New date

The brown-bag lunch session on Conference Planning at MIT has been rescheduled on Thursday, April 24, in the Marlar Lounge ( $\mathrm{Rm} 37-252$ ). The session is part of the Careers at MIT series. peakers for Conference Planning are. Aesearch Technical Staff at the Plasma Fusion Center. -Barbara Dullea, director of operathe Center for Advanced Engineering Study.
-Gayle Fitzgerald, coordinator of conference services, Special Events Office of Campus Information Services.

- Joseph Martori, associate secretary, Alumni Association.

The MIT Medical Department is circulating a questionnaire to randomly chosen nembers of the community. The survey research project. The student and the Medical Department will appreciate prompt return of the completed surveys.


Officers Doyle and Richards plan the route of their cross-campus campaign.
Photo Cy Caig Campbell

## Crime prevention visits

The Campus Police this week are launch ing a door-to-door campaign to alert the ing a door-to-door campaign to croblems on the campus.
Officers Gerald Doyle and Raymond Roberts will be visiting individual offices and laboratories to distribute crime prevention pamphlets and discuss recent crimes that have occurred in each specific area. The officers will also describe Campus Police services available, such as Opera tion Identification, emergency telephone information and the night escort service.

Last year MIT lost $\$ 83,381.46$ in property thefts, including $\$ 34,506$ in computers and computer components and $\$ 14,213.68$ in cash. In their visits Officers Doyle and Roberts will emphasize protection of co
puter equipment and petty cash funds.

Personal losses to theft during 1985 amounted to more than $\$ 13,000$ in offices and labs and more than $\$ 21,000$ in residence halls. The Campus Police recovered $\$ 25,566$ in property in all three categories last year.

## 20 students win NSF fellowships

Twenty MIT undergraduates are among 505 outstanding college students who have been awarded fellowships by the National Science Foundation (NSF) for graduate study
in the natural and social sciences, mathematics and engineering
Seventy-one fellowship recipients have noted their intention to do graduate work at noted their intention to do graduate work at group in this category. The leader, Stanford University, is designated for graduate work by 74 students. Last year MIT was first, while Stanford came in second.
In addition, four minority fellows are due to begin graduate work here in the fall through the NSF's Minority Graduate Fellowship program.
The MIT students who received NSF Graduate Fellowships make up the third largest group from any single university. Harvard is first with 37, followed by Princeton University with 23.

The NSF fellowships provide a stipend of $\$ 11,100$ per year for full-time graduate study. An annual cost-of-education allowance of $\$ 5,250$ is also provided by NSF in lieu of all tuition fees to the US institution selected by for US institutions is a reduction from the or US institutions is a reduction from the previously announced level of $\$ 6,000$ as a Gramm-Rudman-Hollings Act.

Each fellowship is awarded for three years of graduate study. The fellowships may be used over a five-year period to permit students to incorporate teaching or research assistantships into their education during periods in
which the

## tipends.

Nearly 4,900 students submitted applica tions in the nationwide competition for NSF Graduate Fellowships, which are awarded on the basis of merit.
In total, the fellows come from 45 states and the District of Columbia. Of the 505 award offers, 173 were made to women. By scientific discipline, the distribution of awards was as follows: 107 in engineering; 18 in mathematics; 9 in applications of mathematics; 33 in computer science; 40 in physics and astronomy; 41 in chemistry; 26 in earth sciences; 134 in biological sciences, including biochemistry; and 97 in the social sciences and psychology.
In addition to the NSF Graduate Fellowship awards offered this year, 1,142 individuals who received fellowship awards in previous years are eligible to continue their study
during the 1986-87 fellowship year during the 1986-87 fellowship year.

## Tech Show to open

Tech Show 1986, the annual student-written, student-directed and student-produced musical play, will be presented during the next two weekends in the Sala de Puerto Rico of the Student Center.
This year's version, written and scored by Julio Friedman ' 88 , involves a group of students who go camping for a couple of days and find danger and intrigue in the forest. Described as a light-hearted comedy, it will play April 4-5 and April 11-12, at 8pm. Tickets: $\$ 6$ general, \$5 MIT staff, \$4 senior citizens and outside students, $\$ 3$ MIT students. Information: x3-6294.

## Setting the facts straight

When we listed some examples of the kind of facts about MIT the News Office is seeking for its quasquicentennial project a couple of issues ago, we missed on a couple of them. Fortunately, people in the com munity have set us straight, to wit:
-MIT alumnus Daniel Chester French was not the sculptor of the Lexington Minute Man. He sculpted the Concord Minute Man, and also, by the way, the statue of John Harvard that stands in Harvard Yard. Sculptor of the Lexington Minute Man was Henry Hudson Kitson.
-Baker House is not Alvar Aalto's only building in this country. The noted Fin-
nish architect-whose work is now on exhibit in Hayden Gallery-also designed Mount Angel Seminary in St. Benedict, Moun
Ore.
We
We also asked for members of the community to send us more facts so that we can build a collection of 125 interesting nuggets of information about MIT to send to selected communicators across the nation. Alas, so far we haven't received very many but we are checking the ones we have received.
Please
Please send us more facts. Mail them, with your name and extension, please, to MIT Facts, Rm 5-111.

## NAE elects <br> 5 from faculty 9 other alumni

Five members of the MIT faculty-four of them alumni-have been elected to membership in the National Academy of Engineering NAE) They are:
Professor H. Kent Bowen, Department of Electrical Engineering and Computer Science and Department of Materials Science and Engineering. He is Ford Professor of Engineering and director of the Manufacturing and Processing Systems Program.
Professor Chiang C. Mei, Department of Civil Engineering.
Professor Joel Moses, head of the Department of Electrical Engineering and Computer Science.
Professor Kenneth N. Stevens, Department of Electrical Engineering and Computer Science, the Clarence LaBel Professor.
Professor Daniel I.C. Wang, Department of Chemical Engineering and Department of
Applied Biological Sciences, director, BioApplied Biological
technology Center.
Professors Bowen (1971), Moses (1967) Professors Bowen (1971), Moses (1967) Stevens (1952) and Wang (1959) are MIT
alumni. The elections bring to 83 faculty and staff who are members of the NAE. The Academy currently has 1,289 The follo
Academy:
Professor Bowen: For leadership and in novative developments in the field of advanced ceramics.
Professor Mei: For application of the theor ies of wave hydrodynamics and elasticity to problems in coastal and ocean engineering. Professor Moses: For pioneering accomp tions by computer and for outstanding lead ership in engineering education.
Professor Stevens: For acclaimed advances in deciphering the mysteries of speech recog nition and production, and for leadership of a distinguished speech center.

Professor Wang: For basic contributions to the field of biotechnology resulting in im proved control of bioprocesses and recovery of biomaterials

Nine other MIT alumni were elected to the NAE. They are David Atlas (1951), senio research associate, University of Maryland (continued on page 8)


Professor Franco Modigliani, 1985 Nobel Laureate in economics, gives the first of two Killian Award lectures today (April 2) at 4:30pm in Kresge Auditorium. The second will be given Wednesday, Apri9, at 4:30pmin Huntington wall (Rm10-25).Bothlecure will explore aspects of the "ife Cycle Hypothes the Prize. They are open to the MIT community.

## INSTITUTE NOTICES



## Announcements

Examination Schedules - All students should obtain ex-
amination schedule at Information Ctr, $\mathrm{Rm} 7-121$. Exams not
 1986.

Medical School Applicants '87 - Meeting on the Application
Process, Thurs, April 10, 10am, Rm 4.370. Details will be Advising Office. Info: Ann, $\mathbf{x} 3-4737$ or come by $\mathrm{Rm} 12 \cdot 170$. John Asinari Award for Undergraduate Research in the
Life Sciences - For undergraduates in Course VIII VIIA and VII-B. Dead
$\operatorname{Rm} 56-524$.
International Careers Forum - UN Association of Greater
Boston/Office of International Student Affairs Office of Career Boston Office of International Student Affairs Office of Career
Services Forum, April 5, 8:30am-5pm, Rm $26-100$. Explore
careers in the international finance business, law , health, te careers in the international finance, business, law, health, etc
Register by picking up registration form at office of Career Ser
vices, $\operatorname{Rm} 12.170$. Dance Workshop Open Meeting** - Come meet the officers
and discuss upoming activities concert, elections, bake sale,
etce), Wed, April $2,5 \mathrm{pm}$, DuFont Staff Rm (across from TClub and discuss upcoming activities (concert, elections, bake sale
etc), Wed, April 2, 5pm, DuFont Staff Rm (across from TClub
Lounge). Information Services Computing Courses and Seminars**

- FEE TRAINING COURSES: Introduction to the IBM PC April 14, 9.5pm, American Institute of Banking, Charles River
Plaza, Boston - Register by 12noon, April 7; Intermediate
DOS: the IBM PC Disk Operating System, Arril 11, 9 .1p DOS: the 1BM PC Disk Operating System, April 15, 9.1 pm Register by 12noon, April 7; Introduction to Lotus 1.23, Apri
22.23. 9.5pm, American Institute of Banking, Charles River
Plaza, Boston - Register by 12noon, April 14; Advanced Iotus Plaza, Boston - Register by 12noon, Appil 14; Advanced Lotua
1-2.3, May 8.-9, 9.5pm, American IInstitute of Banking, Charles
River Plaza, Boston - Register by 12non, April 28; Introduc tion to Symphony, sDAS01May 1-2, 95pm, American In-
stitute of Banking, Charles River Plaza, Boston - Register by 12 noon, April 23 ; Introduction to Word Processing on
DECmate II, April $15,17,22,29$ (first series of 4 sessions) and by 12 noon, April 7 for firrst series, and 12 noon, April 21 for for
second series; Advanced Word Processing on DECmate II. April 15 and $17,14 \mathrm{pm}, \mathrm{Rm} 11401$ - Register by 12 2noon, April
7 Introduction to Mutiplan, April 22 and $29,14 \mathrm{pm}, \mathrm{Rm}$
11.401 - Register by 12 noon, April 14. Payment required at $11-401$ - Register by 12 noon, April 14. Payment required at
time of fegistration, Rm 11-35; MII ID required to avoid pay-
ing maximum fee. Some courses have prerequisites; questions Advisory Committee on Shareholder Responsibility
(ACSR) Meeting ${ }^{\circ}$-A Arril 2, , pm, Rm 10-300, to discluss a number of proxy questions of several firms in which the In-
stitute is a shareholder. For further information, contact the
Committee secretary, Walter Milne, Rm 5 5-208, x3-5278.
MIToc White Water Canoeing Class*** April 12.13,
Wellesley/Cohasset; April 20, Saco; May 34, Farmington (limit Wellesley Cohasset, April 20, Scoo; May 3.4, Farmington (ilimit
6; June 14, Maine You must know how toswim Approx cost,
\$35 (includes transportation). Contact Bruce McKenzie,
396.2733. Serials in the MIT Libraries, 27th Ed - Microfiche listing
published three times a year, of approximately 22,000 titles includes information on holdings, dates, call numbers, and title
changes. The 27th edition contains over 100 new titles and is
published in two sections: 1) alphabetical list (8 fiche); 2 published in two sections: 1 ) alphabetical list ( $(8$ fiche); ; 2 )
keyword index ( 8 fiche). Prepayment required Price: $\$ 20$; 5 MIT
staff \& students Send check payable to MIT to Office of the Director, Rm 14S-216.

Free Museum of Science Admission for MIT Students -
With MIT student D , provided by MIT chapter of Tau Beta Pi With MIT student ID, provided by MIT chapter of Tau Beta Pi
the Engineering National Honor Fraternity. Also, reduced ad
mission to special exhibits. MIT Hunger Drive Food Drive - We need non-perishable,
unopened foods for Boston's less fortunate O Ogoong ocllection all unopened foods for Boston's less fortunate Ongoing collection al
day and night at drop-off boxes in Lobby 7 , Walker, McGregor
desk.
Arts Hotline - Recorded information on all arts events at MIT
may be obtained by dialing x 3 -ARTS. Material is updated every may be obtained by
Nightline** - a student run hotline open every evening of the
term, $7 \mathrm{pm}-7 \mathrm{am}$. If you need information about anything or you . Were ho Faculty Members - Technology Review would like to hear
about books being published by MIT faculty members. Please
notify us, as far in advance as possible, of your upcoming book. notrhnology Review, $\operatorname{Rm} 10-140, \times 3-8250$.
Ter

## Club Notes

WMBR** - is looking for students interested in radio and
technical work. Contact Eli Polonsky, $\times 3$ 34000. Leave name and
phone number.
MIT Student Cable Programming Group*** - Looking for
students interested in programming the MIT Cable Television students interested in programming the MIT
channels. Contact Randy Winchester, x 3 -7431
Tbol \& Die - MrTs humor magazine** - meets every Weds,
$7 \mathrm{pm}, \mathrm{Rm} 50-309$ (Walker). Everyone welcome
Student Center Committee (SCCC** - Has fun every Sunday,
7 pm , Student Ctr Center Lounge Do you? Call $\times 3-3916$ anytime ${ }^{7 \mathrm{pm}, \text { Student }}$ for more infa.

Animal Rights Forum
month, $5 \mathrm{pm}, \mathrm{Rm} 8.105$.
MIT Student Duplicate Bridge Club** - Bridge games every
Sat, 7 pm ; every Thur, Sun \& Mon, $6: 30 \mathrm{pm}, \mathbf{8} 75$ entry fee, Rm Sat, 7pm; every Thur, Sun \& Mon, 6:30pm, $\mathbf{8 . 7 5}$ entry fee, Rm
407, Student Center. Lessons free w/entry at $6: 15 \mathrm{pm}$ from
Bridge Senior Masters. No partners necessary, all welcome.
 dent Center Rm 349. ACBL masterpoints awarded; come with
naments monthly. Handicap game, 3rd Tues every month. Info
call Gary Schwartz, x8-2459 Draper, or Mark Dulcey, 272.8428. MIT Outing Club* - Camping, cyeling, climbing, canoeing,
cabins: meets M/Th, $5-6 \mathrm{pm}$, Student Center Rm 461 . Also, see cabins: meets $\mathrm{M} / \mathrm{Th}$, $5-6 \mathrm{pm}$, , MIT Table Tennis Club** - Meets Fri, 8-10pm; Sat, 6pm, T
Club Lounge. Info: Hoang Do, $\mathbf{x} 3-2843$. MIT Go Club** - Meets M/Th, 5.7 pm , NE43 3rd fir Playroom.
Play the ancient oriental game of skill. Knock to get in if the door is locked. MIT Hobby Shopo**- Complete supervised facilities for wood-
working and metalworking, Re W31-.031, M-F, 10am 6 pm; Wed,
1Oam-9pm. Fees: $\$ 15$ /term students; $\$ 25 /$ term community. Infa. Oam-9pm. Fees: $\$ 15$ term students; $\$ 22 /$ term community. Info,
$\times 34343$. MIT Yoga Club* - Rejuvenate your mind and body with Kun-
dalini Yoga, the science of awareness, MTW, $5: 15 \mathrm{pm}$, Burton dalini Yoga, the science of awareness, MTTW, 5:15pm, Burton
Dining Hall. Beginners welcome. Th Seminar Class, with Dr.
Gurucharan Singh Khalsa, $5 \mathrm{pm}, \mathrm{Rm} 24.624$. Info: Fred Martin Gurucharan Singh hahasa, $5 \mathrm{pm}, \mathrm{Rm} 24$.
MIT Aikido Club** - meets Mon-Fri, 5:30pm, DuFpnt exercise room. Aikido is a non-competitive Japanese martial discipline. MIT Wu Tang Club* - teaches northern Chinese kung fu,
Tues \& Thuss, pma, Burton Dining Hall: Sat, Oam, Athetic
Center. Beginners welcome. For info call Meilin Wong, $x 5-8713$ MIT Tae Kwon Do Club** - The Kwon Do is a Korean martial art. Meets Sun, 4pm, TClub Lounge; MW, 6pm, Burton MIT Wonhwa-do Club* - A synthesis of karate-do-type and
judo-type martial arts. Meets MWF, $78: 30$ pm, Dufont Exercise Judotype martial arts. Meets MWF, 78:30pm, Dufont Exercise
Rm. Beginners welome. Info: Victor Lin, $x 5-8264$ dorm or Karl

Scuba Club** - The club sponsors dives throughout the term. Call scuba locker ( $\mathbf{x} 3$-1551) for info and equipment rentals. For
more info contact Dave Summa, $\mathrm{x} 3-6464$ or Mike Fox 4924407 . MIT Guild of Bell Ringers* - meets Mondays, $6: 30-9 \mathrm{pm}$, 2nd loor Lobby 7, for change ringing on handbells, We also ring, the
lower bells at Old North Church. Beginners are welcome. Contact Steve Costan Norte $\times 3-3664$ for more information.

## Religious Activities

The Chapel is open for private meditation $7 \mathrm{am}-11 \mathrm{pm}$ daily. Christian Science Organization at MIT** - Weekly
Testimony Meeting, Thurs, $5: 45 \mathrm{pm}, \operatorname{Rm} 4-145$. Tech Catholic Community* - Sun Mass: $9 \mathrm{am}, 12$ noon, \&
$\mathrm{Spm} ; \mathrm{TTh}, 5: 05 \mathrm{pm}$; Fri, 12:05pm. All services in MIT Chapel. Morning Pram, Ashdown Hulsizer Rm \& Tues, 8pm. Chaplainy Library. Chaplaincy Office: x3-2981
MIT Hillel ${ }^{\bullet}$ - Fri, April 4: ConservativeReform Services,
5:30pm, Hillel (W2a); Orthodox Services, 5:45pm, call x 3 3-2982
 50.007. Paid dinner reservations due April 3; 86.50 in validine
or cash at Hillel. Special Zionist Shabbaton at Brandeis,
Stilel April 4-5; information and applications at Hillel. Passover
Seder Reservations due by April 11. Sign up and pay at Hillel
 Lutheran Ministry and Episcopal Ministry*** Weekly ser-
vice of Holy Communion: Wed. 5:10pm, MIT Chapel. Supper following at
$\times 3-2325 / 2983$.
Baptist Chapel** - Baptist Student Fellowship Services, Suns,
7pm, MIT Chapel.
MIT Islamic Society** - Daily prayers, Ashdown House (base-
ment), 5 times a day. Call $\times 5-9749$ dorm, for schedule. Friday ment), 5 times a day. Cell $\times 5.9749$ dorm, for schedule. Friday
prayer, Ashdown House $12: 30 \cdot 1 \mathrm{pm}$, Khutba starts at $12: 30 \mathrm{pm}$, Meditation and Discourse on the Bhagavad Gita** - Swami
Sarvagatananda, MIT Vedanta Society/Ramakrishna Sarvagatananda, MIT Vedanta Society/Ramakrishna
Vedanta Society of Boston, meets Fridays through May 23, edapta Society of
5:15pm, MIT Chapel.
United Christian Fellowship*** MIT Chapter of Inter-Varsity and sharing from God's word, Fri, 7pm, Student Ctr Mezzanine or Ctr Lounge; small group meetings for Bible Study and sup-
port, weekly at different times. For more info, call Chiu-Oan, $\times 5.6123$ dorm.

MIT Graduate Christian Fellowship* - Come meet other Christian faculty, staff and grad students: weekly lunch gather-
ings, Weds, $11: 55-12: 55$, Student Ctr Twenty Chimneys; info: Ings, Weds, 11.58-12.A fellowship group also meets for a time of prayer and sharing for faculty, staff and graduate students in
Sloan School, Thurs, 12noon, Rm E51-024. Contact Andy
Hamlin, 226.8472 .

MIT Seekers Christian Fellowship ${ }^{*}$ - Park Street Church Seekers Teaching and Worship Time, Sundays, 9:15am, enjoy our ight in front of the Park Street T stop. MIT Seekers leave from Might in front of the Park Street $T$ stop
McCormick at $8: 30 \mathrm{~mm}$. Come join us.
Campus Crusade for Christ*** Family time, 7:15pm, Fri, eves, Rm 37.252 . Fellowship, scripture teaching, prayer, singing, dent Center. Call $\times 5.9153$ dorm.
Lincoln Laboratory Noon Bible Studies* - Tues \& Thurs,
Kiln Brook III, Rm 239 . Annie Lescard, x2899 Linc Morning Bible Studies - Fri, 7:30-8:30am, L-217. Ed Bayliss,

Noon Bible Study** - Every Wed, Rm E18-465, bring lunch.
Ralph Burgess, x 3 .2422. (Since 1965). Ralph Burgess, $\mathbf{x} 3$-2422. (Since 1965).
Edgar Cayce Study Group** - Tuesdays, 6:30-9pm, Edgar group discussion \& meditation. For info: Douglas McCarroll,
497-0819 12.9pm or Scott Greenwald, x 3 .7423.

## Graduate Studies

Unless otherwise indicated, contact Dean Jeanne Richard at
he Graduate School Office, $\operatorname{Rm} 3-136, x 3-4869$ for further
Foreign Languages and Literatures Section of the Ecole Normale Superieure in Paris, France, 1988-87. MIT Eudent selected will be provided, free of charge, with a private Ecole's libraries, classes, and seminars. As a student at the Ecole, he/she is entitiled to register at any of the institutes of
higher learning affliated with the Eoole, to work under the supervision of some of Paris' most distinguished professors.
Graduate students and graduating seniors in the areas of modern history, economics, urban geography, sociology, ar-
haeology, literary and cultural studies, philosophy, and inguistics are invited to apply. The candidate must be compe-
ent in the French language. Application deadline: April 11. Apent in the French language. Application deadline: April 11. Ap-
plication forms available in the Foreign Languages and
Literatures Office, Rm 14N-207. Information:

## International Opportunities

## The following is a list of opportunities available to foreign na tionals or students desiring work abroad For more information

 on these, please see the International Jobs notebook in the OfficeAdvance
Then tec
Thd
and
Compu
comp
who wa
Engish Computer
who wants
English.
Intergovernmental Committee for Migration has sent us their
updated list of Jobs in Africa and Jobs in Latin America. These bs are meant for graduates who would like to return to their Proctor and Gamble Commercial Company in Puerto Rico seeks naduates who are residents of Puerto Rico and and accounting, distribution and management systems, and personnel

The John Swire and Sons (H.K.) Ltd in Hong Kong seeks Swire Group operates a Graduate Management Trainee Scheme Swire Group operates a Graduave Management Ma. The program
as part of its management development program
is aimed at students who would like to pursue a career in comis aimed at students
merce or industry.

Texas Instruments in Japan has immediate openings for Japanese students studying in this country or students who can
obtain working visas in Japan. The opportunities are in the

The Union Bank of Switzerland - Singapore branch offers ingaporeans or Malaysians the opportunity . work in the ield
of foreign exchange and securities trading They sek students
in financial disciplines, such as finance and economics who have ood quantitative skills.

The University of Toronto/Toronto General Hopital has a
research position available in orthopaedic biomechanics. Candidate should
in this field.

## Internships

The following is the list of internships received this week. For
more information please see the Internship Information notebook in the Offce of Career Services, $R m$ 12.170.
NOTE: The Office of Career Services has added a new directory
to their Career Library: Getting Work Experience the College their Career Library: Getting Work Experience, the College
Students ' Directory of Summer Intershhip Progus that Leed to
Creeras It can be found in the Reference section of the Career Careers It can b.
Services Office.
Volunteer internships The American Federation of State,
County \& Municipal Employees (AFL.CO) in New York political action department for summer); Common Cause in
Washington, DC (summer, fall \& spring internships); the Na-
 poration in Manchester, NH (various internships apsisting low
and moderate income families in N.E.), the Project for Americansraeli Research, Inc in Boston (present \& summer internships); WMCA-AM in New York (full.time - spring, summer \& fall in-
ernships) and WXKS.FM in Medford, MA (summer \& fall ternships) an
internships).

## Internships Offering a Stipend

American Federation of State, County, \& Municipal Employees, Dept. This internship is for District Council 37 which is in New York City.
Brandeis University, Dept of Chemistry has a position available
for the summer for a biochemistry, biology or chemistry major
The Brockton Art Museum in Brockton, MA needs a student to The Brockton Art Museum in Brocklon, MA needs a student
undertake research to develop a file of data relevant to their
founder, Myron L. Fuller (MTT '96) who was an internationally founder, Myron L. F.
known hydrologist.

Castle \& Cook, Inc has announced six summer internship posi-
tions available in their Dole Hawaii division. These internships tions avaiable in their Dole Hawaii division. These internships
are aimed at students pursuing degrees in mechanical, chemical residents of Hawaii
The Citizen Action Resource Center in West Hartford, CT, a na tional coalition of 25 organizations that work on community or-
anizing, coalition building and lobbying efforts, has a new in ganizing, coalition building and lobbying efforts, has a new in-
lernship/sholarship program available. Jobs are available in nany different states.

Executive Office of Communities and Development is accepting
resumes through April 15 for their 1986 Summer Internship resumes through April 15 for their 1986 Summer Internship
Program which offers students opportunities in a variety of
areal

Heublein Inc. in Farmington, Conn has several intern positions
wailable for graduate students in their Research and Development operation which is located in Hartford.
The Mel King for Congress campaign seeks student interns and
volunters to work in the race to fill Tip O'Neills seat in Congress. There are a variety of openings and short term financial

The Metropolitan Life Insurance Company in New York is accepting resumes for their Electronic Installations Technical
Summer Intern Program. The Program is designed for students Summer Intern Program the Program is designed for students
finishing their freshman year who have decided to major in com-

Multiflow Computer, Inc in Brandford, Conn is offering a summer internship program to upper division undergraduate
students with a concentration in electrical engineering or comstudents with a
puter science.
Norton Company has again announced their Business Orienta
tion Program which allows students tion Program which allows students to work for the summer and
undertake a special project under the guidance of a manager.

## Student Jobs

There are more job
Office $R m$ 5-119.
Summer Position. Bell Communications Research is looking for an electrical engineering student completing the junior year, or
senior who is conting ing on to graduate school. Applicable arenior who is continuing on to graduate school. Applicable
areas of interest are analog and/or digital circuit design, to establish criteria for and perform the analysis of digital transmission systems used to serve telephone company
customers. This summer position will provide the student with customers. This summer position will provide the student with a learning experience in this dynamic ares,
tions. Contact: Frank Tuhy (201) 829-4967.
Person needed to develop a heat balanoe program using BASIC.
Chemical engineering background needed; thermodynamics expertise a must. Wage: $\$ 7 \mathrm{hr}$. Contact: Ivan Klumpar, $825-6500$. Legally blind person needs a driver two nights/wk (will increase
to three nights/wk in May) to transport her to Concord from to three nights/wk in May) to transport her to Concord from
Beacon Hill. Car will be provided. Student can study while I
carry out my businese. Wage: $85.50 / \mathrm{hr}$. Contact Virginia Carroll, carry out my business. Wage: 85.50 hr . Contact Virginia Carroll,
742.5151 (8.5 weekdays). Wanted: student architect to draw plans for Western in-
terior/Japanese exterior home, Stucco siding, tile roof; must be able to access Japanese building materials for authentic
Japanese look. Contact: Leland, $356-4279$.

## UROP

MIT and Wellesley undergraduates are invited to join with faculty members in pursuit of research projects of mutual fascina
tion. Undergraduates are also urged to check the Undergraduate Research Opportuanities Program's bulletin boards located in the
Roper
supervisors wishing to have projects listed should send project
descriptions to the UROP Office Questions? Contact us $x 3.5049$ Rm 20B-141. vaciear Engineering UROP Awards, Several awards are
ven to encourage research with faculy in the Nuclear Engineer given to encourage research with faculty in the Nuclear Eng
ing Dept Freshmare are encouraged to apple Contact
Ronald Ballinger, $x 3-51110, R m 24-215$ for more details

Electrical Engineering Project. Through a special grant from
National Science Foundation Program which provides support to wotionan Sciennee Foundation Program which provides support high voltage stress materials, Electrical engineering students

Biophysical Laboratory Project. UROFer to participate in site-directed mutagenensis of the Fe-protein involved in nitrogenxation. The work will consist of preparing the mutants, seisolating the mutated protein, and characterizing it with haphysical methods. Ten hours/wk for pay, starts immediately. Faculty supervisor:
Experiments in Composite Materials Manufacturing instron machine, operating automatic tape lay up simulator, etc. Applicant should understand basi-.-programming language, simeniors with 2.86 shop experience are preferred. Faculty super

Cable Television Schedule
MIT Cable Television serves the MIT campus. For co
nection and programming information, call $\times 3-7431$.

## Wednesday, April 2

$9.10: 30 \mathrm{am}-12.524$ High Frequency Seismology.
$2.3: 30 \mathrm{pm}-13.862$ Ocean and Seabed Acoustics II

## Channel 10:

1am-12noon - Live coverage of the MIT Optics and Quantum
Thursday, April 3
Channel 8:
48.

Channel 9:
9.10:30am -
Friday, April 4
.02 Help Session $\%$. Program will repeat until $4 \mathrm{pm}, 4 / 8$.
Channel 9:
10:30am -12 noon - 12.806 Instability and Turbulence
Saturday, April 5
Channel 8:
Channel 8:
8.02 Help Session 88 . Program will repeat until $4 \mathrm{pm}, 4 / 8$.
Sunday, April 6
Channel 8:
02 Help Session *8. Program will repeat until $4 \mathrm{pm}, 4 / 8$.
Monday, April 7
02 Help Session 48. Program will repeat until $4 \mathrm{pm}, 4 / 8$.
Channel 11:
2.3:30pm -13.862 Ocean and Seabed Acoustics II. Live from
WHOI.
Tuesday, April 8
Channel 8:
Channel 8:
8.02 Help Session /8. Program will repeat until 4 pm.
4:30.6pm - Live Coverage of the MIT Biology Colloquiu
Channel 10:
$3-5: 30 \mathrm{pm}$ - Live Coverage of the MIT VLSI Seminar.
Channel 11:
10:30am-12non - 12.806 Instability and Turbulence in
Geophysical Systems. Live from WHOI.
Wednesday, April 9
Channel 8:
$: 30-6 \mathrm{pm}$ - Live coverage of Prof Franco Modigliani's Killian

Channel 9:
9.10:30am - 12.524 High Frequency Seismology.
$2 \cdot 3: 30 \mathrm{pm}-13.862$ Ocean and Seabed Acoustics II.
Channel 10:
1lam-12noon-
lam-12noon - Live coverage of the MIT Optics and Quantum
Thursday, April 10

| Channel 8: |
| :--- |
| pm - 8.02 Help Session 19. Program will repeat until 4 pm , |
| 15 . |

Channel 9:
9-10:30am -
Channel 11:
10:30am-12noon
igh Frequency Seismology.
12.762 Experimental Physical Oceanography

Friday, April 11
Channel 8:
8.02 Help Session 19 . Program will repeat until $4 \mathrm{pm}, 4 / 15$

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

Sunday, April 13
Channel 8:
$6 \mathrm{pm}-8.02$ Help Session 19. Program will repeat until 4pm,
$4 / 15$.

| TECH TALK <br> April 2, 1986 <br> Volume 30 Number 26 <br> Tech Talk is published 35 times a year by the News Office, Massachusetts Institute of Technology. Associate Director: Robert C. Di Iorio; Assistant Directors: China Altman, Charles H. Ball, Joanne Miller, Tech Talk editor, and Calvin D. Campbell, photojournalist; Editorial Assistant: Sharon Davis; Reporter: Lynn Heinemann (Institute Calendar, Classified Ads, Institute Notices). <br> Address news and editorial comment to MIT News Office, Room 5-111, MIT, Cambridge, MA02139. Telephone (617) 253-2701. <br> Mail subscriptions are $\$ 18$ per year by first class mail. Checks should be made payable to MIT and mailed to Business Manager, Room 5-113, MIT, Cambridge, MA02139. |
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## de Monchaux

 to head panelBoston Mayor Raymond Flynn has turned School of Architecture and Planning to play a School of Architecture and Planning to play a opment of Boston.
Mayor Flynn has asked Professor de Monchaux to serve as the first chairman of the The dean has announced he will accept the position once the 13 -member commission has been formally approved by the Boston Redevlopment Authority board and the Boston Zon-
ng Commission.
The commission, if approved, will make recommendations to the mayor and BRA on
the design of major development projects and the design of major development projects and
decide whether project designs need further decide whether project designs need further
review.
Thecity's architectural community has been The city's architectural community has been
pushing for a review commission for several pushing for a review commission
years.
BRA Director Stephen Coyle and others BRA Director Stephen Coyle and others
were enthusiastic about the appointment of Dean de Monchaux, whose experience before he came to Mrin involvement in urban and regional planning, urbande
BRA director Coyle told The Boston Globe that a commission of this kind succeeds with that Dean de Monchaux has accepted the that Dean de Monchaux has accepted the architects and developers that Boston is serious about design issues."
John Connolly, an aide to Mayor Flynn, said the mayor was pleased "that a person of the stature of Dean de Monchaux has accepted that it is critical that his appointees to the commission have the respect of the Boston design community.
Richard Fitzgerald, executive director of the Boston Society of Architects, also praised the appointment and said the mayor could not have made a better choice.
Dean de Monchaux graduated from the University of Sydney in Australiain 1960 and received a master's degree in architecture (urban design) from Harvard University in
1964. In 1971 he held a Loeb Fellowship in Advanced Environmental Studies at Harvard Advanced Environmental Studies at following year served on the faculty of and the following year served on the faculty of
the School of Architecture and Planning at Princeton University
Over a period of 20 years he carried out projects in Australia, Southeast Asia, the United Kingdom, Colombia, Canada and the tation as an architect, urban designer and planner.

## Children's Festival

The Massachusetts Beta chapter of Tau Beta Pi is one of nine participants of the Children's Festival Sunday, April 6, from 1:30-4:30 pm at Saks Fifth Avenue, Prudential Fenter, Boston.
Featured activities will include the "musical sidewalk" (provided by the fraternity), clown shows, face painting, a fashion presen tation with 50 local children, and appearances by Mickey Mouse, Donala Duck and Zere to the public. Child Abuse Prevention Month and to the Massachusetts Society for the Prevention of Cruelty to Children's century of service

## Lerner Awards given

Winners of the 1984-85 Lerner Doctoral Dissertation and Master's Thesis awards have been The awards, which include cash prizes, given in honor of ProfessorDaniel Lerner, founder of the political science department and a distinguished political scientist.
Cowinners of the 1984-85 Dissertation Award are Norma Jean Kriger for Struggles for IndeLiberation and Maria de Castro Santos, for Alcohol as a Fuel in Brazil: An Alternative Energy Policy and Politics.
Winner of the 1984-85 Master's Thesis Award munications in the US Technology Transfer to

## CAVS hosts holographic 'forest'

will be offered "the experience of walking through a forest of synthetic space and energized color.
This quote from Rene Paul Barilleaux, curator at New York's Museum of Holography describes the work of German artist Dieter Jung, whose holographic installation opened yesterday at the Center for Advanced Visual
Studies (CAVS). It will be open every day Studies (CAVS). It will be open every day
through April 11, 11am-5pm, in a special through April 11, 11am-5pm, in a special
exhibition space on the first floor of theCAVS exhibition space
Building (W11).
A reception for members of the MIT community will be held Friday, April 4, 5-7pm. In discussing Jung's work, Barilleaux also has written: "Jung's holograms capture the essence of holography. They are panoramas of color-saturated light which reveal unex-


Roberto C. Goizueta, chairman of the board and chief executive officer of the Soca-Cola Company, will conclude the 86 Distinguished Management's 198586 Distinguished Speakers Series with pany. He will speak at 4:30pm in Rm E51-329 (Bowen Room). Members of the MIT community are welcome. Mr. Goizueta, a native of Cuba, has been associated with the Coca-Cola Company since 1954, a year after he received a BS degree in chemical engineering from Yale University. After first working as a chemist and then as staff assistant to the senior vice president for all technical operations in Latin America, he served at the company headquarters in Atlanta, Ga., on various assignments, starting in 1964. He became executive vice president in 1975, vice chairman in 1979 and president in 1980 before assuming his present posts in 1981.

Quartetto play Friday The Mendelssohn String Quartet, known for its young musicians, will appear in concert a the final event this academic year in the MIT Guest Artist Series. Admission is free.
The program will feature Mendelssohn's Quartet in A Minor, Op. 13 and Schoenberg's Quartet 1 in D Minor, Op. 7. This concert will be recorded by WGBH-FM Radio for future broadSince its 1981 New York debut in Merk Hall, the Mendelssohn Quartet has quickly established a reputation as one of the finest young American quartets of our time.
According to The New York Times, "These splendid instrumentalists and musicians have been extremely fortunate in finding one another for their skills and talents seem to have been made to go together." Winner of the 1981 Young Concert Artists International Auditions, the Mendelssohn is quartet-in-residence at the Santa
Fe Chamber Music Festival Fe Chamber Music Festival.
For five years it has been resident quartet at New York's Hebrew Arts School, which was
instrumental in its formation in 1979. The Mendelssohn records for the Musical Heritage Society

## Arts deadlines noted

Two significant deadlines are
by the Council for the Arts at MIT
y the Council for the Arts at MIT: -First is the final grant application deadline fo
-Second is the first application deadline for student artists who may wish to exhibit their work in the Jerome B. Wiesner Student Art Gallery in the Student Center: Friday April 11, at 5pm.
jects in all artistic disciplines are welcome jects in all artistic disciplines are welcome
from all members of the MIT community Guideline brochures and application forms are available at the Council office(E15-205) or by calling Alison Shafer, 3-4003.
Application forms for the Wiesner Gallery Application forms for the Wiesner Gallery
are available at the Campus Activities Office Rm W20-345; the Student Art Association, Rm W20-429; and also from the Council for the Arts office. For more information, call Andy Eisenmann, x3-6771 or x3-7019.
echnically (and they are indeed well crafted) in holography as an art form.'
Mr. Jung is one of the Rockefeller Fellows at CAVS, a program providing for artists-inThe Rockefeller Foundation. His exhibition The Rockefeller Foundation. His exhibition
The artist has come to MIT from New York, where one of his installations was on view a the Museum of Holography, September through February. His work has been exhibited widely in Europe, South America and the Fa
cities.
Assisting with Jung's CAVS installation has been his longtime collaborator Joseph $R$. Burns Mraduat

## Upcoming conference to explore reproduction technologies, issues <br> (he Mother Machine and The Hid-

a conference that will explore controversies a conference that will explore controversies
surrounding advances in reproductive science, will be held April 13-14 at MIT.
In vitro (test-tube) fertilization, the use and abuse of prenatal testing, the possibilities and limitations of nonbiological parenting, feta monitoring and imaging and the rights of
fetuses are some of the topics that will be addressed.
MIT Women's Studies, the Office of the Dean of Humanities and Social Science, and the Technology and Culture Seminar are spon soring the event.
The schedule is as follows. On Sunday April 13: McShane, head of the In Vitro Fertilization Clinic, Brigham and Women's Hospital, and Dr. Thomas Shannon, professor of social ethics, Worcester P
11am in Rm 10-250.
-"Prenatal Screening," Dr. Ruth Hubbard, professor of biology, Harvard University and genetics education specialist and childbirth educator, 11-12:30pm in Rm 10-250
-"Imaging Techniques and Fetal Monitoring" with Dr. Susan Kohler, manager of instrumentation and operations, MIT Magnetic Resonance Imaging Facility; Becky Sarah, lay midwife and natal care assistant, and Dr. Caroline Whitbeck, MIT visiting associate professor, 2-3:30pm in Rm 10-250. -"Commodification of Life Issues" with
Raquel Bauman, MS, associate dean of Student Affairs, University of Massachusetts den Malpractice: How American Medicine sultant and writer associated with the Boston Self Help Center, concentrating on disability rights, 3:45-5:30pm in Rm 10-250.
Gallathe Future of Motherhood" with Janet and Publie lege; rep Policy Program, Hampshire ColChoosing Children Network, an information and support network for lesbians deciding to have children, and Norma Swenson, MPH, coauthor of The New Our Bodies Ourselves, and former president of the International
Childbirth Education Association, 8-9:30pm, Childbirth Education Association, 8-9:30pm Rm 9-150.
On Monday, April 14:
-"Moral Pioneering and the Frontiers of Reproductive Technology" with Dr. Rayna
Rapp, on the anthropological faculty, New School for Social Research, and Dr. Diane Paul, visiting scholar, Population Genetics
Laboratory, Harvard University, 4:30-6pm in Laboratory
hat Women Need and Want to Know about Reproductive Technologies" with Martha Griffin, RN, MSW, president of Bay State that that aids couples with infertility problems,
and Judy Norsigian, coauthor of Our Bodies, Ourselves and board member of the National Women's Health Network 9:30 pm Rm 9-150.
The conference is wheelchair accessible and is open to the public. For more information
call $\times 3-8844$.

## Musicus to hold Rockwell Chair

MIT has announced the establishment of the
endowed Rockwell International Career Devel
 opment Professorship and
the appointment of Pro-
fessor Bruce R. Musicus fessor Bruce R. Musicus Computer Science as the first chairholder.
The professorship, en-
dowed by Rockwell International of Pittsburgh, Pa., will be awarded, for
terms not to exceed three years, to faculty members in the Departments of
Aeronautics and Astronautics, Electrical Engi and Engineering, Mathematics and Mechanical Engineering.

Rokwell whose main products and services fields, employs 130,000 people in the United States and five other countries. It has had a long tradition of support for MIT, contributing to the Charles Stark Draper professorships, establishing Rockwell International graduate fellowships, and also two earlier Rockwell International term professorships in aeronautics
neering
cus was selected to hold the cnair decause or nus outstanding contributions to both education and scholarship in the software and hardware design
of special purpose computers for digital signal processing.
His chief research interests currently are in the design of algorithms and architectures for special purpose computers dedicated to digital signa
processing tasks. In the architecture field, he is focusing on the study of parallel algorithms espe focusing on the study of parallel algorithmsespe cially suitable for solving partial-differentiad equations, imageprocess problems.
signal-understanding
signal-understanding problems.
For Dr. Musicus, who joined the MIT faculty in 1982 as an assistant professor, the new honor represents the second time he has been named February 1985 he was the first Class of 1956 Career Development Professor.
Dr. Musicus received an SB in engineering and applied physics from Harvard University in and computer scie from MIT in 1979, and the PhD from MIT in 1982.
in 1975-78 and recipient of the Tau Beta Engi in 1975-78 and recipient of the Tau Beta Engi-
neering Award in 1975 .

## Bufferd named deputy treasurer

 unced the promotion of Allan S. Bufferd to dep uty treasurer and direc tor of investments, ef
fective March 1. Dr fective March 1. Dr
Bufferd has been asso ciate treasurer and re cording secretary.
Dr. Bufferd has sumed responsibility for most of the day-to day operations of the cluding supervision of investment manage-
ment of assets in securities, real estate and
other personal property of the MIT Corpora-
tion. He will supervise the relationship with investment managers, monitor investment transactions and review and interpret investment policies and procedures of the In vestment Committee of the Corporation, of
which he is secretary. He is assuming these responsibilities from Mr. Strehle, who wa recently appointed vice president and will be devoting most of his time to resource devel-
opment. Mr. Strehle will continue as treasurer. opment. Mr. Strehle will continue as treasurer.
Dr. Bufferd has increased responsibilities for investment of the assets in the Retiremen Plans for Staff Members and for Employee under policies established by their trustees, and serves as clerk of these plans. He is the officer who coordinates the financial administration of pension and other benefits programs with other departments at MIT. He also supervises liaison with external provid
received the SM and ScD degrees in metal-
lurgy here in 1961 and 1965 respectively and lurgy here in 1961 and 1965 respectively and
the JD degree from Suffolk University in 1976. He joined the Institute in 1972 after working in industry for a number of years. Dr. Bufferd is a director of the Harvard Cooperative Society and a member of the advisory boards of six venture capital funds. advisory boards of six venture capital funds.
He is also vice chairman of the Board of Trustees of Beth Israel Hospital and a trustee of tees of Beth israel Hospital and a
Dr. Bufferd is married to Rhea Kot Bufferd an adoption specialist at Cambridge Family and Children's Service. They have two children, Lauren, affiliated with the Newberry ing and studying in Beijing.

## Stanton at AMT Forum

 Frank Stanton, former president of theColumbia Broadcasting System, will be the third speaker in the AMT Forum series on the arts and media technology. He will give his Thursday, April 3, at 4:30pm in the Bartos
Theater, Lower Level, at The Media Labora-
tory (E15).
Dr. Stanton, who has been called the "father
electronic journalism", was president and of electronic journalism," was president and
chief operating officer of CBS from 1966 to 1981. He will discuss the historical ties between technological innovation and news coverage, focusing on his assessment of the impact of ments on the nature and quality of the new industry.

## THE <br> INSTITUTE <br> CALENDAR

April 2-13
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 studertsone meanse departent and field
miss the tech talk deadline? Put your announcement on the MIT Cable System. "To-
day at the Institute" runs 24 hours a day and can be
viewed in Lobby 7 . Lobby 10 and any viewed in
Simply submit announcement in writing to Rm وoso. We
prefer a days warning, but faster artion may be possible.
Useful alio for correcting errors, notifying about
cancellations, and dealing with emergencies
Note: II you have met the Thech Talk deadline, your an-
nouncement is automatically put on cable (except for exNote: if you have met concent is automaticall put on cable
nibits and some multimeetings programs).

Events of Special Interest




## Seminars and Lectures

Wednesday, April 2



Energy Monitoring and Management** - India Hoesen-
stein, energy manager, the Beacon Companies, Inc, MIT Joint Program for Energy Efficient Buildings \& SystemsLab-
oratory of Architecture \& Planning Seminar on Building Perfor-

Slowly Varying Surface and Internal Waves by Multiple
Scale Analysis* - Yehuda Agnon, WHOI/MIT, Scale Analysis* - Yehuda Agnon, WHOI/MIT
Oceanography Sack Lunch Seminar, 12:10pm, Rm 54-915.
The Application of Supernodal Methods to PWR
Analysis Rm 24-213.
Expert Systems in Production Environment** - Dr Petros
Pappas, Westinghouse Productivity Center, Pittsburgh, Laboratory for Manufacturing and
$\mathrm{Rm} 35-250$. Refreshments follow.
Magmatic and Tectonic Controls on the Petrogenesis of
Ocean-Ridge Basalts** Ocean-Ridge Basalts"* - Prof Charles Langmuir, Lamont
Doherty Geological Observatory, Columbia University,
Dept of Earth, Atmospheric, and Planetary Sciences Collo-

Peroxide Production by Phytoplankton*** Brian Palenik,
MIT, Ralph M. Parsons Laboratory Aquatic Sciences Seminar,
$4 \mathrm{pm}, \operatorname{Rm} 48$-316.
The Life Cycle Hypothesis* - Prof Franco Modigliani,
winner, 1985 Nobel prize in economics; MIT Institute Pro-
winner, 1985 Nobel prize in economics, MIT Institute Pro
Thursday, April 3

Keeping Member. Happy: Recruitment, Retention and

 T) $T$


 Navigating the Public Domanto - Richard M. Stallman,
 muniratid
Theatre
Clinical Biomotion Analysidio - Patrick 0 . Riley. PhD can






## Friday, April 4


TRA.- Compututional Fluid Dymamice Inormal Seminar
221.19, Rm 3 3.2006.
andau-Ginzburg Theory for Ferroelastic Marensitesi** or Materials Science and Engineering Colloquium, 12:15pm,
Rm 9.150 . Lunch provided, 12noon. Designing for Transportation: Dallas, Boston, Providence*

- Marilyn Jordan Tayior associate partner Skidmore, $\mathbf{O w}$ - Marilyn Jordan Tayior, associate partier, Skdimore, Ow-
ings and Merril, Center FFor Transportation Studies TTansport
ation Research Forum of Boston Speminar, 12:45-2pm, Student ation Research Forum or Boston Seminar, 12:45-2pm, Student
Cr Mezanine Lounge Optional luncheon, 12-12:45pm; lunFree Surface Flows of Viscoelastic Fluids** - Minas
Apelian, Chemical Engineering Seminar, 2pm, Rm 66-110. Effects of Pressure on Soot Formation in Laminar Diffu-
sion Flames
Enseo
Prof Craig Bowman Dept of Mechanical Engineering, Stanford University, Chemical Engineering
Seminar, $3 \mathrm{pm}, \operatorname{Rm} 66-110$.

Can We Keep Up With Japan? Building a World-Class
Economy* - Prof Lester Thurow, Sloan School of Manage ment, author, The Zero Sum Society and The Zero Sum
Solution, MIT Colloquium Committee Seminar, 3:15pm, Rm
10-250. Followed by preworkshop activities in Baker, McCor. 10-250. Followed by preworkshop activities in Baker, McCor-
mick, 500 Mem Dr, Random Halls, $5: 15 \cdot 6: 30 \mathrm{pm}$, and by Phenomenology of Marfe Behavior in TFTR* - Dr Sidney Medley, Princeton Plasma Physics Lab
ion Center Seminar, $4 \mathrm{pm}, \mathrm{Rm}$ NW17.218

Data Assimilation into Models of the Ocean General Cir culation: From the Steady, Quasi-Linear to the Transient,
Eddy-Resolving Casee ${ }^{\circ}$ - Prof Paola Rizzoli, MIT, Ctr for
Meteorology and Physical ${ }^{\text {Oceanography }}$ Seminar $4 \mathrm{pm}, \mathrm{Rm}$ 54.915.

East Meets West* - Cheri Kim '88, Dept of Humanities
lide/lecture on travels through China, Korea and Japan slide/ecture on travels through China, Korea and Japan,
7:30pm, Kresge Little Theatre. Refreshments follow. A World Without Women: the Masculist Ideal in Western
Science and Technology* - David Noble, Drexel Univers ity, Black Rose Lecture, 8pm, Rm 9-150.

Monday, April 7
The BCS Macintosh Users Grouppos - Robert Hafer, diree-
tor, Information Systems Seminar, $12.1 \mathrm{pm}, \operatorname{Rm} 13-1143$. Man and Nature** - Prof Stephan LL. Chorover, MIT Dept
f Psychology, Ctr for Technology, Policy and Industrial Development Whitaker College of Health Sciences Program in
Health Policy Seminar on Environmental Health and Industrial Health Poicy Seminar on Environmental Healith and
Development. Current Research and Educationa P
4-5pm, Rm E25-401. Refreshments served, $3: 30 \mathrm{pm}$.
Three-Dimensional and Global Stability of Turbulent
Shearing Flowsön - Prot Willem V.R. Malkus, MIT, Applied
Mathematics Colloquium, $4 \mathrm{pm}, \mathrm{Rm} 2.338$. Refreshments servShearing Fiows ${ }^{\text {Mo }}$ - Prothenatics
ed, $3: 30 \mathrm{pm}, \operatorname{Rm}$ 2.34ium,
Guidebooks: Models and Reality** - Prof David Gebhard, architectural history, University of California-Santa Bar-
bara, School of Architecture and Planning Lecture Series
"Models and Mirrors" on Design Communication, 6pm, Rm Winged Wonders: The Story of the Flying Wings* - Ed-
mund T. Wooldridge, chairman, Aeronautics Dept, National Air and Space Museum, Washington, DC, MIT
Museum/Ward Fund of the Aeronautics and Astronautics Dept/New England chapter, Institute for
Astronautics Slide Lecture, $7 \mathrm{pm}, \operatorname{Rm} 10-250$.

## Tuesday, April 8

Statistical Life Data Analysis* - Gerald J. Hahn, Statistics
Program, Corporate Research and Development, GE; MIT
visiting scholarrscientist, Civil Engineering Special Seminar, $10: 30 \mathrm{am}, \operatorname{Rm} 1.350$
Optical Feedback and Squeezed Systems**. Hermann A.
Haus, MIT, Laser Research Ctr/George R. Harrison Speectroscopy Laboratory/Research Laboratory of Electronics School
of Engineering Seminar on Modern Optics and Spectroscopy,
11-12noon, Rm 37-252. Refreshments served following seminar.

Bulletin Boards and Kermit** - Information Systems
Seminar, 12. 1 pm , Rm $1-390$
Metabolic Changes in Obesity: The Role of Amino Acids
and Neurotransmitters* - Benjamin Caballera, MD, assisand Neurotransmitterss* - Benjamin Caballera, MD, assis-
tant director, CRC, Clinical Research Center Seminar Series
on Battling the Bulge: Science and Obesity, 4.5 pm , Rm E25 201.
Estrangement and Fragmentation in Present-Day
Lebanon* - Dr Augustus Richard Nor comparative politics, USMA West Point, Bustani Middle East Seminar, 4pm, Rm E38-615. Prof Philip Khoury, history
faculty, will chair. 3D Inverse Blade Design in Turbomachines** - Mr W.
Ghaly, graduate
research assistant, MIT Dept of Aeronautics and Astronautics, Dept of Aeronautics and
Astronautics Gas Turbine Laboratory Seminar, 4:15pm, Rm Ansel Adams and the Precision of Vision${ }^{\circ}$ - John Holmes,
MIT Museum Slide Lecture, 7pm, MIT Museum.

## Wednesday, April 9

Model Ionie Thermoplastic Elastomers Based on
Polyisobutylene - Garth L. Wikes, Polymer and InterPolyisobutylene - Garth Laboratory and Dept of Chemical Engineering, Virginia Polytechnic. Institute and State University, Pro-
gram in Polymer Science and Technology Polymer Seminar, Optical Properties of Multiple Quantum Well Waveguides**-YJ. Chen, GTE Laboratories, EECSRLE

MacWrite and Microsof Word*** Sherry Howlett, Apple
Computer, Inc, Information Systems Seminar, 12-1pm, Rm Evaluating Lighting System Performance** - Harvey Bryan, assistant professor of building technology, MIT Dept of Architecture, MIT Joint Program for Energy Efficient
Building \& Systemal aboratory of Architecture \& Planning
Seming oo Seminar on Building Performance, 12-1pm, $\operatorname{Rm} 1-134$. Bag lun-
ches welcome. Bartropic Semi-Diurnal Tides off the Coast of Northern
California ${ }^{*}$ - Leslie Rosenfeld, WHOIMIT, Oceanography Sack Lunch Seminar, 12:10pm, Rm 54411.
An Introduction to Nodal Expansion Methods*** - Peter
Laughton, Dept of Nuclear Engineering Seminar, 34 pm , Rm
Macrocyclic Polymers Synthesis and Solution Properties*

- Prof Paul Rempp, CNRS Strasbourg, France, Program in
Polymer Science and Technology Polymer Seminar, 4-5:30pm, - Prof Paul Rempp, CNRS, Strasbourg, France, Program in
Polymer Science and Technology Polymer Seminar, 45:30pm,
Rm E25-117. Refreshments served, $3: 30 \mathrm{pm}$. Effect of Structure and Composition on Grain Boundary
Diffusion: A Computer Simulation Stuyd - Cynthia Nit.
ta, PhD candidatat, Dept of Nutecear Engineering RST Seminar, ${ }_{4} \mathrm{apm}, \mathrm{PhD}$ candidate, Dept of Nuclear Engineering.
A Model for Tectonic Segregation and Implications for "Pressure Solution" in Rocks"* - Prof Pierre-1.es Row,
Erindale College, University of Toronto Dept of Earth, At

Life at Low pH in a Bog** - Tom Army, MIT, Ralph M. Par-
sons Laboratory Aquatic Sciences Seminar, 4 pm , Rm 48.316 . Application of the Life Cycle Hypothesis to Policy Issues*

- Prof Franco Modigliani, winner, 1985 Nobel prize in economics; MIT Institute Professor, Killian Award Lecture,
$4: 30 \mathrm{pm}, \mathrm{Rm} 10-250$. Closed-circuit television Rms 4-231, 4-270 4:30 pm, Rm 10-250.
and $\mathrm{Rm} 34-101$.
Observations on the Fifth Generation Project** - David Gollard, associate professor, mechanical engineering, MIT Mezzanine Lounge.
On His Work**- Giancarlo De Carla, director, Interna-
tional Laboratory for Architecture and Planning, Milan tional Laboratory for Architecture and Planning, Milan,
Dept of Architecture Arthur H.
6.30phe She Wiesner Bldg Bartos Theatre.

Thursday, April 10
DEC User Group Resources** - Information Systems
Seminar with Boston Computer Society, the DEC Users Society Seminar with Boston
(DSUS) and a new gro

Running Effective Meetings: Agenda Preparation; Pariamentary Procedure; Group Discussion Techniquesö* - Barbara Chuck, staff associate, Campus Activities OF
Ice, Mrx Leaderhip Education and Development (LEAD) Pro-
rram exploring the skills needed by effective leaders, 3pm, Stugram exploring the skills needed by effective leade
dent $C t r$
Center Lounge, or $6: 30 \mathrm{pm}, \mathrm{Rm} 10-280$.
The Crystal Ball Looks at the Upsilon^* - Dr Susan
Cooper, SLAC, Physics Colloquium, 4 pm, Rm 10-250.
Three Types of Public Memory* - Prof Mary Douglas, heth J. Germeshausen ' 31 Distinguished Lecture, $4 \mathrm{pm}, \mathrm{Rm}$ E51-329. Reception follows.
The Effects of Migration Patterns on the Occupational Mobility of Women in the Philippines* - Jennifer Lauby, Migration and Development, 46pm, Harvard Ctr for Population
Studies, 9 Bow St.

Electronic Publishing* - David Gifford, MIT; Walter Bender, MIT; Allen N. Grossman, Dow Jones \& Company, $\mathrm{Inc}, \mathrm{MIT}$ Communications Forum Seminar, $4 . \mathrm{ppm}$, Wesner
Bldg Bartos Theatre.
Choosing the Right Preposition** - Writing and Com-
munication Center ESL Writing American English Workshop, munication Center E.

## Friday, April 11

Japanese Language Word Processing Using a Conven-
tional Macintosh and Printer**

- Information Systems Seminar, 12-1pm, Rm 13-1143.
 Emulsiong*** - James D.
Seminar, $2 \mathrm{pm}, \mathrm{Rm} 66-110$.
Biotechnology*** Steven $\mathbf{F}$. Karel, Stanford
Chemical Engineering Seminar, $3 \mathrm{pm}, \mathrm{Rm} 66-110$.


## Reflections on Nuclear Power in America and Overseas* Prof Richard K. Lester, MIT Dept of Nuclear Engineer-

 Prof Richard K. Lester, MIT Dept of Nuclear Engineeing, Ctr for Technology, Policy and Industrial Develop-
ment Whitaker College of Health Sciences Program in Health ment/Whitaker College of Health Sciences Program in Health
Policy Seminar on Environmental Health and Industrial
Development: Current Research and Educational Perspectives, Development: Current Research and Educational Pe

Current Research in the Los Alamos Spheromak
Progra* ${ }^{*}$ - Dr Cris W. Barnes. Los Alamos National
Laboratory CTR Division, Plasma Fusion Center Seminar, Prograto - Dr. Cris W. Barnes, Los Alamos National
Laboratory, CTR Division, Plasma Fusion Center Seminar,
$4 \mathrm{pm}, \mathrm{Rm}$ NW17-218.

## Readings

Poetry Reading* - Robert Creeley, author of Hella, Later
and Mirrors, MIT Writing Program reading, Thurs, Aprit 10,
and 8-10pm, Student Ctr Mezzanine Lounge Creeley wi
his new poetry collection, Memory Gardens. Free.

## Community Meetings

Alcoholics Anonymous (AA)*** Meetings
$12 \cdot 1 \mathrm{pm}, \mathrm{Rm} \mathrm{Em} 23.364$. For info call Ann, x 34911 .
Al-Anon*** Meetings every Fri, noon-1pm, Health Education
Conference Rm E23-297. The only requirement for membership is that there be a pr.
Call Ann, $\mathbf{x} 3$-4911.

Alcohol Support Groupp* - Meetings every Wednesday,
$7: 30-9 \mathrm{am}$, sponsored by MIT Social Work Service. For info call 7:30-9am, spo

Narcotics Anonymous** - Meetings at MIT, every Mon,
$1-2 \mathrm{pm}, \mathrm{Rm}$ E $23-364$ (MIT Medical Dept). Call $569-0021$.
Overeaters Anonymous* - Meetings every Mon, $12.1 \mathrm{pm}, \mathrm{Rm}$
E23-297. This is not a lunch time meeting, so please do not
ring any food. For info call Judy, x 3 -2481.
Medical Consumers' Advisory Council Meeting**-Open
meeting, Mon, April 14,12 noon, Rm E23-501. Call $\times 3-1316$ if you would like to attend.
MIT Faculty Club** - The Club is open Mon-Fri. Luncheon
hours: noon-2pm; dinner hours: 5:30-8pm. For dinner and


Wives' Group* - Morning Group: April 2, Newbury Street art galleries; info - Hyeyon Kim, 227.1526 or Mireille Chabaud, 776-7533; April 9, MIT Museum, Current exhib.: A
Photgraphic Prerspective of MMT, Calvin Campbell; Watercolors
of Europe \& the Near East 19711.92 , by Arthur Roach; sculpture of Europe \& the Near East 1971.92, by Arthur Roach; sculpture Lynda Merican, 577-9519. Meet at $9: 15 \mathrm{am}$, Eastgate Children welcome. Afternoon Group: April 2, My Native Pakistan -
Seema Mushtaq Khan, Wives' Group member; April 9, Being Seema Mushtaq Khan, Wr fes Group member, Aprinne Liau,
Pregnant: How to Prepare for Having a Baby - Dr Anie Lia,
obstetrician-gynecologist, MIT: All meetings 3.5pm, Student Ctr obstetrician-gynecologist, MIT. All meetings 3.5 pm , Stude
Rm 491. Babysitting provided in Student Ctr Rm 407.

Craft Group** - sponsored by Wives' Group, meets every
Thurs, 24pm, Student Ctr Center Lounge or Student Ctr Rm
The Language Corversation Exchange*** -sponsored by the
Wives' Group, seeks persons interested in practicing language Wives' 'Group, seeks persons interested in practicing languages o practice English with a native speaker If you are willing to
help an international visitor practice English and/or interested in practicing or learning a foreign language with a native
speaker, call the secretary to the Wives' Group, $x 3-1614$. Feminist Reading Groupp** - Meets every Wed, $12 \cdot 1 \mathrm{pm}, \mathrm{Rm}$
E51-310. Info: Sharon, $\mathbf{x} 3-3622$. MIT Women's League Informal Needlework Grouppon
Wednesday lunchtime gatherings, $9: 30 \mathrm{am}-1: 30 \mathrm{pm}, \mathrm{Rm} 10.340$. Bring sack lunch, projects, swap ideas. Coffee \& tea served Meeting dates: April 9, 23, May 14, 28 . For more info, call
Liltian Alberty (491-3689), Nancy Whitman ( $(33-6040$ ) or Beth

## Alumni Activities

Learning to Live in Space** - Prof Laurence Young, ${ }_{6}$ cure, April $11,7 \mathrm{pm}$, 1 crest Restaurant, Waltham. Cocktails $\$ 18 /$ non-members. For reserveations, send check made out to the
MIT Club of Boston to: Mark Radte, Venture Economics, PO

## MIT Activities Committee

 MITAC, the MIT Activities Committee offers discount movieickets for General Cinema, Showease and Sack (USA Cinemas) Tickets
Tickets may be purchased at MTIAC Office, Rm 20A-023 n Fri, 11.1.1pm. Lincoln Lab employees may purchase tickets in Rm A.270 from 1-2pm, Tuesday through Friday only. Check out
our table of discounts for camping dining, musical and cultural
events available to you through MITAC and MARES Mass ssoc of Recreation and Employ MiAC and

All American Dance. Fri, April 4, 8pm, Wang Center. A trio
of thrilling performances by the Boston Ballet: Agnes DeMille's of thriling performances by the Boston Ballet: Agnes DeMille's
Fall River Legend, a suspenseful adaption of the tale of Lizzie Fall River Legend, a suspenseful adaption of the tale of Lizzie
Borden; Balanchine's Square Dance; and Pipe Dreams, choreoraphed by Boston Ballet's new Artistic Director Bruce Marks.

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

Juilliard String Quartert. Fri, April 25, 8pm, Jordan Hall.
The "first family of chamber music" perform their fifth concert
 Minor, Op 95 , Seriosos and B B Flat M M
(reg $\$ 16.50$ ) available in Rm 20 A -023.

Council for the Arts Museum Passes. On campus, there are 10 passes employees may borrow for free admission to the
Museum of Fine Arts. To check on availability call $\times 3.56511$. At Lm Ancoln Le
Museum of Science Tickets. Available for only $\$ 1$. Pay
another $\$ 1$ at the door, for a total savings of $\$ 3 /$ pp/adult; anthperhild (reg $\$ 5 /$ pp/adult; $\$ 3 /$ pp/child).
City Books are here! Only $\$ .75$ (reg $\$ 7.50$ ).
Ski-Key Books. Containing valuable discount lift ticket
coupons for the greater New England area are here! Only $\$ 9$ ea coupons for
reg \$25).

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

Important! To avoid disappointment, purchase tickets and make
reservations early as we are limited by ticket availability and ransportation. All MITAC events and ticket purchases are non-

## Social Activities

Japanese Table** - MITJapan Science and Technology Pro-
gram Wellesley-MIT Exchange Program lunch table, every Tues,
$1-2 \mathrm{pm}$, Student Ctr Center Lounge. Bring bag lunch; all levels
 Hebrew Table ${ }^{* * *}$ - MIT Hillel Hebrew Table to practice your
Hebrew, every Tuesday at $5: 30 \mathrm{pm}$ in the Kosher Kitchen Hebrew, every Tuesday at $5: 30 \mathrm{pm}$ in the Kosher Kitchen
Walker $\operatorname{Rm} 50-007$. Dinner available for 85.75 . GAMIT Sunday Discussion Meeting* - Gays at MIT, Suns,
5pm, GAMIT Lounge, Walker Memorial Rm $50-306$. Dinner served at $6: 30 \mathrm{pm}$.
GAMIT Study Break* - Gays at MIT, Thurs, 9pm, GAMIT
Lesbian Lunch Group* - LAMIT, (part of GAMIT) meets
alternate Thursdays Staff, , aculty \& students welcome Info:
隹

## Movies

Rebecca** - LSC Classic Movie, April 4, 7:30pm, Rm 10-250.
31/MITWellesley ID.
The Big Chill** - LSC Movie, April 4, 7\&9:30pm, Rm 26-100.
Cocoon** - LSC Movie, April 5, $7 \& 10 \mathrm{pm}$, Kresge Auditorium.
M1/MITWellesley ID.
West Side Story** - LSC Movie, April 6, 6:30\&10pm, Rm
6-100. $\$ 1 /$ MITWellesley ID.
The Grapes of Wrath** - LSC Classic Movie, April 11 ,
Chariots of Fire ${ }^{* * *}$ - LSC Movie, April 11, 7810 pm , Rm
26-100. $\$ 1$ MIT-Wellesley ID.
The Black Cauldron** - LSC Movie, April 12, $3,7 \& 9: 30 \mathrm{pm}$,
m $26-100$. $\$ 1 / \mathrm{MIT}$ Wellesley ID.
Something Wicked This Way Comes** - LSC Movie, April
$13,6: 30 \& 9 \mathrm{pm}, \operatorname{Rm} 26-100$. $\$ 1 / \mathrm{MIT}$ Wellesley ID.

## Music

Noon Hour Chapel Series** - Primipara Consort perform
"Songs of Renaissance Women," Thurs, April 3, 12:05pm, MTT
Guest Artist Series* - Mendelssohn String Quartet, per-
uditorium. Free.
Noon Hour Chapel Series* - Carrie Kourkoumelis, harp,
Tyrone R. Williams, MIT Graduate Student, in Concert An
Evening of Gospel Musico - Black Graduate Student Association concert featuring the Voices of Faith and The New Temple
Singers from St. Paul AME Church and friends from the MIT Singers from St. Paul AME Church and friends from
Gospel Choir, April 12, 8pm, Kresge Little Theatre.
Festival Judeo Espanol* - Hillel concert featuring Voice of
the Turtle and Flory Jagoda \& Family performing Sephardic me Turtie and Flory Jagoda \& Family performing Sephardic
nusic Sun, April 13,2 pm, Kresge Auditorium. Tickets avaiable
Hillel (W2a). $\$ 6, \$ 8, \$ 10$ (students receive a $\$ 2$ discount $w$ stumusic, Sun,
at Hillel ( (
dent ID).
MIT Affliated Artist Series* - Marek Zebrowski, piano, per-
orms Haydn, Prokofieff and Schumann, Sun, April 13, 8pm,
kresge Auditorium. Free



News about information systems throughout MIT

## ATHENA FINDS NEW HOMES

Alana Erickson<br>Project Athena<br>Deployment Manager

One part of Project Athena's grand scheme is to install individual workstations in as many living groups as is feasible. The planning for such a major deployment of resources began last fall, when we invited MIT students to submit proposals from their living groups; twenty groups responded.

On February 26, a pilot phase was announced. The five living groups selected were Next House dorm, Delta Upsilon, Pi Kappa Alpha, Theta Delta Chi, and Zeta Beta Tau fraternities.

A pilot deployment plan will give us an opportunity to try different ways of installing workstations and linking them to the campus network, before planning the largescale effort. We plan to study the technical aspects of siting Athena equipment in living groups as well as the social and educational effects of high performance computing.
The living groups were chosen to provide a crosssection of locations, types and sizes of living groups, and layouts. The strategies for networking them to the central campus spine will also vary, from dedicated 10 Kb phone lines to fiber optics to a possible laser connection. Those groups linked by phone will need local file servers, and we will be experimenting with different configurations of those servers and their LANs.

## IN THIS ISSUE:

- Athena Moves To Living Groups - Cable TV at MIT - Future of Administrative Computing - IS Spring Courses
i/s is published by MIT Information Systems, Room 11-315, 77 Massachusetts Avenue, Cambridge, MA 02139; (617) 253-6338. Inquiries and comments are welcome,
and may be sent to this and may be sent to this
address, or via electronic address, or via electroni MEDIR@MITVMA or Media@Multics.

Project Athena is also in the midst of planning for the installation of various development clusters around campus. These are small groups of Athena workstations located in departmental space, intended for use by faculty members working on course-software development projects funded by the Athena Resource Allocation Committes.

A large number of faculty members are now working on IBM PC/XTs and ATs in their offices or small clusters. These groups can be considered development clusters. However, the real thrust of development clusters is to provide relatively private space for the development of course software utilizing Athena's Phase 2 high-performance workstations. On the DEC side, this means VaxStation IIs (VS2), and on the IBM side, this means RT (RISC Technology) PCs.

Another special characteristic of development clusters is that they must be linked to the campus spine network. The Athena software is configured so that the workstation's hard disk has only the operating system on it; software libraries (compilers, databases, etc.) reside on a remote server, in this case a VAX $11 / 750$. The workstation user gets access to these libraries by spinning up a remote virtual disk (RVD). The workstation's hard disk then acts as a cache while work is done locally

We are working to make RVD service available in a coherent manner to all faculty developers who have requested development clusters. So far, this involves only DEC equipment. Because the IBM RT PC is so new, we still have a ways to go before all Athena software can run on it.
Those departments slated to receive VS2s in development clusters are: Aero \& Astro; Civil Engineering; EE/CS; Materials Science \& Engineering and Nuclear Engineering, a joint cluster; Mechanical Engineering; and the Probability Project, a joint endeavour of the Schools of Science, Architecture \& Planning, and Engineering with the Sloan School of Management.

## TUNE INTO CABLE TV

Tune into channels 8 , 9,10 , or 11 on MIT's cable television network almost any hour and you may well catch a Physics 8.02 lecture. Enroll in an MIT course offered at Woods Hole Oceanographic Institute, and attend class in an MIT classroom in Cambridge.
MIT's cable TV network provides service to the MIT campus: dorms, classrooms, lecture halls, lounges, laboratories, centers, and even administrative offices. More than 60 percent of the dorm rooms now have cable service, according to Randy Winchester, Assistant Transmission Manager for MIT's Telecommunications Systems. Cabling goes on at the rate of about 2 dormitories each summer. With Ashdown, Baker, Bexley, Burton, East Campus and Random Hall remaining, another 2 are scheduled for this summer. The fraternities adjacent to the campus are next, although 4 fraternities on Memorial Drive are already cabled (Alpha Tau Omega, Delta Kappa Epsilon, Kappa Sigma, and Phi Beta Epsilon).

Cabling has been installed


FOCUS ON: RANDY WINCHESTER
Randy Winchester, atop the Green Building, checks the microwave link to Woods Hole. As Assistant Transmission Manager, he oversees the operation of MIT Cable TV. Randy came to MIT on his birthday in 1982 from Ann Arbor, where he produced programming for community-access cable television and worked in broadcast television as a transmitter engineer. He has a degree in Communication Arts and Sciences from Western Michigan University. A typical day finds Winchester getting live broadcasts on the air, clambering through buildings installing cable, providing students with hook-up cables and converters, making up the next week's schedule.
most recently in Buildings E17, E18, E19, and 20 to service some of the laboratories, centers, and offices in those locations.
But service is not limited to the MIT campus. With its own microwave link between the Green Building and Woods Hole via a repeater station in Kingston, MA, MIT can provide live, two-way productions of classes so that students can not only "attend" a class given at Woods Hole without ever leaving the campus, but the instructor in Woods Hole can see and talk with students in the Cambridge classroom. This facil-
ity, which has been available only since February, would have been in place much earlier, but Hurricane Gloria tore down the repeater in Kingston just after it was installed.

MIT cable television is connected to the Harvard video system by a two-way microwave link. Programs sent from Harvard may be seen on MIT's channel 13, while programs sent to Harvard may be distributed to 25 locations using their Harvard Information Transfer System (HITS), and to six area hospitals using Harvard's microwave facilities.
(continued on page 2)

## PLANNING FOR THE FUTURE

Today, in departments and offices across the MIT campus, there are 1000 personal computers being used for administrative computing. This number will most likely grow to between 1500 and 2000 by 1990 , when essentially all the Institute's administrators will have acquired personal computers.

The dramatic increase in personal computers with its associated costs, the urgent need of departments to get timely and efficient access to data maintained in the central administrative offices, and the new technologies that make this possible suggest the need for new directions in MIT's approach to administrative computing. Responding to this need, Professor James D. Bruce, Director of Information Systems, with the support of Vice Presidents James J. Culliton, William R. Dickson, and Constantine B.

Simonides, initiated a project to develop a strategic plan for the future use of computer and communication technologies in the Institute's administrative and business functions.
In the Fall of 1985, a team of consultants from Potomac Computer Corporation assisted an MIT team led by Isaac Colbert (Manager of Faculty and Staff Information Services in the Personnel Office) and Cecilia d'Oliveira (Assistant Director of Information Systems) in thoroughly examining administrative computing's current status and potential future directions. The project was completed in mid-January, and its recommendations were delivered to the senior administration in a report entitled "A Proposed Administrative Information Systems Strategic Plan". During the last two months, the report has been under review by various
groups including the President and the Provost, the Academic Council, Information Systems managers, staff reporting to the administrative vice presidents, and a users group representing a cross-section of administrative personnel.
A summary of the findings and recommendations may be found on page 2. Copies of the full report are available in IS Publications Sales, 11-209. With the series of reviews by individuals and groups at the Institute well underway, implementation of the strategic plan has begun. A re lated article in this issue of $i / s$ describes one program, which calls for the creation of three new positions, reporting directly to the administrative Vice Presidents (see page 3 ). Future articles in $i / s$ will keep the community informed as the strategic plan unfolds.

## PLANS CALL FOR FUNDAMENTAL CHANGE IN DIRECTION OF ADMINISTRATIVE COMPUTING

Three months of investigation into administrative computing at MIT, sponsored by Information Systems and the administrative Vice Presidents, recently culminated in a report entitled "A Proposed Administrative Information Systems Strategic Plan." Published in January, the report presents the major findings of this study. It describes a new model for computing, recommending tactics and programs for implementing the plan, and assessing the financial implications associated with implementation.

The following material is excerpted from the "Executive Summary," Chapter of the report. Copies of the full report are available from IS Publications Sales, Room 11-209.

## Major Findings

- Technology provides pow erful information processing resources at reasonable and declining cost. An annual growth rate of $15 \%$ to $20 \%$ is projected for the acquisition of microcom puters in administrative areas. An estimated 900 1000 microcomputers and workstations are now used for administrative computing at MIT
- No effective policies, procedures, standards or other management practices now control the proliferation of computers across campus. None encourage data access and sharing, provide computer skills training, or otherwise minimize busi-
ness risks in an increasing y decentralized computational environment.
- The present administrative applications portfolio is oriented heavily toward the support of central administrative functions and the ongoing operation of the Institute. It provides little support for strategic planning, other senior management activities, or the needs of academic departments and laboratories. The current accounting and budgeting processes do not directly provide the information necessary to analyze cost trends for central administrative applications.
'Information consumers throughout MIT want local control of their computing resources, and electronic access to the administrative information required to perform their administra ive tasks. Many have purchased their own computers and have developed software to achieve this end, manually rekeying the required data.
A widespread perception exists among information consumers that central ad ministrative offices, including Information Systems, lack a "service attitude."
- Central administrative offices, who are clients of In formation Systems, do not believe that their information system needs are now being met. A general sense of resignation was found, sense that the future will show no change.


## The Computing Model

Based upon these findings, the project team recommend ed movement toward an ad ministrative computing scen ario, a "coordinated model that emphasizes several key factors.
A campus-wide network that is reliable, secure, and auditable is vital. It should support a standardized set of locally controlled worksta tions, central mainframes, software tools, and programming languages. This technology base is consistent with that evolving for academic computing at MIT, although not all the necessary hardware and software is com mercially available yet.
Central Institute databases must be created that are elec tronically accessible. The cen tral administrative offices would maintain them, serving as "custodians" - not owners - of the data
Also necessary is an Insti-tute-wide set of policies, procedures, standards, and other management practices governing data access, application development, capital acquisition, and resource management
Information Systems and central administrative departments must work toward greater sharing of responsibility for developing business applications that serve the needs of those central administrative departments and of information consumers.

Tactics and Programs
The project team developed twelve tactics with 38 inter
dependent program recommendations for initial suppo of the strategic plan. Some tactics and programs must be addressed immediately to establish visible movement toward the computational model recommended in the report. Others depend upon the outcome of pilot projects to verify the feasibility of the computing strategy

These tactics and programs fall into four categories

- Communication of the plan throughout MIT
- Personnel appointments es sential to coordinating administrative computing activities, as the Institute makes orderly progress to ward the new computing environment.
- Pilot programs and followon projects to ensure both initial and sustained momentum toward strategic objectives.
- Management practices for the creation, growth, and maintenance of the coord nated environment


## Conclusions

Without a coherent strateg for addressing administrative computing needs throughout the Institute, many departments have attempted to address their own needs. Academic departments, research laboratories, and some central administrative departments have purchased computers, developed software and databases, hired computer support personnel, and determin ed their own policies for managing these resources.
The lack of an institutional plan to coordinate these activities is producing a sub-
stantial and growing business risk. No mechanisms exist to
assure that appropriate hardware and software are being purchased. Proper management controls may not be in place to protect the investment in software develop ment. Local information bases could be inadequate fo their intended business applications. No checks are now made so that local data remains consistent with data maintained by the central ad ministrative departments.
The risk will continue to grow if the Institute does nothing. However, effective coordination of the acquisition and business application of information technology will maximize the substantial investments already made, as well as those anticipated for the future. This will be evident in:
Improvements in the time liness and quality of administrative data through increased access, as discussed in this plan.
Reduced duplication of ad ministrative computing efforts.

- Improved communication between administrative and other offices.
- New business functionalit A sense of coherence and direction for the future of administrative computing

Addressing the problems raised here will require fundamental change in the direc tion of administrative com puting at MIT. This change will not occur without substantial further investment in technology and people. We believe that this is necessary It will carry significant bene fits. It will set a standard of excellence in administrative computing for MIT.

CABLE TV
continued from page 1)
MIT also leases several hours of time each week on a transmitter at the Prudential Center. While this is presently used only to broadcast one way to Lincoln Lab, transmission is possible to any location that can see the top of the Prudential Center. Only a receiver costing about $\$ 200$, and a couple of hours to install it are required.

In addition to providing the physical network, the MIT cable television office handles the broadcasting of programs as well. Campus events may be advertised on the lobby screens by calling

## SORRY, WRONG NUMBER

MICROCOMPUTER CONSULTING 253-7686

COMPUTING ASSISTANCE OFFICE 253-4114
TRAINING SERVICES 253-0540

These phone numbers were printed incorrectly last time.

Mr. Winchester. Departments that want to schedule programs should contact Mr. Winchester too, though if they need assistance in producing a program, the person to call is Lawrence Gallagher, Production Manager of Educational Video Productions, at (25)3-7603. A number of departments around the Institute have begun to acquire their own video equipment to record lectures and presentations. With an increase in the volume of live and taped material, Mr. Winchester anticipates growth in the number and variety of programs that will be broadcast over the campus network. Either videotapes or live productions may be scheduled, though a live production is considerably more complicated and should be scheduled two weeks ahead of time. Live productions are limited to areas where cable has been installed. Scheduling is handled on a first-come firstserved basis. The TV schedule is printed regularly on page 2 of Tech Talk
Contact Randy Winchester at (25)3-7431 or Randy@Athena for more information about getting hooked up to the cable network or scheduling programs.

## WANTED: NEWS COORDINATOR

Information Services is looking for a news coordinator to plan news flow for Information Systems. As editor of this newsletter the position involves developing, editing, and evaluating news items with an IS or an MIT-wide computing focus, and working closely with our On-Line News system. To improve our level of service, we seek well-developed market research skills.
Are you a creative, energetic person with at least 3 years' combined experience in technical writing, journalism, or marketing/public relations? Do you have computing experience? If the answers are yes, we invite you to apply for this challenging job. Call the MIT Per sonnel Office, 253-4251 (job number A86-674).


## MORE SOFTWARE AVAILABLE FOR DISTRIBUTION

The following software products are now or soon will be available through Information Services. If you would like to know more about this service, or have any questions or comments concerning software site-licensing, call Richard Scott at 253-1950.

| Software | Vendor | System | Status | Contact | Fee |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Emacs | Uniworks | VAX (VMS), VAX (BSD 4.2 UNIX) | Now <br> Available | (l) | \$40(2) |
| MicroTeX | Addison-Wesley | IBM PC family (DOS) | Call | (3) | Call |
| Scribe <br> PostScript <br> Driver | Unilogic | Most DEC systems | Now <br> Available | (l) | \$760(2) |
| TranScript | Adobe | AT\&T System V, BSD 4.2 UNIX | Now <br> Available | (l) | \$240(2) |
| Fortran | Numerical | various | Call | (l) | (4) |
| Library | Algorithms <br> Group (NAG) |  |  |  |  |
| (a) Call Joan Bubluski at 253-1744. |  | (3) Call the Microcomputer Center at 253-6325. |  |  | py. (4) May be licensed at a reduced annual fee by ordering through is. |

NEW "ASST TO VP" POSITIONS

New positions have been created in the offices of three vice presidents following review by MIT senior administrators of the Proposed Administrative Information Systems Stra tegic Plan. These positions, each entitled "Assistant to the Vice President, for Information Systems," will be filled, as a team, by July 1 .
Each of the new positions will report directly to one of three Vice Presidents James J. Culliton (Vice President-Financial Operations), William R. Dickson (Senior Vice President), or Constantine B. Simonides (Vice President and Secretary of the Corporation). The basic function of these positions is to provide overall planning and coordination of information systems activities in the administrative areas reporting to the Vice

## Presidents.

Of major importance will be the participation of the three individuals filling these positions as members of a team responsible for implementation of the strategic plan. This responsibility will include establishing and managing the work of task groups; developing and implementing policies, procedures, and standards for ad ministrative computing; and coordinating computing plans in the administrative areas with other groups at MIT. A cooperative team spirit among the individuals filling these positions will be essential in carrying out the programs of the strategic plan.
Successful candidates will have a well-balanced comple ment of technical, managerial, and interpersonal skills. A good technical background for these positions should include experience and accomplishments in areas such as business analysis, project management, and computer hardware and software. How ever, technical competence, while important, will not be the determining factor by which selections will be made. Successful candidates should also have demonstrable achievements in administration and management, and a willingness to assume responsibility. MIT experience will be given high priority in the selection process.
Finally, these individuals will be functioning in a cross organizational, team-oriented environment. Therefore, negotiation and communication skills, as well as personal qualities such as leadership, creativity, and breadth of perspective are important factors in selection. And a keen sense of humor won't hurt!

Qualified candidates who are employees at the Institute should contact their Personnel officers to apply for one of these positions. Persons who are not MIT employees should call the Personnel Of fice, 253-4251 (job number A86-695).

## S P R I N G C O U R S E S

## HAVE MORE THAN A SANDWICH FOR LUNCH!

Each noontime during the month of April, InformaAtion Systems will present 2 free one-hour seminar on some aspect of computing. Bring your lunch and join us for this exciting series. The presentations are informal with plenty of opportunity for questions. Seminars begin at noon; locations are noted on the calendar below (full information is available in the IS Spring Course Brochure - see box). Novice or expert, spend your lunch hour nourishing your interests as well as your stomach.

## TO GET THINGS STARTED

Introduction to the MIT Microcomputer Center. Tricia Kellison of the MIT Microcomputer Center will review the hardware, software, and services available at MIT's own microcomputer store, including the new LaserWriter service for producing near-typeset quality text and drawings from the Macintosh. Thursday, April 3.

## WORD PROCESSING

Japanese Language Word Processing. Peter Poole, a graduate student who has studied in Japan, will present a software package that lets you write letter quality Japanese text using a conventional Mac and printer. Friday, April 11.
Introduction to Scientific Word Processors. Damon Bostick of the Processors. Damon Bostick of the
MIT Microcomputer Center will MIT Microcomputer Center will
discuss how scientific word prodiscuss how scientific word pro-
cessing differs from standard wordpro, and review available micro software for producing scientific papers. Friday, April 18.

## USER GROUPS

The BCS Macintosh Users Group. Learn from director Robert Hafer about the services that the Mac Users Group of the Boston Computer Society offers to BCS members, including public domain software and a monthly publication. Monday, April 7.

DEC User Group Resources. Shava Nerad of MIT Information Systems will tell you of the serSystems will tell you of the ser equipment through the DEC User Society (DECUS) the User Society (DECUS), the Boston Computer Society, and the new MIT-VAXSyM group for VAX system managers at MIT. Thursday, April 10.

An Overview of the Boston Computer Society. Come hear Jonathan Rotenberg, founder and president of the BCS, talk
about the many activities and opportunities of the nation's largest non-profit computer users group. Thursday, April 17
The BCS IBM Users Group. Judy Edwards of the Boston ComEdwards of the Boston Co
puter Society users group puter Society users group
devoted to the IBM PC will devoted to the IBM PC will talk about the resources available to PC users through this organization. Tuesday, April 22.

## APPLE COMPUTER

PRESENTATIONS
Sherry Howlett of Apple Computer, Inc., will discuss and demonstrate software for the Apple Macintosh line of computers.

MacWrite and Microsoft Word. The Mac's most popular word processing packages. Wednesday, April 9.

MacDraw and MacDraft. Two packages from Apple for creating structured graphics such as flowcharts, architectural drawings, and forms. Wednesday, April 16

Excel and Helix. Microsoft Excel is a powerful integrated package combining spreadsheet, graphics, and database features. Odesta's Helix is an innovative database package that allows you to store and retrieve text, numbers, and pictures. Wednesday, April 23.

MacTerminal and AppleLink. MacTerminal lets you use your Mac as a terminal to access mainframe computers and other micros. AppleLink lets you request assistance from Apple and exchange mail with other users. Wednesday, April 30.

## LOTUS PRESENTATION

Symphony and Friends. A
12:00, Katie Quigley and Linda Fisher of Lotus Development Corp. will demonstrate thei most powerful integrated package, Symphony, which com bines spreadsheet, database, word processing, graphics, and communications for many business applications. Come early (at 11:30) or stay late (until 2:00) and try out Symphony and Lotus 1-2-3 on an IBM/AT, or JAZZ on a Macintosh. Tuesday, April 29.

## GRAPHICS

DISSPLA. An introduction to DISSPLA, a mainframe package for programmers who want sophisticated graphics, given by

Bob Zaret of MIT Information Systems. Monday, April 14.

TELL-A-GRAF. Bob Zaret will in troduce TELL-A-GRAF, a mainframe package for non-programmers that lets you create colordetailed graphs with a few commands. Thursday, May 1.

## AND MORE

Inside Your IBM PC. Tricia Kellison and Joanne Larrabee of nformation Systems will lead tour of the insides of an IBM PC, to show you its parts and their functions. Friday, April 4.

## Bulletin Boards and Kermit.

 Kermit is a software package that lets you connect to other computers from your micro using a modem. Jerry Burke and Joni Bubluski of MIT Information Systems will demonstrate how to use Kermit and other protocols to access local mainframes and bulletin boards, keep up with the latest developments, get help with problems, or download public software. Tuesday, April 8.Getting Started with Project Athena. Marc Campos of Project Athena will give an overview of the history and goals of Project Athena. He will also outline procedures for getting an Athena account and starting to use Athena's text editor, formatter, and other programs. Tuesday, April 15.

Numerical Software for Microcomputers. Dorothy Zaborowski of Information Systems will demonstrate PC-MATLAB, a microcomputer package for matrix manipulations with graphics, and LINDO, a linear programming micro package. Friday, April 25.

Sidekick. Borland's Sidekick ushered in the idea of desktop utilities, which let you perform common office chores like updating a calendar, jotting down a note, or calculating a result without leaving your current computer application. Joanne Costello of Information Systems will demonstrate Sidekick. Monday, April 28.

Superkey. Another Borland product, Superkey lets you create keyboard macros and assign them to a single function key You can run through a complex series of commands once, and then recall them with a single keystroke. Joanne Costello demonstrates. Friday, May 2.

## HANDS-ON TRAINING

Beginning in April, IS of ers a third round of training sessions. These hands-on classes last one or two days, or several half-days, and are open to the MIT community only. Tuition is charged, and ad ance registration is required. The sessions noted here are fully described in the IS Spring Course Brochure (see box below)

Introduction to the IBM PC. An application-oriented introduction o the IBM PC: its uses in rouine business tasks and decision making; evaluating hardware and oftware; overview of word and ist processing, database management, spreadsheets, and graphics.

Introduction to DOS: the IBM PC Disk Operating System. Learn techniques for managing DOS, with special attention to the hard disk, menus, and personal help screens.

Introduction to Lotus 1-2-3. How to use 1-2-3's spreadsheet, graphics, and database capabilities to create financial models, explore information management, and design your own applications.

Advanced Lotus 1-2-3. Review 1-2-3 advantages and disadvantages, and apply advanced $1-2-3$ techniques to produce superior applications. Learn to combine, import, and translate data from other programs, and to create macros for quick and easy number manipulation.

Introduction to Symphony. Complete guide to the integrated features of Symphony: spreadsheet, word processor, graphics, lists of information, communica tions, and integrating these features.

Introduction to Word Processing on DECmate II. Learn simple and advanced editing features print single and multiple letters, and use libraries. Limited to MIT staff and support staff

Advanced Word Processing on DECmate II. Advanced techniques for MIT staff and support staff DECmate II users.

Introduction to Multiplan. Learn how to use this spread sheet program on DECmate equipment, with no prior knowledge of spreadsheets or DECmates. Limited to MIT staff and support staff.
all seminars begin at 12:00 p.m

| APRIL |  | 1 | 2 |  |  | 5 |
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| 13 | $\underset{\substack{\text { DIIspLAA } \\ 1.390}}{ } 14$ |  |  | Boson <br> Somputer <br> Weict <br> W20 West Loung | $\underset{\substack{\text { scientific } \\ \text { pord } \\ \text { poresssing } \\ 13-143}}{18}$ | 19 |
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| -27 |  |  |  |  | $\begin{gathered} \text { May } 2 \\ \substack{\text { superkey } \\ 13-143} \\ \hline \end{gathered}$ |  |

# MICROCOMPUTER CORNER 



## LINKWARE COMES TO MIT

Linkware, developed and marketed by Linkware Corporation, is a communications package for file transfer and terminal emulation between microcomputers and DEC VAX or IBM hosts. At MIT it is now installed on the IBM MITVMA mainframe, and several other administrative computers managed by Information Systems. On the microcomputer side, Linkware is currently available for the IBM PC (and compatibles), DEC Rainbow and DECmate II, WANG Professional Computer, and Data General/One portable.
Linkware is easy to use, and can be easily tailored. It handles both text and binary files, does error checking and error recovery during transfers, and lets you create batch files for repetitive processes.
Linkware's terminal emulation facility lets you use a micro as a DEC VT100 or IBM 3101-type terminal. The communications facility gives you access to the dial-up services of a host system, and lets you communicate with other microcomputer users through the host. IBM PCs equipped with IRMA boards for 3270 terminal
emulation have their own special version of Linkware for connecting to the mainframe. Linkware is currently being used at MIT for administrative applications with stringent security requirements. The Budget, Personnel, and Pension Accounting offices connect their micros to mainframe hosts for terminal emulation and file transfer. Administrative Systems staff members take advantage of Linkware's secure file transfer facility to move files between restricted administrative machines. Academic departments can use it in conjunction with MAPPS to get monthly account information

## MIT JOINS APPLE CONSORTIUM

> On March 17, Apple Computer announced that it had extended membership in the Apple University Consortium to MIT and 7 other universities. The consortium is a group of 32 leading colleges and universities that work with Apple on development of educational applications Besides providing increased access to Apple developers, membership in the consortium provides MIT with favorable pricing on Apple products.

## GET MORE OUT OF YOUR

## IBM PC !

The MIT Microcomputer Center has in stock a variety of software packages to meet your applications and programming needs. If we don't carry what you are looking for, we can special-order it from a large selection of other packages.

You're not sure which package is the right one for you? Come in, talk to our consultants and try out packages from our Software Library on one of our machines!


Cornerstone (database management system)
Epsilon (emacs-like editor)
KEDIT (XEDIT-like editor)
Kermit (communications/file transfer/terminal emulation)
Lattice C (compiler)
Linkware (communications/file transfer/terminal emulation)
Linkware (reproduced manual for lower price)
Lotus 1-2-3 (for IBM PCs and Lotus-certified compatibles)
Lotus Symphony (for IBM PCs and Lotus-certified compatibles)
Notebook II, including Bibliography (file manager)
PC/IP-ETHERNET programs, including PC/IP User's Guide
PC/IP Source Programs, includes User's Guide and
Programmer's Manual
Sidekick (desk accessories)
Superkey (file security/macros accessory)
Turbo Pascal (compiler)

We also carry IBM reference manuals, modems, surge suppressors, diskettes, diskette storage cases, printer ribbons, computer paper and more! Call Publications and Software Sales at ext. 3-6325 if you have any questions about ordering software and accessories.

MIT MICROCOMPUTER CENTER
Room 11-209, open 11:00-3:00 weekdays
Microcomputer Center Consultants, ext. 3-7686

MICRO CENTER
WELCOMES NEW MANAGER


On March 26, John J. DiMiceli joined Information Services as Manager of the Microcomputer Center. A former Peace Corps volunteer, he holds a Masters degree in Public Administration and has worked in computer sales as well as public sector management. He sees the Microcomputer Center as the focal point for a broad range of services and support to the faculty, students and administration. DiMiceli believes that there are many microcomputer applications that haven't been developed, explored, or even thought of. He hopes to find creative ways to support members o the MIT community in exploring these new uses of the personal computer. ${ }^{-}$

## CONSULTANT'S HOTLINE



Microcomputer Center consultants often hear similar questions from different people Each issue of this column will feature a few such questions and their answers, gleaned from our consulting logs. For answers to your own micro questions, call 253-7686.

0II'm an IBM PC owner who recently purchased a serial printer. How do I use the serial printer with the RS232 serial adapter?

A:- Your PC normally thinks Lit's connected to a paralle printer, so you have to re-direct it to the serially-connected printer. This requires using the DOS command MODE with two different sets of options; for example:
mode com1:9600,n,8,1,p mode lpt1: = com1
The first MODE command initializes the communications protocol parameters of the serial adapter, according to the requirements of your printer; check these requirements in your printer manual. The second command actually re-directs printing from the parallel to the serial device.

Here is an explanation of the six parameters set by the first MODE command:
com1 "com" sets the number of the serial adapter, which is either 1 or 2
9600 sets the baud rate or speed at which the printer operates; this can be $110,150,300,600$ $1200,2400,4800$, or 9600 . check your printer manual for this and the next three
parameters
n sets the parity to odd (o), even (e), or none ( n ); in our example, it is set to "none"
8 this parameter sets the databits to either 7 or 8
1 this sets the stopbits; use 1 unless the baud rate (above) is 110 , then use 2
$\mathbf{p}$ indicates that your printer is a serial device

In the second MODE command, "lpt1" is the printer address, where 1 is used in the example, but it can be set to 2 or 3 ; The " $=$ com1" means that any output directed toward the printer at address "lpt1" will go printer at address "pt "com1", and thence to the serial printer.

These MODE commands by themselves are not enough to work with laser printers (usually serial devices), unless your printer driver supports XON/XOFF.

For further information on the MODE command, refer to Chapter 8 of the DOS manual.

QI'm using Macterminal in terminal emulation mode What are the key sequences that will let me manipulate the cursor?

## A <br> -Press the COMMAND key marked with a $[\mathscr{H}]$, and

 the appropriate letter key to get the desired action:COMMAND H to move the cursor back one space
COMMAND I to move the cursor to the right of the next nearest tab setting
COMMAND J to move the cursor down one line (linefeed)
down one line (linefeed)
COMMAND K to move the cursor down two lines
COMMAND M to move the cursor to the beginning of the line

To move the cursor to a new position in a file, use the mouse to locate the arrow at the position where you want the cursor to be. Click the mouse once, and immediately press the OPTION key; the cursor will move rapidly to the position on which you clicked.

While we're on the subject of terminal emulation, the ENTER key signals a break to the mainframe. You can use it to "break" on a VAX or Multics; do not "break" while on CMS.

Chinese Intercollegiate Choral Society*- Meets Suns,
3.5pm, Rm W20.49.. Currently rehearsing Chinese folk songs
Free voice lessons and music theory class,

## Theater




## Dance

Ecstatic Indian Poetry and Dance* - Robert Bly,
American poet and Neena Gulati, Indian classical dancer,
 MIT Ballroom Dance Club Workshops* - Apri 6: Beginn
ing Tango. 12:30-1pm; Intermediate Faxtrot. $1: 30.2: 3 \mathrm{pmm}$; Ad ing Tango, 12:30-1pm; Intermediate Foxtrot, A:30.2:30pm; Ad
vanced Swing 4.5p, Burton Dining Gall. April 13: Beginining
Cha Cha, 12:30-1pm; Intermediate Tango, 1:30.2:30pm; Advanc
 $\$ .25 /$ members, $8.50 /$ non-member
$\$ .50 /$ members,
$\$ 31 /$ non-mem-members; Ad
Info: x5-9171 dorm.

Western Square Dancing** - Tech Squares Club Level danc.
ing and rounds, Tues, 8.11 pm , Student Ctr 2 nd Floor. Dennis ing and rounds, Tues, 8.11 pm ,
Marsh, club caller \& instructo
Recorded info: $\mathbf{x 5} 519126$ dorm.
MIT Dance Workshop Classes** - Beginning Modern
Dance Technique, MW, $3-5 \mathrm{pm}$, DuFont TClub Lounge; In
termediate Modern Danee, TTh, $5: 30-7 \mathrm{pm}$, Walker 201; Im provisation, Th, 13pm, Walker 201.
MIT Contemporary Dance Club* - Cynthia Mallick, instruc
tor, Aerobix, M/W, $6: 30-7: 30 \mathrm{pm}$; Jazz $/ / 1 /, \mathrm{M}, 7: 30-8: 30 \mathrm{pm}$
Streteh, W, $7: 30-8: 30 \mathrm{pm}$; Rep, M, M,
 ${ }_{723-7081 .}$
Children's Dance Classes*** Pamela Day, instructo Creative MovementModern Dance clasees for children ages 3-8,
Fri: Ages $34,2: 230: 3: 15 \mathrm{pm}$; Ages $5.8,3: 30-4: 30 \mathrm{pm}$, West Campus
location. Great for boys \& girls; excellent opportunity for nonlocation. Great for boys \& girls; excellent opportunity for non-
Engilish speaking children. For info \& registration, call Pamela,
$\times 3-5791$, TTh mornings or $648-4834$ evesiwkends.

MIT Folk Dance Club** - weekly dancingSSundays, Interna tional Dancing, 7:30pm, Student Center Sala de Puerto Rico
Tuesdays, Balkan and Western European Dancing, 7:30pm, Rm
mater 407 Student Cent
de Puerto Rica.

Rhythmic Gymnastics Classes for Women** - MIT Womens
League classes, Fri, 12-1pm, Rm 10-340. Info: Helena, $596-2396$
Yoga* - ongoing classes in traditional Hatha and Iyengar style
Beginner: Mon, 7.2pmi Intermediatet: Mon, 5:45pm. For infor
mation call Ei Turchinetz, 862.2613 .

## Exhibits

OMMITTEE ON THE VISUAL ARTS

## Albert and Laya 20 Ames Street

Hayden Gallery - Alvar Aalto: Furniture and Glass. The 40 pieces of furniture, 25 glass objects and 35 drawings on view
demonstrate AAlotss sessitivity to indivivual materials, respect
for regional traditions and simple timeless forms in an integraion of architecture and design. Through April 13 .

## David and Sandra Bakalar Sculpture Gallery - Calder: Artist and Engineer, through April 13.

The Reference Gallery - Alternatives to Modernism. Ex
hibition surveys the work of Portuguese architect Alvaro Siza who works outsis

## the mit museum

MIT Museum Bldg - Calvin Campbell: A Photographic Perspective of MIT, Retrospective show commemorating the
retirement of MITs News Office photographer for the past 12
years, through July years, through July 3 . A A Continental Eye: The A Art and Ar
chitecture of Arthur Roteh, 166 watercolors in which the chitecture of Arthur Rotcch, 166 watercolors in which the
19th-century Boston architect recorded his impressions of
Europe and the Near East between 1871 and 1892, through Eur-entury boston architect recorded his impressions of
April 5. Sculpture by Beas beverly Been 1871 and 1892, through
Aeamans, through April 5. Seuipture by Beveriy Benson Aproximately 60 prints
uly 26. Asee Adams Photograph Apple
om the collection of Ron Kurtz, MIT Council for the Arts show com the collection of Ron Kurtz, MIT Council for the Arts, show
Adams control of technique and technology to support a whol
personal and internal vision, April 9 through July 31 . Open.
 erostatic Marhines: Early Ballooning in France and Bri
in, Prints from MITs Vail Collection illustrate the develop ations for stering balloons, and aert including views of Parisis and ther cities, through April 12 . Three Photographers photos by
inda Cuccurullo and Gordon Thomas (MIT Libraries staft) and Carolina Salguero (formerly of MIT Dept of Architecture)
through April 19. Minor White: Photographs, 102 prints dating from the 1930: to 1968, through March. Ongoing ex-
hibits: Gjon Mili 27: AT: Tribute Born in Rumania, world
famous photographer Gjon Mili studied electrical engineering at MIT and pioneered in the use of electronic flash and multiple
 these changeable, touchable plasma sculptures. Hours
Weekdays $9 \mathrm{am}-5 \mathrm{pm}$, Saturdays $10 \mathrm{am}-\mathrm{pm}$.

Compton Gallery - Nihonga: Contemporary Japanese
Paintings in the Traditional Style, Representative works by 8 contemporary Japanete artrists, throug
Weekdays $9 \mathrm{~mm}-5 \mathrm{pm}$, Saturdays $10 \mathrm{am}-4 \mathrm{pm}$.
Hart Nautical Gallery
Ongoing exhibits: Currier \& Ives Prints From the Hart
Nautital Collections - Colored lithographs of sailiboats, steam-
boats, clipper ships and whalers. George owin Yet: Yacht
Designer - Line drawings and half-modeles designed by one of
the early professors of naval architecture at MIT MIT Seagrant

- A review of MIT ocean research; Collection of Ship Models
- Half-models and drawings. Historical view of the design and
Edgerton's Strobe Alley - Exhibits of high speed photography.
Main corridor, 4th floor
Corridor Exhibits
Corridor Exhibits: Building $1 \& 5$, 2nd floor: John Ripley
Freeman Lobby, Building 4: Norbert Wiener Karl Taylor Compton. Community Service Fund, Ellen Swallow omen at MIT. Five photographic panels with text documenting
the circumstances that increased the number of women in the
assroom since Ellen Swallow Richards. Building 6: aboratory for Ph

Institute Archives and Special Collections - Planning the
New Technology. Part Two: Constant Desire Despradelle Copley two a a three.-part series about the relocation of MIT famp
Camidge portrays the impressive design
project began, several of his ideas were incorporated into the
ultimate plan by his successor, William Welles Bosworth. Hall
exhibit case across from 14N-118. Monhegal Still Lifes - through May. Anchitecture \& Planning
Computer Resource Laboratory sequential exhibit of photoComputer Resource Laboratory sequential exhibit of photo-
graphs by Leland Smith ,eecher of filmmaking and photo
graphic darkroom skills at the MIT Student Art Association. Profile: A Detour Through MIT - Selected artworks by
Jennifer J. Lin in honor of Women's Week, Wiesner Student Art
Gallery, Student Ctr 2nd Floor, April 7 through April Gennier $J$. Lin in honor of Women's Week, Wiesner Student Art
Gallery, Student Cr 2 nd Floor, April 7 through April 20 .
Funded in part by the Council for the Arts at MIT. Jerome R Wiesner Student Art Gallery - for 1986 schedul ing, any MIT student or student group interested in showing or
performing art in the Gallery, call Andy Eisenmann, x 3.7019 in
$\operatorname{Rm}$ W20.429, M. $\mathrm{F}, 9.5$

## Sports

HOME EVENTS: April 2: Ws Softball vs Clark, $3: 30 \mathrm{pm;}$; Ms
Tennis vs Bowdoin, $3 \mathrm{pm} ; \mathrm{Ms}$ Solleyball vs Brown $\&$ Yale, 5 pm .
 colby, 3pm. April 5: Baseball vs Dartmouth, 1 1pm; Ms Hwt Crew
vs Columbia; Ws Crew vs UNH, Northeastern, Radeliffe; Lacrosse vs Nichols, 2pm; Sailing, Northern Series. IR Regegatte,
12noon; Ms Tennis vs Dartmouth, 1 pm April 6: Baseball vs
 nis vs Penn State, 2pm. April 9: W's Softball vs Framingham
State, 3:30pm. April 10 . W's Softball vs Suffolk, 3:30pm; Ms
Tennis vs Mt Holyoke, 3pm; Track vs Springfield, 4pm. April 12:
 13: Ms Hwt Crew vg Coast Guard; Ws Creww vs Columbia,
Rutgers; Sailing, Greater Boston Championships (Oberg Rutgers; Sailing, Greater Boston Championships (Oberg
Trophy), 10:30am.

## Wellesley Events

Jewett Arts Center*- Recent Acquisitions and Alumnae
Gifts, through June 8. Major Drawings From an Alumne Collection, recent acquisitions from the collection of Dorothy
Braude Edinburg ' 42 , through June 8. Contemporary Prints Braude Edinburg '42, through June 8. Contemporary Prints
from the Permanent Collection, continuing. Francesca
Woodman: Photographic Work, April 9 through June 8 . Careers Panel: History*** History Dept/Ctr for Women's
Careers "Your Major and Your Careers" Series, April 2,
7:30-9pm, Library Lecture Rm. Coming Home to Self, Going Home to Parents: Disclosure
of Lesbian Identity*** Lennie Kleinberg, EdD, Stone Ctr of Lesbian Identity*** Lemnie Kleinberg, EdD, Stone Ctr,
Women's Psychological Development: Theory and Application
Seminar, April 2, 8pm, Science Ctr Rm 377.

As Boys Become Men: Learning New Male Roles**-
Cooper Thompson, visiting research scholar, Ctr for
Research on Women Luncheon Seminar, April $3,12: 30 \cdot 1: 30 \mathrm{pm}$, Wellesley College Ctr for Research on Women, 828 Washington
St.

## Women Poets of Latin America: Poetics and Poetry** - Marjorie Agosin and Joy Renjilian-Burgy, Wellesley Col-

 lege, Latin America Today: A Wellesley College Symposiumeaturing poets Cecilia Vicuna (Chile-NY) and Rosario Marale uerto Rico-Cambridge), April $3,7 \mathrm{pm}$, Pendleton Rm 105.

How Not to Get Cut by the Competitive Edge: Uses and
Abuses of Competition
April 3, ${ }^{\text {- }}$ - Wellesley College ACCESS Event, April 3, 7pm, Munger LR.
A Midsummer Night's Dream** April 3-5, 8pm, Shakespeare
House. Admission: $\$ 3$. The US, Central America and the Caribbean: The Issues
nd the Alternatives** - Keynote Address: Prof Abraham and the Alternatives** - Keynote Address: Prof Abraham
Lowenthal, U of Southern California, executive director,
Inter America Dialogue, Latin America Today: Wellesley
College Symposiuml April 4.3.30pme Science Cr

Organ Concert** - Renaissance and baroque music on the Fisk
organ by James Christie, April 4, 8pm, Houghton Memorial

Kurt Weill in Lights* - Cabaret style concert performed by German, French and English with Testimonial Literature: Witnessing History*** - Lorraine
Roses, Wellestley College, and Teresa Mendez Faith, St
Anselm College, moderators, Latin America Today A
Wellestey College, Sympoeium Panel Discussion, April 5, 9 , 3 aam, Wellesley College Sy
Science Ctr Rm 377 .
Debt, Development and Democracy: South America's Dilemma**- Monica Peralta Ramos, Argentine Embassy,
Washington, DC; Benjamin J. Cohen, Wm L Clayton Prof
of International Economic Affairs, The Fletcher School of of International Economic Affairs, The Fletcher School of Law and Diplomacy, Tufts University; Prof Eliana Car-
doso, Boston University, Latin America Tbday: A Wellesley
College Symposium, April 5, 11am, Science Ctr Rm 377 .

Networks*** - Panel Discussion, Wellesley College ACCESS
vent, April $5,9: 30-11: 30 \mathrm{am}$, Science Ctr Rm 277.
Concert* - The Wellesley Widows, Close harmony a cappella concert with the Stanford Fleet Street Singers, the Harvard
Krokodiloes and the Princeton Nassoons, April 5, 8pm,
Houghton Memorial Chapel.

Luncheon Seminar* - Aida Bortnik, coscript writer, The
Official Story, Latin America Today A WWllesley College Symposium, April 7, 12:15pm, Green Hall Rm 329. Bring a bag
lunch.

Reflections on Life in Nicaragua Today* - Maurizio Viana, asst prof of Italian, Wellesley College Latin America Today;
A Wellesley College Symposium Luncheon Seminar, April 8,
12:15pm, Green Hall Rm 329 . Bring a bag Writing is "In" at Wellesley* - Friends of the Library Discus-
sion on how today's students learn new writing skills, how the library is involved and how the students like Writing 125, April

Women's Protest in Chile Today* - Ximena Bunster, Chilean anthropologist and advisor to the Allende Govern-
ment, Latin America Today; A Wellesley College Symposium,
April $8,7: 30 \mathrm{~mm}$, Pendleton Rm 112 . Careers Panel: Philosophy** - Alumnae panel, Philosophy
DeptCtr for Womens Careers Biography of Frida Kahlo* - Martha Zamora, Mexican ar
historian and artist, Latin America Today: A Wellestey College ymposium Slide Lecture, April 9, 4:15pm, Library Lecture Rm. Careers Program: Dual Career Couples** - Alumnae \&
husbands, Wellesley College ACCESS Event, April $9,7 \mathrm{pm}$,

Harriet Beecher Stowe ${ }^{*}$ - Prof Mary Kelley, Dartmouth Perspectives on Separation and Agoraphobia** - Mary
Wou Randour, post-doctoral fellow, Ctr for Research on
Women Luncheon Seminar, April 10, 12:30-1:30pm, Cheever Women Luncheon Seminar, April 10, 12:30-1:30 pm, Cheever
House. Bring a bag lunch; coffee provided.

## *Open to the public $* *$ Open to the MIT community only

Send notices for Wednesday, April 9 through Sunday, April 20
to Calendar Editor Rm 5-111, before noon, Friday, April 4 :

## -Here \& There $\rightarrow$

Dr. Walter H.G. Lewin, professor of physics, has received a prestigious invitation to address many of the world's leading astrophysicists at Princeton University in a series offivelectures. The series, which is given anome in this -who liscuss topics of personal interest Dr. Lewin has returned to MIT after. full year as a visiting professor at the MaxPlanck Institute for Extraterrestrial Phys ics in Garching West Germany. His stay was made possible by a John Simon Memorial Guggenheim Fellowship and by an Alexander von Humboldt award made to Dr. Lewin for his scientific accomplish ments as a pioneer in X-ray astronomy
Professor Lewin said he will draw on his work overseas for several of his five lec tures. One will be for a general physics audience, while the others, for astrophysi cists and astronomers, will be on specific topics. These will include recently ob-served-and still unexplained-quasiperiodic oscillations in X-ray stars ("a new
and hot topic"), and the phenomenon of and hot topic"), and the phenomenon of
nuclear explosions on the surface of neunuclear ex

Professor Harold E. "Doc" Edgerton wears his medals well, having received so many honors and awards over the years National Inventors Hall of Fame for his invention of ultra high-speed photography The patent for the specific invention cited in the award, "Stroboscope," was issued Aug. 16, 1949.


The Inventors Hall of Fame was estab shed in 1973 by the US Department of Commerce to honor individuals who have made great contributions to the nation' velfare through patented inventions tha have advanced the nation's technology Thomas A. Edison became the first membe of the Hall of Fame and since then 63 othe ventors have been added to the ceremon , los Patent an rademark office side Washington
Professor Edgerton joins two other MIT aculty members in the Hall of Fame, Dr ay W. Forrester, Germeshausen 197 or his development of corememory whic or his development of core memory, which digital computers, and Dr. Charles Stark Draper, Institute Professor Emeritus and professor of aeronautics and astronautics emeritus, inducted in 1981 for his inven tion of gyroscopic apparatus that led to nertial guidance systems used on aircraft ubmarines, missiles and spacecraft.

An MIT research scientist, James D Mendelson (SM in geophysics, '84), re ently returned from a two-month cruise the Tyrrhenian Sea off southern Italy. But it wasn't quite the kind of cruise we usually
associate with the winter months. Mendel son, of the Earth Resources Laboratory in the Department of Earth, Atmospheric an intantaional team of 22 acints an international team of 22 scientists who pent 50 dass a sea invergating how 8 million years ago and new oceani 8 minlion years ago and a new
basin (the Mediterranean) formed
Their drill ship drilled 11 holes into the eafloor in water depths up to 11,550 feet penetrating more than two miles of sediment and rock. Mendelson the mission' logging scientist, was responsible for designing and implementing the program by which in situ data was acquired from each of the drill holes through remote sensing equipment lowered into them.

From the Department of Chemistry
Dr. Sylvia T. Ceyer, assistant profes sor of chemistry, has been awarded an Alfred P. Sloan Award-a total of $\$ 25,000$ -for two years of research support. Dr. K. Barry Sharpless, professor of chemistry, will be the first recipient of th Orgaic Synth The preativistin Organic Synthe ill be pising every other year to an organic chemist under the age of 50 .

Dr. Ky T. Lowenhaupt, a postdoctoral fellow in the Department of Biology, recently was awarded a research grant by the National Arthritis Foundation to advance the study of the rheumatic diseases. The foundation, which makes such awards to promising scientists across th nation, has given more than $\$ 700,000$ in grants in 1985-86 to medical researchers in Massachusetts, the largest amount for an state. Dr. Lowenhaupt is working on study entitled Mapping of Chromatin Structure: Z-DNA Potential Sites. Sh received her BA in chemistry from Carlton College and her PhD from the University of Cincinnati in 1979

## PRESS CLIPPINGS:

-Dr. Richard C. Mulligan, assistant professor of molecular biology, plays a leading role in a seven-part Chicago Trib Fates:The Prom article calls Professor Mulligan "a sprinter on the fastest track in medical science "In another article, Dr. David Baltimore, Nobel Laureate, professor of microbiology and director of the Whitehead Institute for Biomedical Research, offers a cautionary note: "There are still technical impasse which make even the first demonstration projects [in gene therapy] an uncertain distance in the future. The series also notes that another MIT Nobelist, Dr. H. Gobind Khorana, Alfred P. Sloan Professor of Biology and Chemistry, "was the first to make an entire functioning gene by hand.'
-Dr. Robert C. Merton, J. C. Penny Professor of Management, told The Boston Globe that the surging stock market was likely to be "selective in its impact on consumption. . .[It] may make people feel bet-
ter, but for the vast majority of people it won't have too much effect.
-Also in the Globe, architecture critic Robert Campbell cited MIT's Baker House architects Alvar Aalto and Eero Sarinen respectively buildings in the Boston area. He described BakerHouse as "a dorm whose brick walls undulate like the Charles River it faces. It is remarkably inventive in every aspect, yet always serene" The chapel, he wrote "is a tiny brick cylinder that looks trivial from the outside, yet, within, creates a theatrically religious and meditative atmosphere.
-The 1986-87 edition of the "Insider's Guide to the Colleges," published by The Yale Daily News, describes MIT's students as notori

## New civil engineering program set

(ES\&C), a new educational track will be offere by the Department of Civil Engineering be ginning September 1986
The curriculum is designed for student who wish to acquire a broad engineering based systems and computation knowledge it focuses on software and system-analytic tools for dealing with large and complex engineering issues.
The program prepares students for careers in such fields as engineering model building applications software development, large scale systems analysis, engineering applica-
tion of robotics and automation and data
acquisition and processing.
The track also lays a general engineering systems and computation basis for people interested in careers outside engineering These include graduate studies in business management, operations research, planning engineering project management and further study in application areas such as transpor tation, energy, the environment and logistics Further information on the program may be obtained from the Civil Engineering Aca
demic Programs Office, Rm 1-281, x3-7107.
 Tech Talk ads are intended for personal
and private transactions between members of the MIT community and are
not avaiable for commercial use. The
Tech Talk staff reserves the right to edit ads and to reject those it deems inappro-
priate. MIT-owned equipment may be
disposed of through the Property Office, x3.2776.
INSTRUCTIONS: Ads are limited to
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son per issue and may not be ereated in
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panied by full name and extension. Per
sons who have no extensions or who wish son list only their home teelephones, must
come in person to Rm 5.111 to present In.
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sions may be sent via Institute mail. Ad
are not accepted over the telephone. Deadline is
publication.

For Sale



















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vrasty rng, 7 fine stones, 8250 . Call




W8 5.spd bike, baskts, lock, 375 . Call
49451544 eveswkends

 circa 1940,
$x 30996 / 0585$.
Kenmore gas rangestl, 8150 or bet; oak
ktchn cobts, exc cond, 8650. Call $x 3 \cdot 2499$ Piano, Chickering console, exc cound,
$\$ 1,200$. Call $x 4440$ Linc or $648-1838$.
Violin by M. Heinicke Bohemia 1905, exc
cond, 83,800 . Michell, $x 56509$ dorm.


Vehicles
'69 Ford LTD hrdtop, only 63K, young in
spiriti, eng exc, rns perf, currnt tinsp ptckr, bdy a mess, $\$ 200$. Sheila, $\mathbf{x} 3.3278$.


 73 VW Bug, rns well, nds some wrk. s200. Kim, $\times 3-0967 / 6746$ or $277-3738$
eves.
 73 Ford Torino, 30K, 8 cyl, exc cond, no
rat, 31,000 or bst. $J$ Jim, x2960 Linc
 74 Valiant, $58 \mathrm{~K}, \mathrm{vs}$, air, auto, 4 dr , exc
cond, 81,100, Harvey, x 3 .5265.
 81,800 or bst. Craig, $\times 3133$, Line or
4842358 . 74 Ford Pinto wgn, nw trans, exh, rns
well by by gd cond, 8500 or bst. Call
577.1637 . 74 Mercedes Bens 45098, 4 dir sdn, gd
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 76 Chery Chevette, $38 K$, mnt cond,
bright green, 11,000 . Bette, $x 3-4971$.

 358.7615.
78 Honda Goldwing full drss, CB, air
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 78 Chevy Monza, V6, auto a/c hatch, ps,
Dh, AMFM, 80K, 81,000 Call $\times 3.0902$ or
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## Housing


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 Elgnt wrfrnt livng. hseboat in Boston
Harbr, convrd "blek irn" rivetd hull $100^{\prime}$
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 Medford, spacious 5 rm apt, $1 / 2$ bsmnt,
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## Animals



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Old Fanny Farmer cookbook, early '60s
ed. Maria, $x$.3-285

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Lost and Found


Found key to Mazda, found $3 / 26$. Call
Miscellaneous


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Surplus Property


are sold to individuals Where noted bids
and offers go to Tom Donnells. Property are sold to individuals Where noted bids
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Disposal Offiees E19-429, x3-2779, with Disposal Officer E19-429, x3-2779, with
number on marked Always reference case
right to reject any and all bidserves the Case 1692 - To inspect call Priscilla
Cobb, x3-5997: Epson dot matrix printer,
mdl MX-1180 FTT Case 1685 - For sale by sealed bid. Bids spect call Paul
metal lathe, $15^{-}$- swing.
Case 1698 - Transfer of MIT funds re-
quired. To inspect call John McNeil,
x $3-8983$ : NEC computer,
Case 1705 - Transfer of MIT funds re.
quired. To inspect call Bruce Russell, x3.3204: Linde wire feeder, mdl MIG-311,
Plus Linde mdl MT600 Toreh and Mdl
MT400 Torch. MT400 Torch.
Case 1709 - Transfer of MIT funds re-
quired. To inspect call Virginia Pochetti,
x3-4895: Redactron Corp word processor. Case 1716 - Transfer of MIT funds re-
quired To inspect call Mike Hale, Case 1674-Tb inspect call Joe Sincuk,
$\times 3.2511:$ Beach-Russ Co compressor win-
 the basis of race, color, sex, sexual orientation, religion, han-
dicap, age, or national or ethnic

 its programs and activities.
 er experience preferred. Strong organiza-
tional skills, ability to work with a varie-
ty of projects and people, costing and
budget experience, and ability to work without dir
A86-700
Technical Staff, Physics, to be in charge of preparation and development of lecture
demonstrations. Will work with physics deg sistant (10-215)
Office (E19-239).


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


## Ken Hewitt Dick Higham

## Dick Higham Virginia Bishop Appointment

 \begin{tabular}{ll} Therese McConnell \& $3-4274$ <br>
Oveta Perry \& $3-1594$ <br>
Kenneth W. Chin \& $3-4269$ <br>
Sally Hansen \& $3-475$ <br>
\hline Appointments: \& $3-4288$ <br>
Maureen Howard \& $3-4268$
\end{tabular}

## $\underset{\substack{\text { Kim Bonfiglioli } \\ \text { Appointments: }}}{\text { Kin }}$

Administrative and Academic Staff

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## Assistant Director of BPEC Consor- tium, Biotechnology Process Engineering

tium, Biotechnology Process Engineering
Center, to provide servies to the
25-member companies of the Consortium. Will plan and implement act activitiess act as
liaison between representatives of
member companies, faculty participants member companies, faculty participants
(7) professoss), and reseerch staff (
ple) peeo- oversee the writing and production of ple), oversee the writing and produation or
a quarterly technical newwletter, organize
research briefings, workshops, and symposium programs for the industrial Consortium members; identify and coordinate
specific teccnnical needs and invovement
between the Center's faculty members with the industrial sector, assist in the
preparation of budgets, proposals and anpreparation of bugets, proposals Cond an-
nual reports of Center and Consor.
tium; oversee and design laboratory technology exchange and transfer in
patents and licensing from the Center's
research and development programs; coorresearch and development programs; coor-
dinate short and long term visits by in-
dustrial scientists and engineers: and dustrial sciencists and engineers. and
solicit research proposass from industry.
Will also serve as liaison with the MIT Will also serve as liaison with the MIT
community; respond to inquiries about
the Center and Consortium; and solicit the Center and Consortium; and solicit
new Consortium members. B. in biology
or chemical engineering and either a
master's degree in a relevant field or two master's degree in a relevant field or two
plus years experience in a chemical, phar-
maceutical or biotechnological company required. Must be well.spokeken and willing
to travel. Skills in techical writing and
communication are essential. R86-948 Research Scientist,
Laboratory of Electronics, to conduct both experimental and theoretical research on
the mechanical propertie of the receptor
cells in the ear. Will perform experimet cells in the ear. Will perform experiments
involving optical measurements of the
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or Mechanical Engineering and three to
five years of experience are required as is five years of experience are required as is
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Physiology. Familiarity with the Physiology. Familiarity with
numerical solution of partial differ
equations is desirable. R86-947
Research Specialist, Chemistry, to per-
form basic immunological and
biochemical procedures in biochemical procedures in a large
research group. Will prepare antigens,
produce antibodies in rebite produce antibodies in rabsiss and mice,
perform radio immunoassass and further
related routine biochemical assays. B.S. degree and one or more years experience
in biological science research lab rein biological science research lab re-
quired. Ability to work independently on
defined research projects important. defined
R $86-945$

## Sponsored Research Staff, Laboratory for Nuclear Science (temporary, one-year

 appointment). The Center for Theoretical plicants in the areas of nuclear or particletheory. Ph.D. in nuclear or particle theoretical physics, superior graduate
recod, and demonstrated ability to o ef-
fective research in fective research in areas of interest to
members of the Center are required.
Selection is based on letters of recommen. Selection is based on letters of recommen-
dation, published research, and perhaps a
visit or seminar. There is a possibility of visit or se
renewal
R86-943
Research Associate, Center for
Technology, Policy, and Industrial Development, to act as Environmental
Health Risk/Policy Analyst. Will lead and
participate in science-based policy analy. participate in science-based policy analy-
sis projects related to biotechnoology and
to to occupational and environ mental
health. Requirements include ap.D. in
chemistry, biology, biochemistry, chemistry, biology, biochemistry,
molecular biology, bacteriology, gentics,
biostatistics, or another allied discipline; at least two years of relevant experience
beyond the P.D.D using ccientific informa-
tion to illuminate public policy ten to illuminate public policy questions,
excellent writing skilss, and good quan-
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## CSF Road Race scheduled

Fund Road Race will take place at 9:30am, Fund Road Race will take place at 9:30am,
Saturday, May 3. This year's race will be part of the festivities celebrating MIT's Quasquicentennial Anniversary. The four-mile race the Walter C. Wood Sailing Pavilion on Memorial Drive, proceeding along the river to the Museum of Science, returning along Stor-
row Drive and over the Harvard Bridge and row Drive and over the Har
The entry fee is $\$ 5$ (post entry is $\$ 6$ ) and all members of the MIT and Wellesley communi ties, Draper and Lincoln Labs, and alumni in
the Greater Boston area are eligible to particthe Greater Boston area are eligible to partic-
ipate in the race. Prizes will be awarded to the ipate in the race. Prizes will be awarded to the
overall male and female winners, and Masoverall male and female winners, and Mas
ters champions (male and female over 40 ). We expect the Quasquicentennial events surrounding the race to add a special flavor of excitement this year," said Ron Suduiko, spe-
cial assistant in the Office of the Chairman of cial assistant in the Office of the Chairman of the MIT Corporation and secretary of the races. Both the runners and the race organizers seem to agree the race is a grea
help the Community Service Fund."
Registration forms, along with the release forms to be signed are available in Rm 5-208, the Athletic Department Equipment Desk, Pre-entry closes Thursday, May 1. Charlene

## Moebus is named ILP associatedirector

Thomas R. Moebus, former assistant direc
 sciences division of the
Industrial Liaison Program (ILP), has been
promoted to associate promoted to associate
The appointment was announced by Dr. James M. Utterback, director
of the Industrial Liaison Program. Mr
Moebus has taken the place of Dr. Kay Tama ribuchi, who has been
named special assistant for resource develop-
ment in the office of Dr. David S. Sax on, chairman of the Corporation
Mr. Moebus joined the MIT Associates Pro Mr. Moebus joined the MIT Associates Proit merged with ILP in 1982, he became an
Industrial Liaison officer. In 1984, he was Industrial Liaison officer. In 1984, he was promoted to coordin January 1985 became assistant director Before his employment with MIT, he was a
metallurgical engineer for the Wyman-Gordan metallurgical engineer for the Wyman-Gordan tant for private Massachusetts agencies in

 trial management fom MTI in ilgov, and duan MA degree in education from Clark Univer sity in 1975.
Dr. Menand to speak
Dr. Louis Menand III, senior lecturer of political science, will be one of three speakers who will address "Government Gridlock: is Government Thursday, April 10, at 7:30pm in Faneuil Hall,
Boston. Other speakers will be Lloyd Cutler, lawyer
and presidential advisor, and Elliot Richardson and presidential advisor, and

Placido in the Office of the Dean of Science and Cathy Larson of Mechanical EngineerAmong the race sponsors are Bay Bank Harvard Trust Co.; The Charles Stark Draper Lab, Inc.; Etonic, Inc.; MIT Graduate Student Council; MIT Graphic Arts; and Seilers. offered by Marathon Sports, Medford Sports and Toscanini's Ice Cream.
Previous men's winners: Steve Bratt (1981, 1983), Colin Kerwin (1982), Bob Walmsley 1984), and Sumner Brown (1985). Women Rusty Byrne (1981), Sarah de Leon (1982) and Ruth Heffernan (1985) Babcock (1984), nd Ruth Heffernan (1985)
Three hundred and one runners finishec
the race in 1981, 380 in 1982, 269 in 1983, 346 the race in 1981, 380 in 198
in 1984, and 350 last year.
All proceeds from the race go to the CS which was formed in 1968 to encourage MIT volunteer involvement in various projects in the Cambridge-Boston area

## Pugwash to sponsor talk by energy expert

Dr. Theodore B. Taylor, an internationally recognized auth.rity on energy technology and a widely known advocate of nuclear arms April 3, in Edgerton Hall(Rm 34-101). His talk has been arranged by the MIT Student Pugwash organization
Dr. Taylor is president and chairman of NOVA, INC., a renewable energy company in Damascus, Maryland. The company is focusponds," a concept Dr. Taylor invented for process cooling, air conditioning and water
purification.
Dr. Taylor, who holds the BS in physics 1945) from California Institute of Technology and the PhD in theoretical physics (1954) from Cornell University, designed nuclear weapons from 1949 to 1956 at Los Alamos
Scientific Laboratory. From 1956-1964 he Scientific Laboratory. From 1956-1964 he worked on nuclear space propulsion and
nuclear research for General Dynamics and from 1964-66 was deputy director (scientific) of the Defense Atomic Support Agency with primary responsibility for the Defense Department's nuclear weapons effects program. and Technology Corp. in Washington, D.C., to access the beneficial and harmful effects of modern technology. He was chairman of the corporation until 1976 when he joined the faculty at Princeton univerity as visiting lecturer with the rank of full professor. He held
that post until 1980 when he founded NOVA,

## NAE elects five

Robert P. Clagett (1967), former general manager, R\&D, AT\&T Technologies, Inc., John K. Galt (1947), vice president, Sandia National Laboratories, Robert H. Park (1923), president, Fast Load Control, Inc.; John R. PaulUniversity of California Berkeley; John W Poduska Sr. (1959), board chairman, Apollo Computer, Inc.; Ephraim M. Sparrow (1948), professor of mechnical engineering, University of Minnesota; Max T. Weiss (1947), vice president, Aerospace Corp., and John J. Wise (1966), manager, Paulsboro Research Laboratory, Mobil Research and Development Corp.


Professor D.V. Brown dies at 82
 reaching effects beyond the campus.
A charter member of the National Academy A charter members, "he played an important role not only in shaping a variety of unionmanagement relationships but in shaping resolution of industrial conflict," said Sloan School Dean Abraham J. Siegel.
During World War II, Professor Brown served as a consultant to the US Departments
of Labor and War and held various positions with the Advisory Commission to the Council on National Defense and Office of Production Management.
He also was a staff member of the HarrimanBeaverbrook Board, which went to the Soviet Union to arrange for sending Lend Lease war materiel to Russia fo
ing German army.
ing German army
1958 he served 1952 and again from 1955 to 1958 he served as a member of the Research Advisory Board of the
It was as a Massachusetts labor arbitrat in the postwar years that Professor Brown came to public attention through widely publicized rulings in trucking and textile disputes. Later, as one of MIT's first Urban Felputes. Later, as one of Mre head a study of labor relations and personnel administration in Boston's municipal government.
Professor Brown graduated from Harvard
University in 1925, received his master's
degree the next year and the PhD in 1932. He 1927 to 1933 and assistant professor of medi cal economics at Harvard Medical School from 1933 to 1938

He came to MIT as an assistant professor of industrial relations in 1938, and was subsequently promoted to associate professor and professor. In 1946 he was named Alfred P.
Sloan Professor of Industrial Management, filling a new chair endowed by Alfred $P$. Sloan Jr In 1959-60, he was Ford Foundation Visiting Professor of Industrial Relations at the University of Chicago's Graduate School of Business. In 1969 he became professor emeritus, but continued to serve Sloan School as senior lecturer through 1974.
Professor Brown directed a research protions Section on the implications of technological change and automation. He was chairman of the MIT faculty in 1949-50
At his retirement, colleagues and former students contributed to a festschrift that praised his influence and abilities as a teacher. Howard W. Johnson, then MIT president and a former Sloan School dean, wrote.
"Generations of MIT students, undergraduate, graduate and postgraduate, will remember many personal instances in which he counseled, prodded, pressed or queried - all in the interestor the edacational process or mak they possible Ner patience had limits when it came to helping his students and his colleagues.

Another contributor was George P. Shultz, now Secretary of State and a former student and faculty member at MIT, as well as a former Secretary of Labor, director of the Office of Management and Budget and Secretary of the Treasury. "He has great respect for the individual person," he wrote of Professor Brown. "This begins with self-respect and continues to an acceptance of honestly held try to force his views on anyone else
Professor Brown's wife of 51 years, Mary, died in 1984. He leaves two daughters, Deborah Green of Lexington and Constance Brown

## Memorial held for Secor Browne <br> vailable to all travelers, regardless of whether

A memorial service was held Tuesday, April
, at Memorial Church, Harvard University,
 or Secor D. Browne, a
former MIT faculty memer who was chairman of the former Civil Aero1973. Mr. Brownedied March 23 in Boston after Mr . Browne, whose varied interests enabled him to hold joint appoint-
ments at MIT in the Department of Aero-
nautics and Astronauics and the Department
of Modern Languages, first became associated with MIT in 1957 as an informal advisor to
the director of libraries on the purchase of the director of libraries on the purchase of
Russian books. Later that year he was appointed special assistant to the director of pointed special assistant to the
In this post he was responsible for negotiatIn this post he was responsible for negotiat-
ing with the Russian Academy of Science for the exchange of scientific literature, resulting in the establishment of a large collection of Russian scientific literature at MIT. He also was instrumental in arranging an exchange was instrumental in arranging a
In 1953 Mr . Brown was appointed to the faculty of the Department of Modern Languages, where he taught scientific Russian to guages, where he taught scientifal candidates. In 1962 he was given a simultaneous appointment in the Department of Aeronautics and Astronautics, where he taught a graduate seminar in flight transportation. He was promoted to assoc
While still at MIT he was elected chairman of the board of the Flight Safety Foundation, Inc., a nonprofit organization devoted to air
safety. He also was president of Browne and Shaw Company, Inc., which specialized in mechanical equipment applications for the
aircraft industry, and of the Browne and aircraft industry, an
In 1969 he became assistant secretary for research and technology in the Department of of the Civil Aeronautics Board by President Nixon. As head of the agency responsible for
the economic regulation of the airlines, he the economic regulation of the airlines, he was widely credited with helping restor
He resigned as CAB chairman in 1973 and returned to MIT for two years as a visiting professor in the Department of Aeronautics the Advanced Study Program in Air Transportation. A widely sought consultant, he also
formed Secor D. Browne Associates of Washington, D.C
Mr. Brown was born in Chicago. He received and served nearly four years in World War II, enlisting as an aviation cadet and rising to the rank of major
Known for his charming manner and his
wit, Mr. Browne defended his action as CAB chairman in making bargain charter flights
they belonged to an "affinity" group, by saying: This will bring low-cost air travel to a necessarily three-legged Armenians or librarans from Ashtabula."
Another time, describing for a reporter the sensation of involuntarily leaving an airplane get the feeling that the earth is very hard and very sharp. In fact the world is a great mass of spikes, telephone poles, trees and chimneys. And it's not only being skewered that's a posAnd itis not only being skewered that's a pos-
sibility also can be dragged, which means you can be fileted, too
And when the MIT News Office drafted a release saying he was fluent in five languages, he responded, "Fluent ungrammatical might say that."
A former resident of Lincoln, Mass., Mr. Brown leaves his wife, Constance, eight
children or stepchildren, six grandchildren, a children or stepchild
sister and a brother

## Kathryn Bushnell

Kathryn A. Bushnell, 66, of Lowell, died March 19 after a long illness. Retired in 1982 , she was an assistant publications officer at ago as a clerk. She was also a member of the Quarter Century Club.
Mrs. Bushnell leaves her husband, Edward F., a daughter, Kathryn McCarthy of Lowell; a son, Edward Jr. of Chelmsford and four grandchildren.

## Mary O. East

Word has been received of the March 3 death of Mary O. East, 77, of Boston. Miss East was a senior secretary in the Departretirement in 1974. She leaves no survivors.

## Joseph Simone

Joseph L. Simone, 85, of Reading, formerly of Watertown, an accounting clerk at the Lincoln Laboratory Fiscal Office from 1952 until his retirement in 1965 died March 22. He is survived by his children, Thomasina S. Kelly, Peter F. and Robert T. of Reading; Grace Driscoll of Weymouth; Rita Neville of Waltham; Joanne Yore of Somerville and Joseph A. of East Falmouth; two brothers, Thomas of Revere and Anthony of Watertown; two sisters, Teresa Bellantoni and Ann Tornabene,
both of Newton Center; 20 grandchildren and both of Newton Center; 20
five great grandchildren.

## Wallace Fleming

Wallace Fleming, 87 , of Milton, a project machinist from 1952 until his retirement in 1966, died March 28 after a long illness. He had managed the Civil Engineering laboratory in the hydrodynamics for 14 years. He is survived by a sister, Mary Fleming of Milton, and several nieces and nephews.

