

Reid Named As Chevron Professor

By ROBERT C. Di IORIO
Staff Writer

Dr. Robert C. Reid, who is widely respected for his teaching, research and writing in the areas of thermodynamics, the properties of gases and liquids, and liquefied natural gas, has been named Chevron Professor of Chemical Engineering at MIT.



Chevron USA, Inc., the major domestic subsidiary of Standard Oil Company of California, established the chair last December with a \$1-million grant.

Dr. Paul E. Gray, president of MIT, announced the appointment of Professor Reid to the chair.

Standard Oil of California is a worldwide integrated petroleum company involved in oil and gas exploration and in developing, transporting, refining and marketing crude oil, gas and petroleum products. Chevron is responsible for oil and gas exploration, transportation, and marketing in the United States.

Professor Reid, co-director of the Liquefied Natural Gas Center at MIT since 1973, has been at the forefront of research on the safe handling of liquefied natural gas.

NASA Cites MIT People

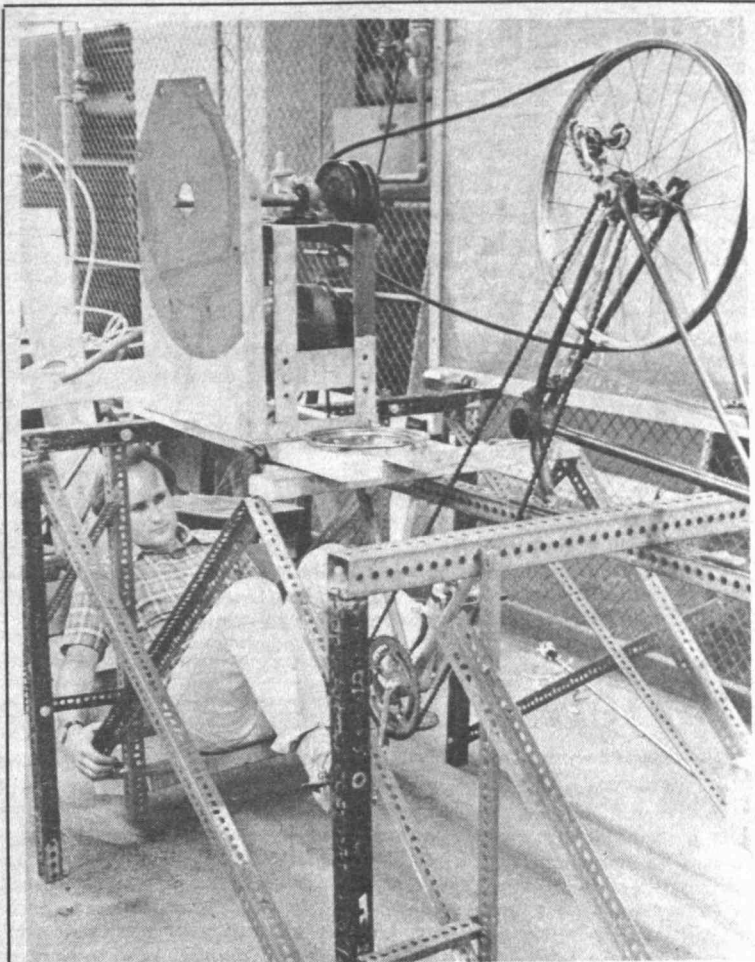
Several people from MIT have received medals and awards from the National Aeronautics and Space Administration for their roles in the Voyager project.

Honored by NASA for "exceptional scientific achievement" were Professor Herbert S. Bridge, director of the Center for Space Research and principal investigator for MIT's plasma experiment on the Voyager spacecraft, and Associate Professor John W. Belcher, both of the Department of Physics. They were cited for their work in furthering the understanding of the properties and origins of space plasmas and their interactions with the giant planets, Jupiter and Saturn.

Robert J. Butler, a member of the CSR's research staff, received the Public Service Medal for his exceptional effort and performance in the management, design and construction of the Voyager Plasma Science Experiment.

A Public Service Group Achievement Award went to the team Mr. Butler headed, which included Dr. Joseph H. Binsack, assistant director of the CSR, and the following researchers, technicians and engineers: Wayne R. Brooks, Ralph G. Burgess, William H. Fairing, Daniel H. Galvin, Edward J. Mangan, Anton Mavretic, Erwin F. Lyon, Joseph R. Morris, Richard J. Murphy, John C. Nickerson, Leo E. Rogers, G. Dale Ross, Margaret E. Ryan and Rolf Steendal.

Professor Stanislaw Olbert of the Department of Physics and Dr. James D. Sullivan of the CSR research staff received certificates of appreciation, Professor Olbert for his essential contributions to the basic theory of analysis used for the Voyager plasma data and Dr. Sullivan for his contributions to the day-to-day operation of the Plasma Science Experiment and to the analysis and interpretation of the positive ion measurements in the Io plasma torus.



Several MIT students, calling themselves Group Velocity, hope to spend this summer building a human-powered pedal vehicle capable of breaking the world speed record of 62.93 miles an hour. Howard J. Rosenberg, a graduate student in nuclear engineering, is shown working with one of several pieces of test equipment the team has built in the basement of Building 3. Group Velocity is seeking to raise \$34,500 to finance the effort and already has \$5,000 of that. Plans call for making the final design choice by the end of June, building the vehicle in July, testing and modifying it in August and running in a timed contest in England in September.

—Photo by Calvin Campbell

Sloan Review Features Synthetic Fuels Debate

The spring 1981 issue of the Sloan Management Review presents two perspectives—one optimistic, one expressing doubt—on the emerging synthetic fuels industry. The issue also includes three articles focusing on international business and an article on staffing innovation-based organizations.

In an article, "Realizing the Potential of Synthetic Fuels," Howard C. Kauffmann, president of

Exxon Corporation, is optimistic about the future of synfuels, stating "We have the mineral, financial and human resources to do it." He argues that the complex problems inherent in establishing the synfuels industry can be resolved through the cooperation of business, government and the public.

Recalling the many failures Thomas Edison experienced in his

July Workshops to Tackle Women's Anxieties in Math

The Personnel Office will offer two separate half-day workshops on math anxiety in July. Both are open to employees, free of charge.

Natalie Gelbert, a consultant in math anxiety, will present "Coping with Math Anxiety" Wednesday, July 8, 8am-noon. The workshop will investigate negative attitudes commonly held about math, misconceptions about learning and performing mathematical tasks and the difference between anxiety and competence. Participation will be limited to 50.

"Breaking through Math Disempowerment: An Experiential Workshop for Women" will be given by Dr. Saj-Nicole Joni, visiting assistant professor of mathematics, noon-4pm Tuesday, July 14. The workshop is designed for women who have been discouraged for one reason or another from pursuing math. In a supportive environment, participants will work with their personal experiences to build a framework for understanding and moving beyond these experiences. Some methods for recognizing and breaking through math blocks and

steps toward increasing math literacy and skills will be taught. Participation will be limited to 16 women.

Applications for either workshop are available in Rm E19-438 or by calling x3-4077.

The workshops were organized in response to widespread concern with math anxiety expressed in a survey conducted this spring by the Women's Advisory Group and the Women's Forum. Out of 374 questionnaires returned, 131 respondents checked math anxiety as an item of interest.

Deadline Nears

June 30 will mark the close of this year's open enrollment period for the MIT Health Plan.

A slide presentation describing the plan will be shown on the hour beginning at 10am today (Wednesday, June 24) in the Bush Room (10-105). Representatives of the Health Plan will also be available, 10am-3pm, to answer questions from prospective or present members of the Plan.

Alberty Resigns As Science Dean

By WILLIAM T. STRUBLE
Staff Writer

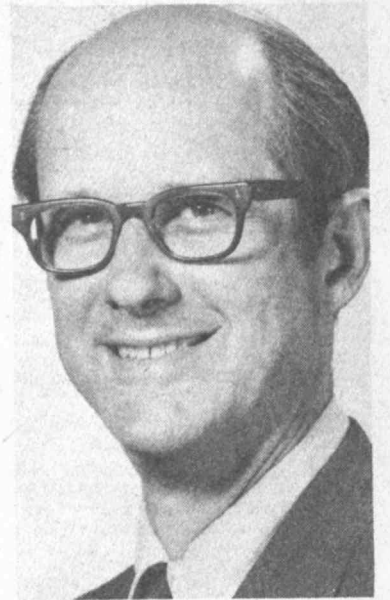
Dr. Robert A. Alberty has announced his decision to relinquish his responsibilities as dean of the MIT School of Science after more than 14 years in the post.

Dr. Alberty will continue to serve as Dean of Science until his successor is found after which he will return to teaching and research as a professor in the Department of Chemistry.

In a statement concerning his plans, Dean Alberty said:

"I have enjoyed the challenges and personal relationships of being dean, but now I am looking forward to my role as a faculty member. I have been the fourth dean of the School. When the School of Science was established by then President Karl T. Compton in 1932, Samuel Prescott was appointed dean. In 1942 his successor was George Russell Harrison. In 1964, Jerry Wiesner returned from Washington to be Dean of Science. Jerry Wiesner became Provost in 1966, and I became Jerry Wiesner's successor as Dean of Science in February of 1967.

"During these 14-plus years, 24 persons have served as department



heads in the School of Science. I appreciate their dedication in working for the welfare of their departments and the Institute.

"The changes in the School of Science over this period have been evolutionary rather than revolutionary, but there has been a significant change in the leadership

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Brace, Stone Will Head Earth Science Courses

Course 12

Dr. William F. Brace, who holds the chair as Cecil and Ida Green Professor of Earth Sciences and who is a leading scientist in the field of rock mechanics and structural geology, has been appointed head of the MIT Department of Earth and Planetary Sciences, effective July 1.

Dr. Brace succeeds Dr. Carl I. Wunsch, who has headed the department since 1978 and who also holds the chair as Cecil and Ida Green Professor of Physical Oceanography.

The appointment of Dr. Brace was announced by Dr. Robert A. Alberty, dean of the MIT School of Science. "We are fortunate that a scientist of

(continued on page 4)

Course 19

Dr. Peter H. Stone, professor of meteorology and widely recognized as an authority on planetary atmospheres, has been appointed head of the MIT Department of Meteorology and Physical Oceanography, effective July 1.

Professor Stone succeeds Dr. Edward N. Lorenz, who has been associated with the department since 1948.

The appointment was announced by Dr. Robert A. Alberty, dean of the MIT School of Science. "Professor Stone has been a leader in studies of the general circulation of the atmosphere and in the development of models of planetary atmospheres," Dean Alberty said, "and we are for-



Noted Meteorologist Jule G. Charney Dies

Dr. Jule G. Charney, former head of the Department of Meteorology and Physical Oceanography, a major world figure in the fields of dynamic meteorology and oceanography, and a pioneer in numerical weather prediction, died Tuesday, June 16, 1981, at the Sidney Farber Cancer Institute. He was 64.

Dr. Charney, who held the chair as Alfred P. Sloan Professor of Meteorology, was an international leader in theoretical meteorology. When he received the 38th William Bowie Medal of the American Geophysical Union in 1976, he was cited as the scientist who had "guided the postwar evolution of modern meteorology more than any other living figure."



Professor Charney extended his research from the use of computers for forecasting to analysis of complex meteorological and oceanographic phenomena for construction of mathematical models of weather and climate. He worked on biogeophysical feedback mechanisms in relationship to drought, particularly the drought in the Sahel, on large-scale atmospheric turbulence, and on a new concept of multiple flow equilibria in explanation of persistent anomalies of atmospheric flow.

In awarding him the Carl-Gustaf Rossby Research Medal in 1964, the American Meteorological Society said in its citation: "Professor Charney's research has led the way to a more fundamental understanding of the atmosphere's general circulation, hydrodynamical instability, the structure of hurricanes, the dynamics of ocean currents, the propagation of wave energy, and many other aspects of geophysical

(continued on page 4)

INSTITUTE NOTICES

Announcements

MIT Health Plan Open Enrollment - Wednesday, June 24. Plan representatives will be available from 10am to 3pm in the Bush Room 10-105. A slide presentation describing the MIT Health Plan will be shown every hour.

M.I.T. Libraries Hours - Independence Day Weekend, Friday, July 3-Sunday, July 5. Student Center Library OPEN. ALL OTHER LIBRARIES CLOSED.

Club Notes

MIT /DL Club**-ACBL Duplicate bridge, Tuesdays, 6pm, W20-473. Info: Arthur, X8-1414, Draper.

Caribbean Club**-Open to MIT-Wellesley community. For more info call Laverne, X3-5961.

Chess Club**-Meets Saturdays, 1pm, Rm 491, Student Center. Info: Brad, X3-7554 or 494-0263.

Equestrian Association**-Info: Karen Hensley, X3-8031, Aline Jones, X5-6413 Dorm, Sue Crowley, X3-4228 or Jose Venegas, X3-2627.

Frisbee Club**-For information: John Schutkeker, X5-7231 Dorm.

Hobby Shop**-Complete facilities for wood-working, metalworking and darkroom. Monday-Thursday, 9am-7pm, W31-031. Fees: \$12/term students, \$20/term, community. Info: X3-4343.

MIT Scuba Club**-For membership info and club activities call Mike Hamner, 491-1284.

Outing Club**-Meetings, Mondays and Thursdays, 5-6pm, Rm 461, Student Center. Like the outdoors? Come share your interests, plan trips, and shoot the breeze. See our bulletin board by the Medical Dept. for current trips and shows.

Overeaters Anonymous-Meetings are held Mondays and Thursdays, 12-1pm, Conference Room 35-338. For info call X3-2153.

Shotokan Karate Club**-Rigorous training for physical well-being and self-defense. Classes meet 6-8pm, Tuesdays and Fridays, Varsity Club Lounge, Thursdays, Dance Room. Info: Jim, X3-8148.

Social Meeting**-Sponsored by GAMIT, everyone invited, gay, bisexual or straight. Drop by for some free refreshments or just to talk. Every Sunday, 5pm, Rm 50-306. Call X3-5440.

Tae Kwon-Do Club**-Korean Martial art involving rigorous training to develop total-body and mind control meetings. Monday, 5-6pm, T-Club Lounge (DuPont); Tuesday, 5:30-7pm, T-Club Lounge; Friday, 7-8pm, T-Club Lounge and Thursday, 5:30-7pm, Dance Studio; Friday, 5-6pm, T-Club Lounge. Call Hal, X3-6055 or Terry, X3-5806, days.

Tiddlywinks Association**-Meetings every Wednesday, Small Activities Office, 4th floor, Student Center, 7:30pm. Interested? Just curious? Everyone is welcome.

Wu-Tang Chinese Martial Arts Club**-Practice, Tuesday, Thursday, 8-10pm; Sun 6-9pm, T-Club Lounge or Dance Studio. Beginners welcome. Bring shorts, T-shirt and sneakers. Info: Howard 247-8691.

Table Tennis Club**-Meets every Monday, 8-10pm, T-Club Lounge, DuPont.

Women's Exercise Class**-Exercise, it's fun and healthy! Suzanne Brown, Instructor. Mondays, Wednesdays, Fridays, 1-2pm, Women's Lounge, Rm 8-219. Fee: \$7/wk, \$28/mo. Wear comfortable clothes.

Women's Rugby Club**-meets for practice Monday and Wednesday, 5:30-7pm, Briggs Field. All women are welcome, enthusiasm required. Contact Pam, X5-7237, Dorm. for more information.

Women's Water Polo Club**-Practices Monday & Wednesday, 3-5pm, and Thursday & Friday, 5-7pm at Alumni Pool. Any woman who is an undergraduate, graduate or staff member is welcome. No experience needed. For more information call Karen Fortoul, X3-6799 or Karen Klinecicz, 864-7240.

Religious Activities

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

Campus Crusade for Christ**-Family Time-a weekly fellowship including music, message and refreshments. Fridays, 7:15pm, Rm 37-252, Marlar Lounge. For more information contact Phil Little, X3-2843.

Tech Catholic Community**-Sunday liturgies: June 28, July 5, July 12, July 19, 10am, Little Theater, Kresge Auditorium.

Jewish Religious Services**-Friday: Orthodox services at sundown, Kosher Kitchen, Rm 50-005; Conservative/Reform group, 5pm, Hillel basement, 312 Memorial Dr.; Saturday: Orthodox services, 9am Bush Room, 10-105. Information, X3-2982 or X3-2987.

Lutheran Episcopal Ministries**- Interdenominational service of Holy Communion, Wednesdays, 5:10 pm, MIT Chapel. Supper follows in the basement of 312 Memorial Drive.

Prayer Time**-Friday afternoons, 1-2pm, weekly Bible Class led by Rev. Miriam R. Eccles, founder and director of the Alpha and Omega Missionary Society. Guest speakers, music and refreshments. Rm 20E-207. Welcome!

United Christian Fellowship**-Large group fellowship meeting: prayer, singing, sharing bible teaching. All are welcome to join. Meets on Friday, 7:30pm, Rm 1-236. Info: Fred Hickernell X3-7826.

Noon Bible Study**-Every Wednesday, Rm 3-465, bring your lunch, all welcome. Ralph Burgess X3-8121. (Since 1965)

Islamic Society**-Every Friday prayers will be held at 1pm, Kresge Auditorium, Rehearsal Room B.

Lincoln Laboratory Noon Bible Studies**-Tuesdays and Thursdays, M Trailer. Contact Annie Lescard, X262. **Morning Bible Studies**-Fridays, 7:30-8:30am, L-217. For information contact Ed Bayliss X8289, Linc.

Graduate Studies

Fulbright-Hays Grants - Approximately 500 awards to 50 countries will be available for the 1982-83 academic year. The purpose of these grants is to increase mutual understanding between the people of the U.S. and other countries through the exchange of persons, knowledge and skills. Eligibility requirements include U.S. citizenship, a bachelor's degree before the beginning date of the grant and, in most cases, proficiency in the language of the host country. Completed applications must be delivered to the International Students' Office, Rm 5-112, by 5pm on Wednesday, September 30, 1981.

German Academic Exchange Service Awards - The German Academic Exchange Service (DAAD) awards grants to U.S. citizens to pursue a year of graduate study in the Federal Republic of Germany. Applicants must be proficient in German.

Churchill Scholarships - The Churchill Foundation of the United States awards 10 scholarships annually to U.S. citizens between the ages of 19 and 26 to pursue one or three years of graduate study in science, engineering or mathematics at Churchill College, Cambridge University.

Marshall Scholarships - The Marshall Scholarships, established by the British government as a gesture of thanks to the U.S. for Marshall Aid, are awarded annually to approximately 30 U.S. citizens under the age of 26 for two years of graduate study in any field at British universities.

Rhodes Scholarships - The Rhodes Scholarships are awarded for two years of study at Oxford University. Applicants must be U.S. citizens between the ages of 18 and 24. The most important requirement of a Rhodes Scholarship is quality of both character and intellect.

The application deadlines for these scholarships are in early Fall, so students who are interested in these and other programs should contact Dean Chamberlain in the International Students' Office, Rm 5-112, X3-3795, as soon as possible for further information and application materials. Please remember that MIT opens on Wednesday, September 9th.

Faculty Opportunities

Fulbright Awards - for lecturing and research abroad for faculty members. Eligibility requirements are: U.S. citizenship at time of application; postdoctoral college or university lecturing experience in field of application (for lecturing); doctorate or comparable professional qualifications (for research); language proficiency in some cases. Deadlines: June 1 for American republics; Australia and New Zealand; July 1 for Africa, Asia and Europe. Further information is available in the International Students' Office, Rm 5-112.

UROP

For more detailed information on UROP opportunities listed, MIT undergraduates should call or visit the Undergraduate Research Opportunities Program Office, Room 20B-141, Ext 3-5049 or X3-4849 unless otherwise specified in the listing. Undergraduates are also urged to check with the UROP bulletin board in the main corridor of the Institute.

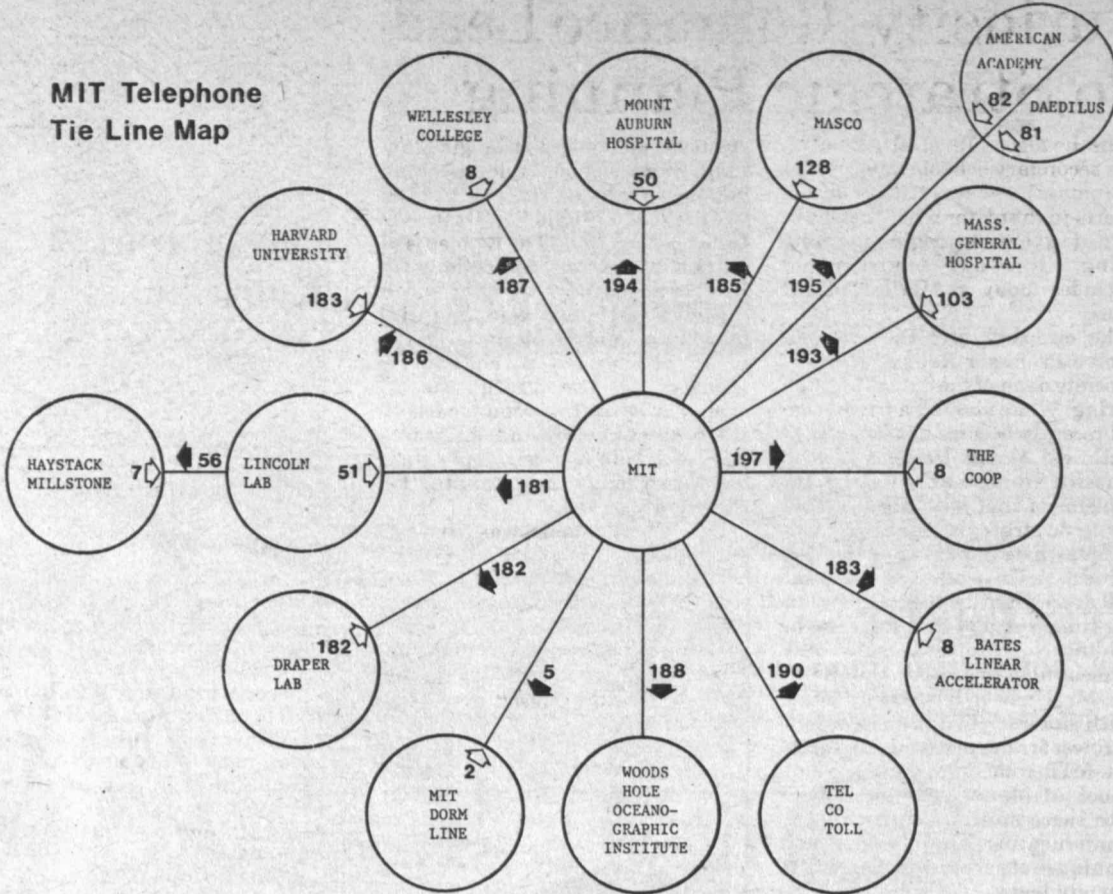
Soil Thermal Properties --Will conduct experiments to determine a relationship between soil moisture content and thermal conductivity for study of energy conservation in earth sheltered or underground structures. Measurements of density and specific heat are also needed. PAY AVAILABLE. Jrs. & Srs. welcome. Contact Eric Smith, 3-470, X3-5095. Faculty supervisor: Prof. T.P. Bligh.

Electronic Instrumentation --Will help characterize novel amorphous magnetic materials. An EE student or person with basic electronics familiarity is needed to service, check and calibrate electronic instruments (DVSM, scopes, recorders, integrators, etc.) Some simple circuit design and assembly is to be done. SUITABLE FOR SOME FRESHMEN. PAY AVAILABLE. Contact Bob O'Handley, 13-5065, X3-6913 or secretary, X3-5637. Faculty supervisor: Prof. N.J. Grant.

Tech Talk Schedule

This issue brings Tech Talk Volume 25 to a close. Volume 26 will begin July 8. Other publication dates during the summer will be July 22, August 12 and August 26. Regular weekly publication will resume in September.

MIT Telephone Tie Line Map



FREE TELEPHONE CALLS-Unknown to many members of the community, MIT maintains direct telephone lines to more than a dozen area institutions with which there is frequent communication. By using the tie lines shown in this map, no message unit charges are

assessed on calls to these destinations. The tie line to the Coop now reaches both the Tech Coop and the Harvard Square store. All present tie lines are listed on the inside back covers of the Institute Directory and the Student Directory.

Review Features Synthetic Fuels

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search for a filament, Kauffmann states, "We will need the same positive attitude and dogged determination that Edison displayed if we are to add synthetic fuels to our diversified energy base." He stresses the need for cooperation by saying, "It is vital that all parties work together because the issue raised by a synthetic industry will cut across every segment of society."

The second article in the Review's "SMR Forum" is "A Skeptic's View of Synfuels," by Dr. Robert W. Shaw, Jr., a senior vice president of the Energy and Environment Division at Booz, Allen, & Hamilton, Inc.

Dr. Shaw cites four sources of risk—questions that must be answered—for firms entering the industry.

Can any firm afford the investment? Will there be a market for synfuels? Can environmental, health and resource constraints be overcome? Is the time window for developing the industry too short?

The author suggests that synfuels be treated as one option among many and that "a company unable to do more than gamble everything on synfuels probably shouldn't play the game."

Professor David J. Teece of Stanford University, in his article, "The Multinational Enterprise: Market Failure and Market Power Concentrations," develops a conceptual framework to examine the relative efficiency of multinational firms as technology transfer agents, and also assesses them against the market alternatives. Dr. Teece believes that some important social efficiencies result from foreign direct investment.

Essay Is Noted

Lawrence M. Krauss, a graduate student in the Center for Theoretical Physics at MIT, was given honorable mention for his essay, "Gravitation, Phase Transitions and the Big Bang," in an international competition sponsored by the Gravity Research Foundation of Gloucester. Mr. Krauss's thesis advisor is Dr. Roscoe C. Giles, assistant professor of physics.

Radcliffe Program Hears Dresselhaus

Mildred S. Dresselhaus, Abby Mauze Rockefeller Professor of Electrical Engineering and director of the Center for Materials Science and Engineering at MIT, served as a panelist for a colloquium "The Quest for Excellence," held at Radcliffe College during the college's commencement-reunion week. Dr. Dresselhaus is a Radcliffe alumna.

"International Capital Markets: Structure and Response in an Era of Instability" by Professor Gunter Dufey, analyzes the reaction of various capital markets to economic instability. His conclusions regarding the supply of capital are guardedly optimistic for the firms that can adapt appropriately and flexibly to changing conditions in international capital markets. Dr. Dufey is professor of international business and finance at the University of Michigan's Graduate School of Business Administration.

Three other professors from the University of Michigan, Alan G. Merten, Dennis G. Severance and Bernard J. White, discuss the implications of the 1977 Foreign Corrupt Practices Act on the internal control and reporting procedures of SEC reporting firms. The article, "Internal Control and the Foreign Corrupt Practices Act," presents the results of a questionnaire and interview survey of top corporate officers from nearly 700 firms. They highlight what the corporate response to the internal control provision of FCPA has been; how executives perceive their firms' most significant control risks, and executives' assessments of the overall effectiveness of their companies' internal controls.

"Staffing and the Innovative Technology-Based Organization," by Edward B. Roberts and Alan R. Fufeld, identifies and describes five informal but critical behavioral functions needed for effective execution of technology-based innovative projects. The authors discuss the managerial implications of their findings, particularly with respect to manpower planning, objective setting and performance measurement and rewards. Dr. Roberts is the David Sarnoff Professor of Management of Technology at MIT. He is also chairman of the Technology and Health Management Group at MIT. Mr. Fufeld is vice president of the Technology Management Group of Pugh-Roberts Associates, Inc.

The Sloan Management Review is Travel Discount

All members of the MIT community may now get the Institute's car rental discount—presently 38 per cent—from Avis or Hertz for personal travel as well as for travel on MIT business. The Travel Office (Rm E19-515) will provide Avis or Hertz stickers for major credit cards, entitling card holders to the discount rate.

Raymond & Whitcomb and Heritage Travel agencies have agreed to help travelers who book both travel and car rental through them to find the best car rental arrangements at the traveler's destination. Travelers wanting this service should identify themselves as being from MIT.

the professional journal of the Sloan School of Management. Published quarterly, the Review presents articles on analytical approaches to managerial problems. Its circulation has more than doubled in the past five years. Over 40 per cent of its approximately 15,000 readers are corporate officers and directors.

Five Receive Guggenheims

Five members of the MIT faculty have been named recipients of 1981 Guggenheim Fellowships from the John Simon Guggenheim Memorial Foundation.

They are among 288 scholars, scientists and artists nationwide chosen for Fellowships from among 3,017 applicants. They were selected on the basis of demonstrated accomplishment in the past and strong promise for the future. This year's Fellowships total \$5 million and bring to more than \$90 million in Fellowships granted by the Foundation since the program started 57 years ago.

MIT 1981 recipients are: Dr. Franklin M. Fisher, professor of economics.

Dr. John M. Joannopoulos, associate professor of physics.

Dr. Benjamin Lax, professor of physics. Dr. Lax, director of the MIT Francis Bitter National Magnet Laboratory since 1960, will retire from that post on June 30.

Dr. Donald R. Uhlmann, professor of glass and polymer science in the Department of Materials Science and Engineering.

Dr. Carl I. Wunsch, Cecil and Ida Green Professor of Physical Oceanography and head of the Department of Earth and Planetary Sciences.

TECH TALK



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Curiosity, Romance Lead To Strategic Planning

The heads of 13 prestigious private secondary schools have curiosity, romance and three Sloan School experts to thank for what they have learned about strategic planning during a three-day workshop that concludes today at MIT's Endicott House.

The curiosity and the romance involve Professor Kent F. Hansen, associate dean of the School of Engineering. While visiting a friend who had recently become headmaster at Northfield Mount Hermon School, Professor Hansen asked about the problems of that job. "Figuring out how to do strategic planning," was the immediate answer from the Rev. Richard P. Unsworth, who met the MIT dean when he officiated—as a long-time friend of the bride—at the wedding of Professor and Mrs. Hansen four years ago when the Rev. Mr. Unsworth was chaplain at Smith College.

Professor Hansen told his friend that MIT colleagues at the Sloan School of Management had been quite successful in identifying and communicating the axioms and techniques of successful planning to their students. "Let's see what we can work out," Professor Hansen said. He and Mrs. Hansen set to work, sampling the interest of other headmasters and talking with people at MIT.

What was worked out began to unfold when 24 people from 13 schools reported for the first day of the workshop at 8am Monday. Professor Zenon S. Zannetos introduced the secondary school educators and their key aides to

strategy, policy and strategic planning, Sloan School style, touching on topics such as "The Role of Strategic Assumptions," "Data vs. Information" and "The Elements of Market Structure: Implications for Private Schools."

Day Two's topic was financial modelling. Morris McInnis of the Sloan School was in charge. He focused on the usefulness of computer-based financial models in the business sector and the potential for extending their application to support long-range planning for the private school.

Day Three's topic was strategy formulation using system dynamics. Professor Nathaniel J. Mass, assisted by graduate student George P. Richardson, introduced a management simulation game, feedback characteristics and discussed sources of resistance to policy change.

The secondary school educators also heard from MIT Admissions Director Peter H. Richardson, who outlined admission trends and issues at the Institute as the after-dinner speaker Monday night.

Funding for the workshop was provided through a grant from the Morgan Guaranty Trust Co. of New York Charitable Trust. Howard W. Johnson, chairman of the MIT Corporation arranged for the support by Morgan Guaranty.

Attending the workshop were:

Dr. H. Peter Aitken, headmaster, Brooks School, North Andover; Peter K. Guinness, headmaster, and Dan Vershbow, trustee, Buckingham Browne & Nichols School, Cambridge; Miss Patricia A. Wertheimer, headmistress, Mrs. Barbara Powell, incoming headmistress,



The presentation of a Polish sculpture in silver to MIT brought together MIT President Paul E. Gray and Mrs. Gray (left) with Mr. and Mrs. Louis E. Seley of New York City. The Seleys have been benefactors of the Institute for many years. They are the donors of the Haslam Cup, awarded annually to an outstanding senior in chemical engineering, and of the Louis E. and Theresa S. Seley Student Aid Fund. The sculpture is the latest in a

number of gifts of art objects from the Seleys. It is of a fully rigged galleon with one sail unfurled. The ship is supported on an ornate base consisting of five dolphins surmounted by a figure of Neptune holding aloft the galleon. Other gifts from the Seleys include a Teniers tapestry which hangs at MIT's Endicott House in Dedham, and a Lely portrait of Nell Gwyn which hangs in the President's House at MIT.

and Peter Blair, board chairman, Dana Hall School, Wellesley.

Robert E. Kaufmann, headmaster, and Michael Sheridan, business manager, Deerfield Academy, Deerfield; William M. Polk, headmaster, and Chuck Everett, business manager, Groton School, Groton; Dr. David F. Sheldon, headmaster, and James Saltonstall, business manager, Middlesex School, Concord.

The Rev. Edward S. Gleason, headmaster, and Morgan K. Smith, Jr., business manager, Noble and Greenough School, Dedham; the Rev. Richard P. Unsworth, headmaster, Northfield Mount Hermon School, East Northfield; Donald McNamar, incoming headmaster, and George Neilson, business manager, Phillips Academy, Andover.

The Rev. F. Washington Jarvis, headmaster, and William E. Chauncey, assistant headmas-

ter, The Roxbury Latin School, West Roxbury; Anthony M. Zane, headmaster, and William A. Briggs, Jr., director of development, St. George's School, Newport, R.I.; Dr. Mark Barlow, Jr., headmaster, and George H. Kidder, board chairman, St. Mark's School, Southborough.

Christopher Corkery, headmaster, Williston-Northampton School, Easthampton, and Joseph DePeyster of the National Association of Independent Schools.

—Robert C. Di Iorio

Lincoln Helping to Develop Photovoltaic Homes

By ROBERT M. BYERS
Staff Writer

Engineers at MIT's Lincoln Laboratory are managing for the U.S. Department of Energy a long-term collaboration with several business firms—large and small—to develop, measure and document with engineering precision all aspects of operating modern American homes with electricity produced directly by sunlight.

The basic principle is solar photovoltaics. Palm-size wafers sliced from large single crystals of silicon—or formed from polycrystalline silicon—are mounted in arrays on panels that are wired in series. Sun energy falling on the arrays causes electrons to flow through the crystals.

The most familiar application has been in space. Satellites and space probes have been launched with deployable sail-like arrays that, when oriented toward the sun in space, produce the electricity needed to power on-board systems.

Envisioned for homes are roof-mounted panels connected to associated conversion equipment that would supply a family with something on the order of 5 to 7 peak kilowatts of electric power when the sun shines brightly. Over the course of a full year, these systems will produce up to 10,000 kilowatt-hours, a figure comparable to the annual consumption of a typical family. A solar photovoltaic home would be connected to a local power company. When usage exceeds that produced on the roof, the home would draw electricity from the utility. On the other hand, when usage is down, the home would feed electricity back to the power company for credit. (An especially sensitive technical problem right

now is development of reliable equipment that will precisely phase match the photovoltaic electric current with the power company system voltage.)

The major drawback to applying this piece of space technology to the homes that people live in here on Earth has been cost. Right now solar photovoltaic systems cost about \$15 per watt. DOE's Solar Photovoltaic Residential Project, now in its third year, has as its goal systems capable of producing electricity at \$1.60 per watt by 1986.

Directing the project at Lincoln is Marvin D. Pope, leader of Lincoln's Energy Systems Engineering Group, and Edward C. Kern, Jr., assistant group leader. Some 30 engineers are employed on the project.

By working with companies that desire to enter the emerging business of photovoltaics, MIT engineers are able to assist, support and encourage the firms in the necessary research, design, development and test activities each will have to go through before being able to enter the marketplace.

Two field test sites have been established—one on property operated by Lincoln Laboratory in Concord, Mass., and the other on property operated by New Mexico State University at Las Cruces, N.M. Five wooden house-like structures with south-facing roofs have been or are in the process of being built at Concord and eight are being built at Las Cruces. The NMSU site is being operated under a subcontract from Lincoln.

One of the five test structures at Concord was built by the Lincoln group using solar cells purchased from Solarex Corporation, Rockville, Md. The overall array is 21 by 48

feet and is mounted directly above the roof which is conventionally weather sealed.

Inside the structure is the power-conditioning unit needed to convert the direct current from the photovoltaic units to the alternating current required by American homes. Also inside the structure are circuits to simulate varying loads and recording equipment, including the recorders used to measure the electricity the system contributes to the local Concord power system. The demonstration system designed by Lincoln is rated at 6.9 kilowatts peak.

The other four systems at Concord are being built, under turnkey contracts with Lincoln, by private companies to gain experience with systems of their own design. These include a 5.8 kWp system by Space Division, General Electric Co., Valley Forge, Pa.; a 6.2 kWp system by Solarex; a 4.8 kWp system by TriSolarCorp of Bedford, Mass.; and a 5.4 kWp system by Research & Development Center, Westinghouse Electric Corp., Pittsburgh, Pa. Some stand away from the roof, others are applied directly to it and others use panels that fit between joists and substitute for the roof.

Companies also will build systems at the southwest site in Las Cruces, again under turnkey contracts. These will include a 6.6 kWp system by ARCO Solar Corp., Chatsworth, Calif.; a 5.7 kWp system by Advanced Research & Technology of Utah, Inc., Salt Lake City; a 4.7 kWp system by BDM Corp., McLean, Va.; a 5.6 kWp system by GE/Valley Forge; a 5.6 kWp system by Solarex; a 4.5 kWp system by Total Environmental Action, Inc., Harrisville, N.H.; and a 5.1 kWp Westinghouse/Pittsburgh system.

In a parallel phase of the project, homeowners near the demonstration sites are being asked to allow their own usage of electricity to be monitored by telephone links so real-time consumption can be used to vary the load simulators applied to the experimental photovoltaic systems. In this way, the engineers will be able to obtain a realistic picture of how the systems operate when put at the disposal of typical families.

A later step in the project is the commissioning of actual homes that will be put up for sale. The first such home, using a \$100,000 photovoltaic system, rated at 6.9 kWp, supplied by Lincoln, is being built in Carlisle, Mass., by Builders Collaborative, Inc., of Acton, Mass., and will be dedicated and offered for sale sometime this spring. The luxury house employs passive solar heat and numerous energy conservation features as well as solar photovoltaics. The MIT engineers, when the house sells, will be granted a "data easement," the right to record performance over the next five years.

Will the goal of economic viability in this decade be met? Lincoln engineers feel it will. Economies in scale are to be reaped when manufacturing volume increases, both for the solar panels and for the necessary associated equipment, including the dc-ac power conditioning units. Economies also can be expected in growing and making the silicon cells and in the improvement of cell efficiencies, the best of which are now at about 15%, while average cells are about 10-12%. Moreover, as the cost of conventional electricity climbs, the gap between ordinary fuels and solar energy tends to close.

Lab Pioneers New Means to Detect Flaws

Industrial use of polymeric composites has been increasing rapidly as more companies find ways to take advantage of the attractive strength-to-weight ratio and dimensional stability these materials offer—but there is a drawback. Existing techniques for detecting and characterizing flaws in the materials are not suitable for production-line use and add time and expense to the manufacturing process.

Engineers at MIT's Laboratory for Manufacturing and Productivity believe they have solved that problem with the discovery that subsurface flaws in polymeric composites give away their location, shape and size by leaving surface "fingerprints" that can be detected electronically by noting the decay time and pattern of a surface electrostatic charge applied to the material.

Professor Nam P. Suh, director of the laboratory, and Dr. Ming K. Tse, who will be American Can Company Assistant Professor of Mechanical Engineering at MIT in 1982, have developed a nondestructive testing technique from this discovery that

meets production-line requirements: it is fast, simple, inexpensive and accurate.

Working with a polymeric composite insulating material, the MIT engineers applied an electrostatic charge pattern to one surface and then determined the residual charge pattern after a predetermined period of time using an electrostatic probe and a strip chart recorder. Defects—air voids or foreign inclusions, for example—showed up as peaks and valleys in the charge profile. The engineers also found that heating the material increased the sensitivity of the method and decreased inspection time.

"We have found that dramatic changes in the residual charge pattern can be produced by changes in temperature," Professor Suh said. "In particular, we have found that when a piece of material is heated from one side, the presence of a foreign material will perturb the temperature distribution and enhance the sensitivity of the method."

The electrostatic charging can be ac-

complished by either having the charging device move past the material or vice versa, a feature that makes the technique useful in nearly any manufacturing process.

In a typical factory setting, the MIT engineers said, the surface potential of the material would be raised to a field strength of about 10,000 to 100,000 V/cm. across the thickness of the material. The potential must be high enough to permit detection of the defects but not high enough to cause the electrical breakdown of the material.

"An appropriate potential can readily be found by a few simple test runs," Professor Suh said.

Maintaining the opposite surface of the material at electrical ground establishes the electric field that becomes the driving force for decay of the surface electrostatic charges.

The time period that must elapse between charging and reading the residual charge pattern depends on the material being tested, the initial surface potential, the thickness of the material and the tempera-

ture to which it is heated. The required time lapse can be determined by a few test runs, the engineers said.

"We have found that for the temperature, voltage and thickness ranges of interest to industry, the initial decay rate is directly proportional to the charge mobility and initial potential and inversely proportional to the square of the thickness of the specimen," the MIT engineers report. "Thus, if the charge mobility for a particular material is known, the proportionality constant can be quickly determined and the initial decay rate readily estimated for various conditions."

The MIT engineers have tested their method at production line speeds of up to 6.4 cm. per second and found no deterioration in charge uniformity or measurement sensitivity.

"Even higher speeds can be achieved on factory production lines," they said.

—Robert C. Di Iorio

THE INSTITUTE CALENDAR X3-3270

June 24 through July 12

MISS THE TECH TALK DEADLINE?

Put your announcement on the MIT Cable System. "Today at the Institute" runs from 9 to 5 daily on Channel 10 and can be viewed in Lobby 7, Lobby 10, and anywhere the cable is connected.

Simply phone X3-7414 and leave your announcement. We prefer a day's warning, but faster action may be possible.

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Note: If you have met the Tech Talk deadline, your announcement is automatically put on the cable (except for exhibits and some multimeetings programs).

Events of Special Interest

21 Years at the Magnet Laboratory--Prof. Benjamin Lax, director, Francis Bitter National Magnet Laboratory. 1981 Spring Colloquium Series, Friday, June 26, 3pm, Rm NW14-2209, 170 Albany St., Cambridge, Mass. Reception in honor of Prof. Lax following colloquium.

Seminars and Lectures

Friday, June 26

21 Years at the Magnet Laboratory--Prof. Benjamin Lax, director, Francis Bitter National Magnet Laboratory. 1981 Spring Colloquium Series, 3pm, Rm NW14-2209. Reception in honor of Prof. Lax following colloquium.

Monday, June 29

Coal Liquefaction and Gasification Research at Exxon--Dr. Richard R. Lessard, director, Gasification and Coal Science Laboratory, Exxon Research and Engineering Company, Baytown, Texas. Energy Lab Seminar, 2pm, Lewis Room, Rm 66-360.

Brace, Stone Will Head Earth Science Courses

Course 12 (continued from page 1)

Dr. Brace's stature has agreed to accept this responsibility." Dean Alberty said. "The department has prospered under the leadership of Dr. Wunsch, who is eager to return to his personal research and teaching activities."

Dr. Brace's research interests include the mechanics of rock deformation and his laboratory studies of these phenomena pointed the way to earthquake prediction before precursors were discovered in the field. In this area, his influence is recognizable in laboratory procedures used all over the world.

Dr. Brace, a member of the National Academy of Sciences, has served on advisory and review panels of the US Geological Survey (USGS) Rangeley Earthquake Experiment (1970-72), the USGS Office of Earthquake Studies (1976-79), and the Geophysics Panel of the National Science Foundation (1977-80). He was a member (1977-80) and chairman (1980) of the Geosciences Panel of Los Alamos Scientific Laboratory and this year was a member of the Review Committee for Earth Science of the Lawrence Berkeley Laboratory.

In addition he serves as a consultant to the Los Alamos and Lawrence Berkeley laboratories as well

as to the Lawrence Livermore Laboratory and the Geological Survey of Canada.

Dr. Brace is a Fellow of the American Geophysical Union and from 1963 to 1969 was vice president and president of the Union's Tectonophysics Section. He is a Fellow also of the Geological Society of America and of the American Academy of Arts and Sciences. His professional awards include the Rock Mechanics Award in 1973 of the the American Institute of Mining, Metallurgical and Petroleum Engineers and awards in 1975 and 1978 for the best rock mechanics paper of the US National Committee for Rock Mechanics.

Dr. Brace has been associate editor of the Journal of Geophysical Research and is currently associate editor of Rock Mechanics and of Tectonophysics, International Journal of Rock Mechanics and Mining Sciences.

Dr. Brace was born in Littleton, N.H. in 1926. He holds three degrees from MIT: the SB in naval architecture and marine engineering (1946), the SB in civil engineering (1949) and the PhD degree in geology (1953). He was appointed assistant professor of geology at MIT in 1954, associate professor in 1961, and was named to the rank of professor in 1964.

He and his family live in Concord.

Course 19

tunate that he has agreed to serve as department head. I am sure the department will continue to move forward as it has done over the last four years under the leadership of Professor Lorenz."

Professor Stone has been a member of a number of important committees and teams involved in space exploration. They include the National Aeronautics and Space Administration (NASA) Advisory Committee for Outer Solar System Missions (1971-72), the NASA Science Advisory Committee for Uranus Missions (1973-75), and the NASA Science Advisory Group for Outer Planets Exploration (1974-75).

In addition, he is a member of the subcommittee on Weather, Climate and Oceans of the NASA Space and Terrestrial Applications Committee, the National Academy of Sciences/National Research Council Committee on Planetary and Lunar

Exploration, the Pioneer Venus Photopolarimeter Team and the Galileo Jupiter Orbiter Photopolarimeter Team.

Professor Stone also served on the theoretical panel for POLYMODE, the five-year US-USSR study of large-scale eddies in the North Atlantic.

Professor Stone is a member of the American Meteorological Society, the Division of Planetary Sciences of the American Astronomical Society, and the American Geophysical Union. He has served as associate editor of Geophysical Fluid Dynamics and is currently associate editor of Dynamics of Atmospheres and Oceans.

Professor Stone, who was born May 10, 1937, in Brooklyn, N.Y., received the BA degree in astronomy from Harvard University in 1959 and the PhD in applied mathematics, also from Harvard, in 1964. At Harvard, he was a Junior Fellow of the Society of Fellows from 1961 to 1964. He was appointed assistant professor of dynamical meteorology in 1966, and associate professor in 1970. From 1968 to 1970 he was an Alfred P. Sloan Research Fellow.

Community Meetings

Prenatal and Parent Education Group Meetings--"Breastfeeding": practical hints and how to overcome possible initial problems. Group members may offer their own suggestions. Discussion will include milk supply, nipple soreness, infant feeding patterns, pumping milk and the father's role in breastfeeding. Speaker: Barbara Berger of La Leche League/Parent of three. Wed, June 24, Noon-1:30pm, 3rd Floor, Conference Room, Infirmary, Bldg. W5. Bring your lunch. Coffee, tea, and juice are provided. Call 253-1316 for further directions.

MIT Faculty Club--The Club is open Monday thru Friday. Luncheon hours: Noon-2pm; Dinner hours: 5:30-8pm.

Alcohol Support Group--Personal Assistance Program, Medical Dept. A self-help support group for persons concerned about the effects of excessive alcohol use on their lives. For place, time and day of the week, contact Ron Fleming, X3-4911.

Overeaters Anonymous--Meetings are held Mondays and Thursdays, 12-1pm, Conference Room 35-338. For info call X3-2153.

Movies

Lenny--LSC Movie. Fri, June 26, 7pm, Rm 26-100. Admission: \$1 with MIT or Wellesley ID.

Sweet Charity--LSC Movie. Fri, June 26, 9:15pm, Rm 26-100. Admission: \$1 with MIT or Wellesley ID.

The Final Countdown--LSC Movie. Sat, June 27, 8pm, Rm 26-100. Admission: \$1 with MIT or Wellesley ID.

Saboteur--LSC Movie. Fri, July 10, 7pm, Rm 26-100. Admission: \$1 with MIT or Wellesley ID.

Family Plot--LSC Movie. Fri, July 10, 9pm, Rm 26-100. Admission: \$1 with MIT or Wellesley ID.

Kentucky Fried Movie--LSC Movie. Sat, July 11, 8pm, Rm 26-100. Admission: \$1 with MIT or Wellesley ID.

Theater

MIT Musical Theater Guild--will be holding interviews for positions for its summer show, *Once Upon A Mattress*. Director, choreographer, music director, June 24; designers, June 29-July 1.

Alumni Events

MIT Club of Boston: Evening Cruise Across the Boston Harbor--Sat, July 11, 6:30pm-10:30pm. The Club will have an evening cruise across the Boston Harbor, through the Locks and up the Charles River to Harvard University on a replica of a turn-of-the-century excursion boat complete with a vintage steam engine. Tickets: \$10.50/person; buffet dinner (optional): \$6.50/person. Please send your reservations

Faculty Needed

IAP '82 needs enthusiastic faculty members to coordinate department and laboratory offerings for next January. Those interested should contact their department heads. For more information, contact Mary Enterline, manager of Independent Activities Period, Rm 10-207, x3-3561.

Course VI Lists Awards

Eight prizes were awarded this year to students in the Department of Electrical Engineering and Computer Science.

Supervised Investors Services, Inc. Teaching Awards for excellence in teaching were received by Daniel C. Brotsky of San Francisco, Calif.; Jon N. Powell of Charleston N. C., and Andrew E. Yagle of Ann Arbor, Mich., all graduate students in the department.

The Carlton E. Tucker Award for excellence in teaching was presented to John T. Wroclawski of Winnetka, Ill., a graduate student in electrical engineering and computer science.

The Ernst A. Guillemin Prize for the best undergraduate thesis was presented to Mohammed N. Islam of Endicott, N.Y. Second prize went to Camilio C. Gomez of New York City, and third prize went to Mark C. Kuperwaser of Vineland, N. J.

Computer Systems Prize for the best undergraduate thesis in computer science was presented to John A. Goree, Jr. of Durham, N. C.

Promotion to Instructor "G" was made to Kaigham Gabriel of Belmont and Larry R. Carley of Poughkeepsie, N.Y., in recognition of their demonstrated excellence in teaching and dedicated service to the department.

These awards were presented at a department reception for faculty, staff, graduate students and employees at Endicott House last month.

Professor Stone first came to MIT in 1972 as visiting professor of meteorology. He also served as staff meteorologist at NASA's Goddard Institute for Space Studies from 1972 to 1974, when he joined the MIT faculty as professor of meteorology. Professor Stone lives in Cambridge.

—William T. Struble

to: R.L. Brown, 6 Cape Cod Lane, Hingham, MA 02043, (617) 749-4663.

Exhibits

Hayden Gallery--Furniture by Architects: Contemporary Chairs, Tables and Lamps. Hayden Corridor Gallery: A Documentation of 20th Century Precedents. On view through June 28. Gallery hours 10-4 daily, 6-9 Wednesday evening. M.I.T. Hayden Memorial Library Bldg. For info. call 253-4680, 253-4400.

Hart Nautical Museum--Collection of ship models, half-models and drawings, Bldg 5, first floor. For information call MIT Museum, X3-4444.

The MIT Museum and Historical Collections--unique collection of scientific instruments, architectural drawings, portraits, photographs and memorabilia that illustrates M.I.T.'s history and developments in 19th & 20th century American technology.

At the Museum, on view Mon - Fri, 9am-5pm, 265 Mass. Ave., 2nd fl., Cambridge: **Julius Adams Stratton: Perspectives on a continuing career ... in celebration of his 80th birthday; The Past as Prologue: Planning and Building at MIT; Inaugurations Past: 1900-1980; Project Chrysalis: A Human Powered Airplane; Gjon Mili: MIT Revisited. Selections From the Forbes Collection Of Whaling Prints:** Lithographs, aquatints and engravings about the technology and the lore of a once great industry. For information call MIT Museum, X3-4444.

Margaret Hutchinson Compton Gallery--MIT Alumnae in Science and Technology, are the subject of an exhibition of drawings and photographs celebrating the success of women in science and technology. Although the emphasis is on alumnae in industry and academia, material on present undergraduate women is included. Gallery hours: 9am-5pm, Monday-Friday, Rm 10-150. On view through July 31. For more information call MIT Museum, X3-4444.

Corridor exhibits: Building 4: **Samuel Cate Prescott, Rogers Building, Norbert Wiener, Karl Taylor Compton. Community Service Fund, Ellen Swallow Richards. Building 6: Laboratory for Physical Chemistry. Building 8: Solar Energy, Society of the Sigma XI.** For information call MIT Museum, X3-4444.

Institute Archives and Special Collections--Pioneer Geologist: Notes, maps, letters, and photographs from the William Otis Crosby Papers. Rm 14N-118.

Faculty Club--"On the Road," paintings by Lois Malone. On view through June 30, Sloan Bldg., 6th fl. Monday-Friday, 11:30am-10:30pm.

Faculty Club Display Case--Clay sculpture by Jean Goldman. On view through June.

Stroboscopic Light Laboratory Corridor--Permanent exhibit of high speed photographs. Main corridor, near Rm 4-405.

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

*Open to the public

**Open to the MIT community only

***Open to members only

Send notices for Wednesday, July 8 through Sunday, July 26, to Calendar Editor Rm 5-113, before noon, Friday, July 3.

Noted Meteorologist Jule G. Charney Dies

(continued from page 1)

fluid mechanics. In its scientific depth and breadth, Professor Charney's work has contributed significantly to the study of meteorology as an exact science."

The son of Russian immigrants, Jule Gregory Charney was born January 1, 1917, in San Francisco, Calif. He received the AB degree in 1938, the MA degree in 1940, and the PhD degree in 1946, all from the University of California at Los Angeles. During World War II he assisted in training weather officers for the US armed services. In 1946 he was awarded a National Research Fellowship, which he spent at the University of Oslo, following a nine-month visit with Carl-Gustaf Rossby at the University of Chicago.

From 1948 to 1956 he was director of the Meteorological Research Group and long-term member of the Institute for Advanced Study, Princeton, N.J., where he worked with the noted mathematician John von Neumann in pioneering numerical weather prediction by computers. His work there clarified the physical framework for numerical methods and, according to his colleagues, introduced important simplifications into large-scale atmospheric and ocean dynamics.

Professor Charney came to MIT in 1956 as professor of meteorology and director of the Atmospheric and Ocean Dynamics Project. During the years 1960-1965, while a member of the Committee on Atmospheric Sciences of the National Academy of Sciences, and later as chairman of the Committee on International Meteorological Cooperation, he conceived and helped to organize the Global Atmospheric Research Program. This program was instigated by Dr. Jerome B. Wiesner, former president of MIT and then science adviser to President John F. Kennedy, who had asked for suggestions for international meteorological cooperation.

Professor Charney was also recognized for his contributions to the National Center for Atmospheric Research (NCAR), which was established through the efforts of the NAS committee of which he was a member. The establishment of NCAR had a profound effect on the course of American meteorology, according to scientists in the field.

Professor Charney, a member of the National Academy of Sciences, was head of the MIT Department of Meteorology from 1974 to 1977.

In addition to the Bowie and Rossby awards, he received the Meisinger Award of the American

Meteorological Society in 1949. He has also been awarded the Symons Gold Medal of the Royal Meteorological Society in 1961, the Robert M. Losey Award of the Institute of Aeronautical Sciences in 1957, the Hodgkins Gold Medal of the Smithsonian Institution, and the International Meteorological Organization Prize of the World Meteorological Organization.

Dr. Charney was a foreign member of the Swedish Academy of Sciences and the Norwegian Academy of Sciences. In 1980, he was elected an Honorary Fellow of the Indian Academy of Sciences and received the Cleveland Abbe Award of the American Meteorological Society. The Abbe Award, shared with Dr. Joseph Smagorinsky of the National Oceanographic and Atmospheric Administration, was given for "scientific leadership of the Global Atmospheric Research Program which after a decade has culminated in the remarkably successful Global Weather Experiment."

He is survived by two sons, Nicolas H. Charney and Peter E. Charney, both of New York City, and a daughter, Nora K. Charney, of Brookline.

Students Win Award at GM

A team of five graduate students from the Department of Political Science has won second prize in the 1981 Intercollegiate Business Understanding competition sponsored by the General Motors Corporation.

The competition, begun in 1976 to encourage creative student thought about business in America, was based this year on the question, "What Are the Rights and Responsibilities of Government and Business?"

The MIT team received \$7,000, a plaque and letters of commendation for the team members. The first prize winner, the University of Chicago, received \$10,000.

The MIT graduate students were under the direction of Dr. Harvey M. Sapolsky, professor of public policy and organization. They received their awards at a meeting in Detroit, Mich., at which they reviewed their findings with GM executives.

The team members were Linda C. Cummings of Brookline, Victoria C. Hattam of Cambridge, Katherine A. Hope of Cambridge, Sanford L. Weiner of Newtonville and James P. Womack of Cambridge.

Alberty Resigns As Dean

(continued from page 1)

cant improvement in the quality of the faculty and in facilities.

"We are particularly proud of the four Nobel Prize winners in the School of Science—Har Gobind Khorana, 1968; Salvador Luria, 1969; David Baltimore, 1975, and Samuel C. C. Ting, 1976, and the award in 1978 of the Fields Medal, which is sometimes referred to as the 'Nobel Prize in Mathematics,' to Daniel G. Quillen."

Dr. Francis E. Low, MIT Provost, said Dean Alberty's tenure as dean has been characterized by a generosity of spirit and devotion to the welfare of colleagues and students. I speak for all of us in expressing our deepest gratitude for his many contributions—as a scientist, administrator, and fellow human—that have enhanced the stature and well-

Reid Named As Chevron Professor

(continued from page 1)

ding, transportation and storage of LNG and liquefied petroleum gas (LPG). His research activities also include rapid phase transitions in superheated liquids, supercritical extraction processes, migration of additives in food wraps to food, and efforts to understand better the complex flows that occur in living plants.

A native of Denver, Colo., Professor Reid received in 1950 two bachelor's degrees—one in mechanical engineering (US Merchant Marine Academy at Kings Point, N.Y.) and one in chemical engineering (Purdue University)—and his master's degree in chemical engineering, also from Purdue. He received the ScD in chemical engineering from MIT in 1954. That same year he joined the Institute faculty as an assistant professor and was appointed director of the Oak Ridge Chemical Engineering Practice School, a post he held for two years. He was promoted to associate professor in 1958 and to professor in 1965.

Professor Reid has been active in the American Institute of Chemical Engineers, serving as a director from 1969-71, as the Institute Lecturer in 1967, as editor of the *AIChE Journal* and as a member of the publications committee from 1970-76, and as a member of the awards committee from 1973-79.

He was the Jackson Lecturer at Du Pont in 1970; the Cecil L. Brown Lecturer at Newark College of Engineering in 1971, and the Kurt Vohl Lecturer at the University of Delaware in 1975. In 1972 he received the Distinguished Alumnus Award from Purdue University. In 1977 he received the Chemical Engineering Lectureship Award of the American Society of Engineering Education. He was elected to the National Academy of Engineering in 1980.

Professor Reid has just returned to MIT from the University of Wisconsin where he was the visiting Olaf A. Hougen Professor.

He has more than 100 publications including five books, among them *Properties of Gases and Liquids* (with J.M. Prausnitz and T.K. Sherwood), *Modeling Crystal Growth Rates from Solution* (with M. Ohara) and *Thermodynamics and Its Applications* (with M. Modell). *Properties of Gases and Liquids* is considered an essential part of every chemical engineer's library. First published in 1958, it is now in its third edition and has been translated into Russian and Spanish.

In 1976 the American Institute of Chemical Engineers honored him with its Warren K. Lewis Award, citing his "extraordinary classroom teaching." The award is named for the legendary MIT figure who became the first head of the Department of Chemical Engineering at MIT, the first such department in the world.

Professor Reid was a student of Dr. Lewis in 1951. That association, he says, had a strong influence on his own teaching methods. Professor Reid has twice been chosen by chemical engineering students as the outstanding teacher in the department, a selection especially significant when one considers that the graduate thermodynamics subject which he teaches is considered to be one of the most demanding intellectually.

being of our School of Science and of the Institute as a whole."

As Dean of Science, Dr. Alberty has had strong interests in programs involving the core curriculum, laboratory safety, and toxicology.

Since 1970 he has also been chairman of the Core Group, which is made up of approximately 20 faculty members teaching the freshman science requirement subjects and other faculty members interested in instructional programs for freshmen. The Core Group also includes officers from the Undergraduate Academic Support Office, Dean for Student Affairs office, Office for Minority Education, and the Admissions Office, as well as student members. Inasmuch as the committee on Educational Policy has been considering changes in core requirements, the Core Group has frequently been used as a sounding board for proposed changes.

He is chairman of the Institute Council on Environmental Health and Safety, members of which are chairmen of the Institute's various safety committees. He was chairman of a faculty committee that developed the special summer program, "Principles of Toxicology," which was offered for the first time in 1980 with the assistance of a training grant from the Environmental Protection Agency.

Dean Alberty received his undergraduate and master's degrees from the University of Nebraska in 1943 and 1944, when he joined a wartime project at the University of Wisconsin on the fractionation of plasma proteins under the direction of Professor J.W. Williams. After appointment as a National Research Council Pre-doctoral Fellow, he took his PhD degree with Professor Williams, working on the electrophoresis of gamma globulins.

Dr. Alberty was a member of the University of Wisconsin Chemistry Department faculty from 1947 to 1967. He was appointed to the rank of professor in 1956 and served as Dean of the Graduate School from 1963 to 1967. He spent the academic year 1950-1951 at the California Institute of Technology as a Guggenheim Fellow, working on the physical chemistry of enzymes under the direction of Professor Linus Pauling. In 1955 he was visit-

ing lecturer on the physical chemistry of enzymes at the University of California and he spent the spring semester of 1961 at the Max Planck Institute, Göttingen.

Dr. Alberty received the Eli Lilly Award in Biological Chemistry for his research on enzyme kinetics. He is a member of the National Academy of Sciences, the American Academy of Arts and Sciences, the Institute of Medicine, and a Fellow of the American Association for the Advancement of Science.

Dr. Alberty's research interests have been in the fractionation of plasma proteins, electrophoresis of proteins, theory of the moving boundary method, ionization constants and complexing constants of substances of biological importance, enzyme kinetics, deuterium tracer experiments, nuclear magnetic resonance, and very fast reactions in solution.

He has been a contributor to several books and is co-author of *Physical Chemistry with Professor Farrington Daniels (Fifth Edition, 1979)* and of *Experimental Physical Chemistry*.

He is a member of the American Chemical Society (ACS), and was vice chairman in 1971-1972 of the ACS Division of Biological Chemistry. He has been a member since 1976 and chairman from 1977 to 1980 of the ACS Committee on Chemistry and Public Affairs. He was chairman of the advisory committee, Office of Scientific Personnel, National Research Council (NRC), from 1971 to 1974, and then chairman of the NRC Commission on Human Resources from 1974 to 1977. Dr. Alberty was a member of the National Science Foundation Panel for Molecular Biology from 1958 to 1961 and the National Institutes of Health Panel of Biophysics and Biophysical Chemistry from 1962 to 1966. He became a director of Colt Industries in 1978 and a director of the Institute for Defense Analysis in 1980.

Dr. Alberty was a member of the committee that applied to establish an MIT chapter of Phi Beta Kappa, of which he is a member. He was co-chairman of the committee that in 1973 reviewed the MIT-Wellesley Exchange Program and recommended that it be given permanent status.

AMITA Honors Three

Three young women, Rebecca M. Henderson, Dinah W. Sah and Eva Wu, were selected to receive AMITA (Association of MIT Alumnae) Awards this year.

The award recognizes academic excellence based on depth and breadth of accomplishments in course work, special projects, thesis research and grades. The awards, which carry a cash honorarium, were presented to the recipients at AMITA's annual meeting at Endicott House last month.

Ms. Henderson, of London, England, completed her degree in mechanical engineering in three years. Her thesis, dealing with on-the-job satisfaction and intelligent automation in large-scale manufacturing, was presented jointly to the Department of Mechanical Engineering and the Center for Policy Alternatives. Her professors

praised her incorporation of socio-economic, human and institutional factors in the solution of engineering problems.

Ms. Sah, of Urbana, Ill., received the SB degree in biology at Commencement. Her research focused on ion exchange during nerve impulses which has contributed to ongoing research on the control of membrane excitability in nerves and muscles. Her professors consistently described her as the best student in their classes.

Ms. Wu, of Jackson Heights, N.Y., is a double major in mechanical engineering and electrical engineering and computer science. As a co-op student in Course VI, she designed a minifloppy interface board for a terminal while at Hewlett Packard. She won a design award in the spring of 1980 and was chosen the 1980-81 RCA/Society of Women Engineers Scholar at MIT.

AAUW Returns to Boston For Centennial Celebration

The American Association of University Women celebrates its centennial this week in Boston, and yesterday afternoon (Tuesday, June 23) some of its members attended a series of meetings at MIT.

The organization traces its beginnings to MIT. In November 1881, two young women, Alice Hayes and Marion Talbot, met with Ellen Swallow Richards, MIT's first alumna, at the Institute to lay the groundwork for an organization to help college women use their talents and education in a world that was unprepared for them. The organization eventually became the AAUW.

In the intervening century, the AAUW has grown to a membership of nearly 200,000 women. It funds some 100 fellowships for women graduate students. (There were

three AAUW International Fellows and three AAUW American Fellows at MIT in 1980-81.) Its members work on a variety of problems confronting women, education, and the community.

On Tuesday, members of the AAUW met in Huntington Hall (Rm. 10-250) for welcoming remarks by MIT Provost Francis Low and an address by Dr. Margaret MacVicar entitled "Education for Life in the Technological Society." They then broke into smaller groups for discussions and a tour of the MIT campus.

The afternoon concluded with a reception in the Bush Room (Rm. 10-105) and a viewing of the exhibit "MIT Alumnae in Science and Technology," in the neighboring Compton Gallery, sponsored by the Association of MIT Alumnae.

Retirement Dinner



Mary Hovnanian, right, of Military Science, a member of the board of the Quarter Century Club, greeted Dr. and Mrs. Frantiska Frolik of the Laboratory for Information and Decision Systems. The Quarter Century Club is the sponsor of the annual retirement dinners.



Grace Cutillo, left, was the guest of Marie Bellino of Walker Memorial at the retirement dinner, where she met Mr. and Mrs. Norman Dunnell of Physical Plant.



Mr. and Mrs. Alphonse Rudnick, left and Jennie Wojtkiewica of Physical Plant raise a toast to the future at the annual retirement dinner earlier this month.

—Photos by Calvin Campbell

Omission

Two members of this year's retiring "class" were inadvertently omitted from the list printed in the June 10 issue. They are: Frank Holland of Belmont, Physical Plant, 17 years. Elvira Campagna of West Roxbury, Endicott House, nine years.

Bruce Wins Newcombe Grant

Peter G. Bruce, a graduate student in political science at MIT, is among 45 doctoral candidates nationwide to win Charlotte W. Newcombe Doctoral Dissertation Fellowships for 1981. The Newcombe Fellows were chosen from 485 applicants and represent 23 graduate schools.

The fellowships were funded by the Charlotte W. Newcombe Foundation to encourage the study of ethical and religious values in a wide variety of fields. They provide up to 15 months of uninterrupted research and writing time for graduate students working on their dissertations.

Mr. Bruce graduated from the University of California at Santa Barbara in 1975. He held a Whitney Fellowship in 1977 and presently holds a Harvard University Center for European Studies Summer Travel Grant. The proposed title of his dissertation is *Ideology and Power: American Exceptionalism Examined from an Organizational Perspective*.

CLASSIFIED ADS X3-3270

Ads are limited to one per person per issue and may not be repeated in successive issues. All ads must be accompanied by full name and Institute extension. Persons who have no extensions or who wish to list only home telephones may submit ads by coming in person to the Tech Talk office, Rm 5-113, and presenting Institute identification. Ads may be telephoned to x3-3270 or mailed to Rm 5-113. **Deadline is noon Friday before publication.**

For Sale

Slate roof tiles (about 330), \$150 or best offer. Call 661-5643 or X3-3896.

Sears heat screen FP heat exchanger fits fp opening 3 3/4" - 39", 1 yr. old, \$150. Sells \$267. in Sears Fall catalog. Call X5441, Lincoln.

Women's Columbia 3-spd bike, seldom used, \$50; several wood storm windows, \$5/ea. Call X3-4493.

New 10" x 12" lab hot plate w/ rheostat, \$25; old manual cash register, work cond, \$75. Neal X3-8463.

IBM Executive typewriter, 8 yrs old, \$300. Pat, X3-7226.

Frigidaire elec. stove, 4-burner counter top, cocoa-brown, exc. cond, \$40; DEC hvy-duty pwr supply, 5, 10, or 15 volt, \$20; Sears Kenmore 2-spd vacuum, canister type, no tools, otherwise perfect, \$25. Len, X3-8255 or 1-263-8942.

10-spd Concord bike, 23" frame, very gd cond, \$85. Call 492-8736, eves.

Fireplace grate, \$3; chandelier, Williamsburg style, \$40; AM/FM Delco Chevy radio, \$45; 6" x 9" spkrs avail. Don, X8-2876, Draper.

Two 9" x 12" carpets, brown & tweed, exc. cond, \$20-\$25/ea; 8' feather-stuffed couch, \$30; stuffed chr & stool, nds work, \$5; two 3-spd bikes (1W, 1M), \$25-\$35/ea, nds work; lge shopping cart, \$8. Call X3-7187, (Th, F) or 731-9127.

Women's sz 12, all lther coat, street length, tailored, \$100. Ruth, X3-7894.

Typewriter, Remington manual, office model, exc. cond, \$25. Call 253-7050 Sat & Sun, 7-3 or 1-667-6890, wkdays.

Air conditioner, Chrysler air temp, 10,000 BTU's, \$125. Call 395-7265, 3:30-8pm.

Full box spring & frame, \$20. Miriam, X3-6937.

3 rims, 1-15", 5 hole, 2-14", 6 hole, \$7/ea. Fisher, X3-5571.

Chinese rug, 5'4"x3'9", \$40; Turkish Oriental, 3'x 1'8", \$25; GE port prof. hair dryer, \$15; artist's wood paintbox, \$10; 30 sheets, letteraset presytype, \$50. Jennifer, X3-5728 before 1pm.

Sears Coldspot air/cond, used 4 seasons, powerful 15,000 BTU, 220 V, 14 amps. Call 523-7429 or "Graham", X3-6631.

Sears stereo system, 1 yr old, \$85; DR table, \$35; 3 chrs, \$5/ea; 4 chrs, \$1/ea. Call X3-4818 or 566-1693.

Girl's sidewalk bike used 1 season, \$25; Welsh baby carriage converts to stroller, gd cond, \$15; fl sz wood crib, gd cond, \$15; spring matt for crib nvr used, \$10; toddler food tbl, fair cond, \$8; twin sz beds, avail Sept, \$15/ea. Jim, X7780, Lincoln.

Port. manual typewriter, 1 broken key, \$25. Rich, X3-1826 days or X5-8203, Dorm. eves.

3/4 cello, gd playing cond, incl bow & canvas case, \$450. Alfred, X3-2916.

Nuton mirror & 2 cabinets, brnd new, nvr removed from box, at 2/3 orig price; brnd new handmade Mexican tiles, "Blue Daisy" at 2/3 orig price. Mata, 965-5259, days.

Chouinard Zero ice-ax & North-wall hammer, both 55 cm carbon-glass shafts, used once, \$60/ea; pr of Jumat ascenders, nvr used, \$60; pr of Vasque ascender climbing shoes, sz 7D, used once, \$30. Tom, 864-7087 eves.

Snap-On rollaway tool box, top & bottom section, mint cond., \$550. Call X5834, Lincoln.

Beaut white Corning, smooth ceramic cooktop, 4 units, nds 21" x 33" opening, sleek, ez to clean, less than 2 yrs old, orig. \$420., best offer. Call 965-3895 before 8pm or X8-3549, Draper.

Sofas: 1 beige, 1 blue, \$125/ea; beige chr, \$50; brown 8 x 12 carpet, \$75; DRT & 4 chrs, \$100; 12" Hitachi color TV, \$185; cart, \$15; fl lamp, \$20; drapes, \$20; Scan. design desk, \$200; chr, \$30; chest, \$70; lamps, bkshel, bed, mattress, cookware, many others, all in very gd cond. Waldemar, X3-7130 or 492-9158 eves.

King sz teak wood platform bed w/ mattress, \$300. Call 861-0279.

Single pedestal teak desk, 3-drawer, 5'x 3' exc cond., best offer. Richard, X7044, Lincoln.

Girl's 20" hi rise bike, lt blue/white, exc. cond, \$45. J.May, X8-2843, Draper or 492-1403 after 5pm.

Wood-like table w/ leaf, 4 chr lther like, washable, South Shore area, must be picked up, \$50. Eleanor, X3-4765.

One compartment camera case, w/ camera cradle & small lens cradle, cut out for long lens, bottom compartment w/ adj. dividers, exc. cond., \$30; 1 Webcor reel-to-reel tape recorder bit-in microphone w/ cord, AC operation only, two 7" reels inc. \$25. Harold, X3-1870.

4 tires, E78-14, all for \$20. Call X401, Lincoln or 862-1935.

Queen-size box spring & mattress, \$45, twin box spring & matt, \$35; 2 pr lined drapes, 72", multi-colored stripes, \$25/pr, \$40/set. Call 547-4730 after 10pm.

Round (KDR) table, 38" diameter, exc cond, dark pine w/ formica top, 4 matching chrs & leaf, \$295. Call X3-2260.

"Reports on Progress in Physics" (1934-1968) of the Physical Society of London. All in orig green binding, very gd set, also other items. George, X3-4815 or 484-7798, eves.

Men's 3-spd bike, runs but nds some work. Call 494-0174.

Juzek cello, 3/4 size, exc cond, recently refurbished, \$550. (lists at \$1500). Kathy, X3-4425.

Konica T-4 & automatic winder w/ camera case, 35mm \$200. Call 843-7651 after 6pm.

Raleigh 3-spd bike, \$50; France Sport 10-spd bike, \$120; new Littman stethoscope, \$30. Call 661-0668, eves.

2 men's racing bikes-23" Motobecane team champion, same model ridden in Tour de France, costs \$1500, sells \$950, absolutely lk new; Raleigh International 23 1/2", exc cond, cost \$900+ to replace, asking \$600. David, X5375, Lincoln.

Air Cond, Sears' largest window/wall unit, 32,000 BTU, 220 volt, cool an entire floor, 5 rms, only 5 seasons old, still runs like a top, unit sells for \$650., asking \$300. Call X3-4971.

Chimney cap turbine-type fits 6" flue, \$20; medicine cabinets, sliding dr type, \$25. ea; Kohler bath sink, 20" w/ legs & wall bracket, harvest gold, \$35. Don, X3-2876.

Franklin stove, brass balls, grill and screen, \$99; Dingo boots, maroon, inside zippers, broken in, \$10; Bostonian black patent lther dress shoes w/ laces, broken in, sz 10 1/2, \$10. Mac, X444, Lincoln.

Baby equipment, bassinet, playpen, car seat, boy's clothes, etc. Call X3-5824.

Western Fire 5-spd men's bike, exc. cond, \$40. Fred, X7668, Lincoln.

Womans' 24" bike, 3-spd, exc. cond, \$40. Virginia, X3-2281.

Sears port dsh/wshr, \$40; Hotpoint refrig, \$40; Kenmore frnt-load wshr, \$30; GE top-load wshr, nds nw motor, \$20; 2 4-season tires, G74-14, gd cond, \$20; child's wood crib, \$30. Laura, X3-5658.

12 string Martin guitar, superb cond, hardshell case, must sell, \$500. firm. Pegueta, X3-8038.

2 tickets to MY FAIR LADY, for Sat, July 11, matinee performance, 5th row, orch. seats, \$24/ea. Dan, 738-7949 betwn 7-11pm.

Wide carriage Electric, \$275. or best offer. Ed, X3-5882 or 492-4859.

Wood picnic table w/ benches, \$40; couch, \$15; oval carpet 7'4" x 5'2". \$7; drapes (lt orange), \$8; vaporizer, \$3; humidifier, \$5; set of castiron cook ware, \$25; 8 piece bowl set, \$5. Call 494-0459.

5,000 BTU air cond., \$95. Chuck, X3-7902.

Car battery charger, \$13; 60 mm objective telescope, \$10; reel to reel stereo tape recorder, \$15; darkrm equip & enlarger, \$70. Edmund, X3-2413.

16K Personal Computer w/ RS232 port, VT52 terminal simulator and acoustic modem, 8K microsoft BASIC, assembler/editor, B & W TV monitor & extensive documentation, \$600. Call 494-9169 eves.

12 string Hofner guitar in exc cond, recent tune-up by professional guitar shop incl new strings, \$85. Ted, 484-4858 after 8pm.

Boy's bike, 24", \$15. Call X3-1874.

Vehicles

'67 Ford Galaxie 500, barely runs, \$50, come & get it. Peter X3-5809.

'68 Volvo 142S, red, 120K, mech good, body fair, good Michelin tires, brand new clutch, AM/FM, \$850. Call 536-3888 after 5pm.

'68 Pontiac Firebird convert, runs but nds work, gd for parts or restoration, new trans, brakes & rebuilt engine, body fair, best offer. Jim, 648-2727 or Donna, X3-4765.

'71 Ford T-Bird, white, many new parts, 68K, best offer. Call X3-8308.

'71 Chevrolet Impala, transm not working but all other parts in gd cond, A/C, \$75. Call X8-2586, Draper or 646-8426.

'72 Pinto 2-dr hatchback, exc. running order, gd interior, body, & mech cond, new exhaust system, AM/FM, automatic, 80K, \$995. Steve, 864-2374.

'72 Ford Gran Torino, fair cond, very dependable, \$700 or best offer. Waldemar, X3-7130 or 492-9158 eves. Pick up early July.

'72 Toyota Corolla wagon, mech. OK, terminal rot, for parts, radial tires, \$100. Call 524-5374, mornings.

'73 Pontiac LeMans, 2 dr, P/S, P/B, AM/FM, A/C (nds repair), 98K, exc. body, new trans, radiator, exhaust system, \$900 or best offer. Arron, X3-3772 or 734-0936 eves.

'73 Fiat station wagon, 44K, gd engine, gd cond, auto trans, radio, body rust, AM/FM radio, \$400. Call X3-6896 or 868-8873.

'74 Chevy Vega, 58K, auto trans, p/s, gd cond, 2nd owner, AM/FM, \$800. or best offer. Call 494-8166.

'74 Audi Fox, exc. cond, A/C, 30 MPG, reg gas, AM/FM, new shocks & front end work, gd tires, \$2500 or best offer. Ed, X270 Bateslinge, or 233-5385 after 5pm.

'74 International, 4-whl drive, 3/4 tons w/ cabinets; P/S, 3-way plow. \$3400. Call X3-6658.

'74 Pinto Runabout, 54K, A/C, luxury group decor, vinyl top, 2 side mirrors, defroster, reg gas, vry clean, gd cond, \$1800 or best offer. Call X3-6334 or 646-0589.

'75 Dodge Dart, 1 owner, always garaged, no rust, 44K, a/c, AM radio, auto 6 cyl engine, exc. cond., \$2400. Call 964-6164.

'75 AMC Gremlin, beautiful shape, brown, 2 dr, sedan, auto trans, odometer 82980 mile, June 15, 2 snow tires, new air filter, new oil change, new battery, sell by end of June. \$1100. Call X3-2256 or 646-3727.

'76 AMC Hornet, 4-dr, new brakes, new radial tires, new exhaust system, new Sears' battery, gd body, bronze, 42K, 1 owner (mechanic) clean interior, \$2650. Call 395-6166 keep trying.

'76 Triumph Spitfire convert, low mileage, no rust, 30 mpg, \$3000. Call 527-2907 or 326-1007.

'76 Pinto Squire Wagon, P/S, P/B, custom interior, radial tires. Call 426-7769.

'76 Fiat 128, rustproofed, exc body & interior, gd mi., (20 in town, 30 on hi-way). Must sell, ask \$2400 or best offer. Call X3-5013 or 492-1061 after 9pm.

'77 Yamaha DT 400 motorcycle, Monoshock, CDI, mint cond, \$650. Dave, X3-7787.

'78 Mercury Zepher wagon, 4 cyl, 4-spd, 25K, AM/FM, rust-proofed, exc. cond, & mpg, \$4000. Call X3-1723.

'80 Toyota Corolla Sport Coupe, 5 spd, 1.8 engine, (EPA figures: 28/41 mpg), only 6900 mi, still under orig warranty, sunfr, wire wheels, stripes, Pioneer \$250 stereo, poliglocoating, 5 yr rust warr, immac. Costs now new, \$7800, must sell, leaving country, ask \$5850. Peter, X3-3636 or 322-7823.

Housing

Arlington, summer sublet/house sit, nr T, sunny, spacious, 3 BR apt, AC, carpeted, mod K & bath, quiet tree lined st., avail. 7/5/81 to 9/7/81, \$500. for 2 months w/ care of cat. Call X3-6686 or 646-5399.

Beacon Hill sublet 7/3-8/31, 2 BR, LR, DR, K, fully furn, sunny, quiet, a gem, \$300./mo. Alan, X3-3408 or 523-5357.

Beacon Hill, charming, furn sleeping rm w/ FP, linens furn, K priv, cool courtyard, lge sunny rm in quiet home for visiting scientist or mature professional, walking dist MIT, academic year or longer. Call 367-6268.

Belmont, 2 BR apt to sublet at \$50./ wk, now thru Aug 31. Ed or Scott, 489-2636 eves.

Belmont, attractive furn rm, non-smoker, pking, tennis court & pool close by, \$55./ wk. Call 484-6833.

Boston, Back Bay (Gloucester St.), summer sublet July 15 - Sept 1 w/option to renew: 1 BR, conven to MIT, hrwd flrs, fp, built-in shlvs & desk, lge bay wndws w/exposure on st., sunny, spacious, \$430./ mo. incl util. Dave, X8-3425, Draper, days, 247-0797 eves.

Brookline, 3 BR hse avail, July 1-month, pking, conven to stores, trans, etc, \$500. Maryglenn, X3-1668 or 232-7254.

Cambridge, big sunny rm avail July & Aug, convenient, big spacious apt w/ porch, great apt. mates, about \$150./ mo incl. util. Annette, 876-7729.

Cambridge/Watertown line, lge deluxe condo, Charles River view, 1300 sq. ft, 2 BR, 2 baths, pool, \$750./mo., avail July 1. Call 924-0264.

Cape Cod, Chatham, lovely hse w/ private dock, swimming pool, tennis court, \$200/wk. After July 1, \$400/wk. Call 366-2788, eves.

Central Sq, 10 min walk to MIT, big BR in 3 BR apt, K, bath, \$140 incl heat & hot water, avail now thru summer '82. Call 547-3164 eves. or X3-6807.

2 BR condo conven to Harvard & MIT, includes, WW, dsh/wshr, fp, AC, TV & stereo, off set pking, laundromat, \$700. + util. (negot.) Call X3-4391 or 495-5363 or 492-2743.

Chelmsford, Garrison colonial hse on 1 acre, rent w/ option to buy, superb neighborhood, dead-end st, back to conservation forest, 4 BR, 1 1/2 bath front-to-back LR, FR w/ fp, cathedral ceiling, deck, walk-out basement, 2-car garage, avail July 1, \$675./mo. Call 256-6960.

Chelsea, London, fully furnished, 1 BR apt, avail July 10-Sept. 30th, quiet & comfortable. Debbie, X3-4003.

Chelsea, 3 rm heated apt, cabinet K, tiled bath & shower, on bus line, \$250. mo. Call 846-2578, after 6:30pm.

Conway, N.H., Eidelweiss, 3 BR chalet on lake, sailfish, tennis, sleeps 10, avail til Aug 15, \$500./mo or \$280./ 2 wk. Call X3-6824 or 734-2221, eves.

Eidelweiss, N.H. mod, 4 BR chalet, slps 8, complitly furn w/ fp, WW, bright K, use of tennis courts, player, 3 lakes w/ priv beaches, fish, hike, mins. from rec areas. \$235./wk, \$165./hol. wkend, \$135./wkend. Connie, X3-5251.

Glencoe, Nova Scotia, vacation retreat, vry priv, 12-acre site overlooking East River Valley, 2 BR, sleeping loft, swim in nr by river & waterfall pools, ideal for birdwatching, hiking, rock hunting, \$200. per wk. Call X673, Lincoln or 369-3973.

Jamaica Plain, 2 BR apt for rent Aug & Sept, conven, to T, porches, backyard, fully furn, \$450./mo. util incl. Call 524-5009 after 6pm.

Lexington, full furn 3 BR hse, perfect for sabbatical visitor, 2 FP, library, family rm, exc. schools, no pets. \$840/mo. Avail 9/1/81-6/30/82. B. Schwartz, X3-5585.

Milford, Nova Scotia, 3 BR hse, private point, freshwater lake, 80 mi from Yarmouth, 15 mi from Kejimikujik National Park, fishing, canoeing, hiking, etc, \$250./ wk. Donald, X3-1701.

Nantucket, secluded cottage at Wauninet, ocean beach frontage, nr harbor beaches, slps 4, avail July 4-20, \$600. wk. Sally, 369-3633.

Newton, great deal, completely furn, 4 Rm apt to sublet, July & Aug, \$200./ mo + util. Call 969-5526 keep trying.

No. Conway, N.H., area invest property twnhse-style duplex chalet on 1.6 acres, ea unit has 3 BR, 1 1/2 baths, FP, w/w, deck, furn. \$73,900. Dick, X7124, Lincoln.

Owl's Head, Maine, full ocean view cottage, all conven, avail July 25 - Aug 7. Call 275-6521.

Oxford, England, fully furn. detached hse w/ garage; 2 BR, lge reception rm, K, gas central heating, freezer, dsh/wshr, TV, piano; secluded garden. Avail Sept. '81 for 1 yr; 300 pounds ste-

rling per calendar mo. incl rates. Call Tyler X3-4382 for details or write J.E. Stoy, Balliol College, Oxford, England.

Scituate, charming 2 BR furn summer hse, 1/4 block beach nr shops, 45 min to Boston, lovely area, avail July &/ or Aug, \$450./mo; \$150./wk. Call 1-545-5576.

Somerville, sublet, 2 BR mod apt, A/C, W/D, DW, disp, conv to T, 10 min to MIT & Harv Sq, \$465. incl ht & pking, partially furn if you wish. Call 666-8146 or 868-8665.

Swampscott, by the ocean, lge Victorian hse, avail from Labor Day through June 1. Call X3-4304.

Vermont, Quechee, nr Woodstock, Dartmouth, brand new lux 2100 sq ft condo, 3 BR & loft, 2 1/2 baths, sauna, jacuzzi, all appliances, magnificent view, golf, tennis, pool, lake rental by wk or month. Call X3-5320.

Watertown, Oakley C.C., 3 BR, central entrance colonial, 1 1/2 baths, fp, deck, beamed ceilings, \$85,000. Call X3-3424.

Winchester, exquisite split entrance, custom blt by owner w/ many added attractions, 11 rms incl 4 BR, 2 1/2 baths, lovely entertainment rm, huge FP, ect., \$154,900. Must see to believe. Call 729-3293.

Animals

Free tiger kitten, 8 wks old. Maria, X3-1316 between 9-2.

Free to good home, 1 calico kitten female w/ double paws, 1 orange & white female w/ double paws, 1 tan & white male. Ed, X8-1811, Draper.

Free! 2 gentle, neutered M cats nd a gd home, raised in Paris but understand English, healthy, gd natured, exc. w/ children, given away as pr, moving into no pet apt. Call X3-1772 days or 491-4167 eves.

Free kitten to parents w/time, M, 12 wks old, black/white, beautiful, gd character, healthy, trained. Call 266-2682.

Lost and Found

Found: gold Monet hoop on steps to building 14. Lee, X3-1782.

Wanted

One or 2 BR apt or hse or living arrangement w/older person. We are professional couple, she's fluent in American Sign Language, he is very handy. Prefer Camb, Watertown or Belmont. Mark or Patsy, X3-2621 or 492-0023.

Male, 27, seeks mature person or group for climbing and/or hiking vacation this summer. Marc, X3-7225 or X3-5982.

House-sitter(s) for Aug 11-Sept 7, 3 BR suburban hse, care for animals & plants, 10 min from bus line to Harv Sq. Alfred, X3-2916.

Used wind surfer. Martin, 862-8741 eves or Babi, X3-6442.

\$250 reward for info leading to the rental of 2, 3, or 4 BR apt, walking dist from Runkle School in Brookline, starting 8/1 or 9/1. Call 731-2840.

Used 20" boy's bike, reasonable cond, will pay \$30-\$35, prefer Huffly, Chris, X3-4765.

Two BR in 2 family for 9/1, nr T, max 30 min drive to MIT, resp, quiet grad student couple. Claudia, 726-8440 or 864-4265 after 6pm.

Low intermediate tennis player seeks partners for practice. Mary Anne, 566-5873, 7:30-10pm, keep trying.

Belmont, 2 BR apt for professional MIT woman and 2 mature, well-mannered sons, \$400. + heat, \$50 reward. Call X3-8254.

Responsible visiting scientist seeks apt or furn tm, Sept 81 -Jan 82. Call X3-4827.

House or apt sitting for 2 responsible adults, July 22-Aug 9. Perkell, X3-3223.

One BR apt, prefer fairly mod, Brighton/Allston area, for Sept 1, reward. Valerie, X3-8250.

Students wanted to help doctor move from Boston apt to house in Brookline, all day July 4 or 5, \$5/hr min. negot. Dr. Biller, X3-7802.

Pianoforte students, individual lessons given at reasonable rates. Call X3-3838 or 738-9179.

Roommates

Female seeks F rmmte before Sept 1, need someone willing to help find an apt; presently am subletting. Call X3-4973.

Rmmte wanted for July & August, Porter Sq, \$136./ mo. Call X3-2322 or 354-2353 eves or early am.

Female to shr 2 BR apt on Harvard St, Cambridge, pking avail, close to T, \$200./ mo incl heat. Tertia, X3-6513 or 354-7383, eves.

Female looking for mature young professional female to shr hi-security, mod, 2 BR apt, bath, K, LR in Brookline, \$267.50/ mo. heat incl, avail Aug 1. Call X3-3434.

One male to shr 4 RM apt nr Central Sq, 5 min. to MIT, avail 7/1, \$100/mo for summer, about \$110/mo after summer plus util. heat incl. Szeto, 547-8403.

Rmmte to shr apt on Camb/Belmont line w/ 2 professional females, \$155. + util., nr T. Call 489-1906 or X3-5069.

Arlington, 3rd professional to shr mod 3 BR duplex w/ lge mod, elect K, D&D, conven to T, Rtes 2 & 16, stores, Electronics Lab, pking, non-smoker, no pets, \$225./ mo incl util. Call 646-8230 & 862-5500, X5775, Lincoln.

Professional independent F, 30, seeks compatible rmmte for Beacon Hill condo, summer or longer, \$300./ + elec. Call 367-0355 eves or X3-7309.

Carpool

Looking for a ride to & from Rockland area, 9-5. Vicky, X3-4

POSITIONS AVAILABLE

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

This list includes all nonacademic jobs currently available on the MIT campus. Duplicate lists are posted on the Women's Kiosk in Building 7, outside the offices of the Special Assistants (10-215, 10-211) and in the Personnel Office (E19-239).

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

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

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

Pat Williams 3-1594
Susan Lester 3-1593
Appointments: Janet Moore 3-4270

Virginia Bishop 3-1591
Richard Cerrato 3-4266
Ken Hewitt 3-4267
Appointments: Marsha Gens 3-4268

Sally Hansen 3-4275
Vera Ballard 3-4277
Kathleen Rick 3-4269
Appointments: Etsuko Kumai 3-4274

Dick Higham 3-4278
Anne Whitman 3-6510
Ann Perkins 3-6511
Appointments: Tertia Perkins 3-6513

Administrative and Academic Staff

Postdoctoral Associate, Plasma Fusion Center, to conduct research in the area of relativistic electron beams. The primary interest is in the generation of millimeter and submillimeter radiation by means of novel sources, including free electron lasers, gyrotrons, etc. The work will include electron gun design and gun diagnostics. Should have a strong experimental background, preferably in plasma physics, as well as Ph.D. C041

Records Management Officer, Academic Administrative Staff, Libraries—Institute Archives and Special Collections. Responsible under direction of Institute Archivist for records management program at MIT. Directs the program and plans for its continuing development. Primary responsibilities include the surveying and scheduling of records, maintaining the records center, planning future services, and promoting the records management program at MIT. Works closely with Institute administrative, legal and financial officers in the establishment of retention guidelines for records; records management systems and policies; archival responsibilities as assigned. At least three years' experience in records management work, preferably in a college or university required. Archival experience also desirable. Master's level work in history or business administration plus training in records management and/or archives also necessary. C040

Accounting and Billing Manager/Management Analyst, Academic Administrative Staff, Medical Department. Responsible for supervising the Accounts Receivable and Accounts Payable Units for the Medical Department, the MIT Health Plan and the Student Health Program. Other responsibilities will include expense analysis, pricing decisions, revenue projections and development of management reporting systems to support the Department's and Plan's financial needs. Bachelor's degree required. MBA desirable. Two to three years work experience with some prior supervisory responsibilities also necessary. A131

Sponsored Research Staff

RF Electrical Engineer, Plasma Fusion Center, will be involved in the MIT Alcator RF heating program working closely with a group of scientists, engineers, technicians and graduate students. A BS degree in engineering or equivalent experience is required. A minimum of 10 years' experience in RF engineering is necessary. Also, experience in designing and maintaining high power (up to 1 MW per unit) RF transmitter systems and components in the 10 MHz to 28 GHz regime (including systems with tetrodes, klystrons and gyrotrons), would be preferred. R523

Histologist, Dept. of Nutrition and Food Science, for preparation of slide for the assessment of histological/pathological detail by histochemical autoradiographic and other histologic techniques using the standard operating procedures of the Laboratory and developing new methods. Will follow study protocols and maintain accurate records of studies assigned; assist in necropsies, BA or BS in biological sciences or chemistry or equivalent required. Histological laboratory experience required. R522

Research Scientist-Experimental, Plasma Fusion Center, to work on neutral beams for a large fusion tandem experiment. Will require individual to design neutral beam sources with reliable operation at 75 amp and 20 kv for 30 msec pulse duration. The design will be based on Berkeley type source but will be adapted for our requirements. Will work with and become familiar with the Wolff code and other design codes. When completed (10/83), will take part in NB injection experiment on tandem mirror. Will entail source operation, plasma measurements

and calculations of NB fueled plasma parameters. Work is expected to continue on source improvements. PhD in physics or engineering with knowledge of vacuum technology, high voltage, electron optics and atomic physics required. A general knowledge of plasma physics and computer programming is desirable. R521

Electrical Engineer, Plasma Fusion Center, will design and coordinate implementation of computer based data handling and rf digital control systems for microwave heating experiments on high temperature fusion plasmas. Will interface these systems into high voltage power supplies and microwave klystron amplifiers to control high power rf generation and will design electronic data collecting systems for the rf and plasma diagnostics. Requires detailed knowledge of CAMAC systems and their use in association with data collection systems and computers. BSEE or equivalent with at least 3 years experience with PDP-11 based systems and with analog and digital design required. R520

Research Staff, Mechanical Engineering, will be responsible for developing and supervising computer and graphics display facilities in Man Machine Systems Laboratory. Will develop for both raster and vector display systems and interfacing of man interactive devices in conjunction with research on undersea robotics, aircraft piloting and traffic control, multi-attribute database searching and decision making. Bachelor's degree in mechanical or electrical engineering including training in modern control, decision theory and man-machine system modeling required. Experience in raster and vector graphics software, PDP-11 interfacing with control devices necessary. R518

Technical Assistant, Nutrition and Food Science, to work on studies on how brain function is influenced by dietary constituents. Most studies will focus on the metabolism of choline and acetylcholine. Requires animal handling, radioenzymatic assays, chromatography, electrophoresis, and other biochemical skills. Requires Bachelor's degree in biological science. Related experience desirable. Must be willing to work with small quantities of 32p. R516

Research Staff, Haystack Observatory, for a computer-interface system maintenance engineer. Will supervise maintenance of the Millstone Hill digital computer system and associated interfaces. Will also provide design assistance in incorporating new equipment in this system. Should be able to develop simple machine language diagnostics as an aid to carrying out these responsibilities, and would work in cooperation with system programmers to develop more elaborate diagnostics when necessary. BS or equivalent experience in the field of digital logic design and minicomputer interfacing is desired. Experience with microprocessors, real-time digital control and analog-to-digital conversion areas would be useful. R515

Research Specialist, Energy Laboratory, will provide administrative and technical support for the energy and applied economics group. Duties will include writing monthly progress reports and annual reports, processing and distribution of program discussion paper series; organization of program workshop and larger meetings with sponsors and other research groups; assist in budget analysis and financial planning for program. Will provide technical support to Energy Model Analysis Program, including participation in evaluation projects and collecting and abstracting research materials. Requires college degree with at least 2 years' experience; good writing and interpersonal skills; demonstrated ability to work independently under general supervision; experience in a university-based energy research group desirable. R514

Computational Engineer, Plasma Fusion Center, to perform computational studies of particle orbits and toroidal reactors with helical fields and determine magnetic fields and forces produced by various coil configurations. Will also participate in overall design of stellarator and tokamak reactors, and conduct plasma engineering studies in the heating, divertor, and burn control areas. PhD in nuclear engineering or physics required. Experience in reactor system studies and computational studies of stellarator fields and particle orbits required. R513

Control System/Diagnostics Engineer, Plasma Fusion Center, to be responsible for the coordination and design of control systems for the TARA Tandem Mirror, a large fusion experiment. Will involve fast and slow timing of the experimental equipment interlocks for protection on a \$14 million experiment. Should have BSEE or equivalent. Knowledge should cover both analog and digital electronics. Knowledge of computer control and CAMAC desirable. R512

Power Electronics Engineer, Plasma Fusion Center, will work on fusion power systems for a \$14 million tandem mirror experiment. This work will include: coordination of installation of a 10-circuit 15-MWDC pulsed magnet supply, pulse neutral beam power supplies, including 30 KW filament supplies, 300 KW arc supplies and 1.5 MW, 20 KV acceleration supplies. Will work closely with scientists and grad students on development of fusion power systems for a wide range of current and future applications. Should have BSEE or equivalent. Specialization in power systems preferred. R511

Sponsored Research Staff, to participate in the ongoing program in medium energy nuclear physics at the MIT-Bates Laboratory and at other laboratories. Will assist with the planning and participate in the performance of related experimental programs. Will also participate in the development of a medium energy neutron detector, as well as help commission the Bates neutron pion detector. Requires a recent PhD in experimental nuclear or high-energy physics. R504

Administrator, Clinical Research Center, responsible to Program Director for administrative, personnel and fiscal responsibilities including: liaison with MIT departments; preparation of annual department budget, coordination and assistance in preparation of research grant proposals and annual reports; awareness of current DHW, NIH, GCRC policies and notification of staff of pertinent changes; supervision of administrative processing of research protocols; and various administrative functions. Will also consult with CRC department heads regarding personnel functions including hiring, salary reviews, preparing reports; supervise support staff in Administrative Headquarters. Will monitor, analyze, project and authorize expenditures for CRC operating budget; authorize account expenditures; oversee billing system. Requires a Bachelor's degree or the equivalent combination of education and experience; a minimum of two years experience, preferably in a health care setting. R507

Administrator, SRS, Spectroscopy Lab (MIT Regional Laser Center). Will direct and administer the MIT Regional Laser Center and Spec-

troscopy Laboratory Programs. Duties include: providing technical support to the overall operation of the lab; overseeing contracts, budgets and purchasing; scheduling use of the Center's facilities by MIT and out-researchers; serving as liaison between the lab and other administrative officer in fiscal and personnel matters; organizing seminars, arranging meetings and supervising support staff and technical employees. Bachelor's degree or equivalent in a technical or scientific discipline, and prior administrative experience required. An advanced degree in physics or chemistry would be helpful. A strong technical background is required. Experience with lasers, optics, electronics, and mechanical design is highly desirable. R505

Sponsored Research Staff, Lab for Nuclear Science, to participate in the ongoing program in medium energy nuclear physics at the MIT-Bates Laboratory and at other laboratories. Will assist with the planning and participate in the performing of related experimental program in medium energy nuclear physics. Part of the responsibility will be to participate in the development of a medium energy neutron detector, as well as to help commission the Bates neutron pion detector. Appointment will be for one year and is renewable by mutual consent. A recent PhD in experimental nuclear or high-energy physics is required. R504

Exempt

Administrative Assistant, Humanities Department, to hire, supervise, and coordinate work of department's support staff. Will handle related personnel administration in conjunction with Administrative Officer; assist in maintenance of accounting records, maintain support staff payroll, schedule classes, collect and prepare materials for semi-annual Dean's Reports, collect grades and work with Registrar's Department. Will schedule manuscript typing for department, type confidential materials; oversee workflow in Headquarters office. Requires office management experience, demonstrated interpersonal and administrative skills. MIT experience desirable. Must be self-directed and thorough. College background/degree and/or equivalent experience preferred. E078

Assistant to the Director of MIT Press, will work closely with the Director to identify, plan and carry out special projects that will benefit the Press and the Institute. Areas of responsibility include program and resource development, public relations, acquisitions, and administration. BA or BS and two years of experience in a communications field required, e.g., publishing, fund raising, or higher education. Experience in, or familiarity with more than one of these fields is preferred. Excellent writing skills; high level of responsibility, organization and self-motivation also necessary. E077

Supervisor, Publications Unit, Dept. of Nutrition and Food Science, responsible for a wide range of duties associated with the preparation of manuscripts for submission to scientific journals. This includes editing for content, grammar, consistency, style, and format. Will work closely with authors at every stage of manuscript preparation; distribute workload in three-person office; supervise preparation and distribution of weekly departmental newsletter; supervise departmental word processing system and train users; and assist with personnel and budget matters. Requires BA and 2.5 years' direct editorial experience, with some technical typing experience. Supervisory experience and knowledge of CPT word processor desirable, as is familiarity with scientific terminology and with MIT. Applicants should be able to show either samples of material they have edited or writing samples. E076

Assistant in Communications/Resource Development, Office of Communications, Resource Development, will be responsible for writing, producing and distributing gift acknowledgements and other development related correspondence for MIT's senior officers; establishing and maintaining record-keeping systems; and providing research assistance to Senior Associate in Communications. Position requires tact, initiative and careful attention to detail. Excellent organizational ability and skill in letter writing are necessary. Typing skill is highly desirable, as is familiarity with MIT. Letter describing qualifications and interest in position should accompany resume. E075

Assistant Manager, Physical Plant-Superintendent's Office, will report to the manager of the Student Center, Kresge Auditorium and Chapel. In this capacity will coordinate all activities in the facilities plus other Institute facilities, such as working out technical requirements for events, maintenance of buildings, safety of students, Institute community, and guests using the facilities, billing of charges and purchases. Will maintain statistical records and supervise personnel assigned to the areas. Familiarity with concert, theatre, and event preparation and breakdown desired. Must be able to perform duties with minimal supervision and work shifts, schedules and hours as required, including weekends. Schedule: Mon., Thurs., Fri., Sat. & Sun., 4pm-12 midnight. E074

Technical Assistant (Histologist), Division of Comparative Medicine, responsible for preparation of histology slides of animal tissues in a multifunction laboratory. This includes processing, sectioning, mounting, staining and covering tissues. Also includes the ability to prepare solutions for fixation, decalcification and routine and special stains. Reports to Lab Director and must be able to organize work load, interact with other professional personnel, and be willing to participate in the Division's research projects. Should have a BS in biology or related field with 2 years of experience in histology, or indicate sufficient experience and skills by demonstration and suitable references. E073

Library Support Staff

Library Assistant IV, Rotch Visual Collections, under supervision of librarian, researches, identifies, catalogues and classifies slides and photographs of art, architecture and urban planning, including visual materials in Islamic architecture and urbanism acquired for the Aga Khan Program in Islamic Architecture. Assists faculty members and students in locating appropriate visual materials; processes slide and photography requests; types catalog cards for visual materials; demonstrates the use of video equipment; participates in collection management routines. Requires minimum of 2.5 years direct/related experience and reading knowledge of one foreign language (German, French, Italian, Spanish). Two years of college preferred. Subject background in architectural or art history required. Should be familiar with library research methods. Non-smoking area. B1147

Library Assistant III-Circulation, Rotch Library, an 11-month permanent position in the public service section of the Rotch Library of Architecture and Planning. Shares responsibility for all functions of the circulation desk,

including charging and discharging books, filing charge cards, preparing overdue notices, recording statistics, answering locational questions, searching for missing items. Will also process reserves, including identifying, collecting, and servicing materials for course reserve. Other duties as assigned. Some evening and weekend hours may be scheduled. Requires ability to assist library users in a friendly, positive and efficient manner; reliability in meeting schedules and accuracy in detailed procedures; some typing; minimum of one year direct/related experience. B1146

Library Assistant II-Messenger, Libraries. Responsible for receiving, sorting and distributing US and interdepartmental mail for the MIT libraries. Delivers mail twice a day to libraries located in buildings spread out across the campus. Wraps, labels and mails packages; fills mailbags daily and puts on shipping platform for pickup; responsible for postage meter; performs special errands as requested by supervisor. Requires high school graduation or equivalent; willingness and capacity for physical exertion; dependability; punctuality. Schedule: M-F, 8am-4pm. B1139

Library Assistant III-Binding and Repair Assistant, (part-time), Libraries Acquisition Dept., responsible for repair and preservation of library materials including: typing call numbers, correcting lettering, mending paper, tipping in pages, indexes and tables; cutting and glueing paper, cloth, buckram and boards; stitching signatures, tightening hinges, rebacking and recasing books, making enclosures, and performing other tasks as assigned. May also prepare journals, etc., for binding and process returned shipments. Non-smoking office. Requires one year direct/related experience. Library binding and repair experience preferred. Neat handwriting, manual dexterity and attention to detail very important. Basic typing skills required. 17.5 hours/week, schedule to be arranged between 9-5, M-F. B1119

Library Assistant III (part-time), Circulation and Basement Collections Dewey Library. Individual has overall responsibility for Dewey Library basement collections, including messenger service, stacking, transfers, protection against physical damage and security. Also responsible for bringing in mail daily from the outside mail delivery point, and for the initial sorting of incoming mail. As time permits, assists with library opening procedures, maintains microfilm room and readers in good order; assists with circulation duties. Requires a minimum of one year direct/related experience; ability to organize a variety of duties and to work with a minimum of supervision. Punctuality and regular attendance is essential. Physical stamina needed for stacking and mail duties. No typing required. Schedule: Mon.-Fri., 8:30-12noon. B1118

Library Assistant III, MIT Libraries, Catalog Department, Monograph Processing Section. Types master catalog entry from data on cataloger's worksheet on the OCLC (Ohio College Library Catalog computer data base) 100 terminal for the production of catalog cards; performs clerical aspects of reclassification and cataloging of added copies and continuations based on cataloger's written directions; edits on-line for LC and contributed cataloging; types authority reference cards; prepares charge cards and book pockets; files; performs other varied clerical assignments as required. A minimum of one year direct/related experience is necessary, as is experience and accuracy in typing. Ability to accomplish complex input on OCLC 100 terminal necessary; neatness, accuracy and capacity for detail important. Schedule: M-F, 11-7 flexible. B1105

Library Assistant IV, Nutrition and Food Science, to process and organize materials (books, monographs, journals, government documents and reports) received by the Departmental Reading Room and INP Reference Center from a variety of sources. Will receive other reference material, assign subject classification and file for easy access. Other duties include: ordering needed material for research or teaching; maintaining the subject classification scheme, literature searching, liaison work with area libraries, descriptive cataloging for monographs, handling utilization of reference room materials as assistance to students and staff in locating reference material. Library reference experience essential. BS or equivalent; background in life sciences preferred. B1100

Library Assistant III-Evenings, Libraries, Circulation Dept. Performs general stacking routines, searches for missing items, etc., and other duties as assigned by Circulation Librarian. Performs circulation desk routines, charges and discharges books, takes telephone renewals, notifies and takes personal reserves for books, files and sorts and files materials; types book cards, takes statistical counts, etc. Minimum of one year direct/related experience is required. Good clerical aptitude, attention to detail, ability to work without direct supervision, punctuality, dependability necessary. Skeleton staff off-hours makes regular attendance of great importance. Helpful, pleasant but firm manner in dealing with users. Requires some physical exertion (stacking). Must work well in sharing work with other night library assistant. Schedule: M-Th, 1-9 p.m.; Fri, 10-6 p.m.; Winter: M-Th, 3-11; Fri, 1-9 p.m. B1099

Secretary/Staff Assistant

Administrative Assistant, Sloan School of Management, to manage and coordinate PhD Program with minimal direction from the PhD Program Committee Chairperson. Responsibilities include handling the day-to-day affairs of the office, including independently responding to telephone and mail inquiries and talking to prospective applicants who arrive unannounced to inquire about the program. Arranges interviews for applicants; coordinates admissions process; assists in coordinating all orientation activities; schedules waiver and qualifying examinations; answers queries from students, faculty and other administrators; handles record keeping for students; financial aid requests and accounts. Requires BA and work experience in a university; MIT experience preferred. Excellent typing required. Experience in word processing or computerized data entry preferred. B1129

Administrative Secretary, to perform varied and complex administrative and secretarial tasks for the Manager, supervisors and staff of Academic and Research Computing Services, IPSO. Must be capable of handling a high volume of work independently with minimal supervision. Will exercise discretion in obtaining and providing factual information regarding the computing services rendered; anticipate and initiate actions regarding office operations which require knowledge of the Institute and other departments; use text editing and formatting computer systems to type, proofread and edit reports, manuscripts and similar material from rough draft. Will also perform other varied duties as necessary. Requires strong organizational, communication and typing skills, plus

4.5 years' direct/related experience. Schedule: 8:30am-5:30pm. B1114; B1115

Administrative Assistant, Research Laboratory of Electronics, responsible for operation of RLE Document Room. Will maintain collection of books, journals, theses and reprints, and provide information and reference service to researchers. Must be service oriented with strong organizational ability and interpersonal skills. Requires 4.5 years' direct/related experience. B1108

Administrative Secretary, Aeronautics and Astronautics, in the Fluid Dynamics Research Group. Will type reports, proposals, manuscripts, class material (much of it technical) and correspondence. Will also arrange travel and meetings, answer phones, maintain files. Technical typing required. One-person office. Technical typing experience is essential. Ability to handle busy schedule associated with central office for several faculty and graduate students important. Also requires a minimum of 4.5 years' experience or combination of education and experience. B1101

Sr. Secretary, part-time (30 hours/week), sharing office management responsibilities for four faculty members in the Dept. of Earth and Planetary Sciences. Secretarial duties will include typing of proposals, manuscripts, general correspondence; mailing reprints; phone coverage; mail; and photocopying. Administrative responsibilities include monitoring four research grants, including budget preparation and projections and day-to-day accounting. Must have good organizational skills, and excellent typing skills. Important that individual is willing to share responsibility and assist other secretary whenever possible. MIT experience preferred. B1145

Sr. Staff Assistant, Compensation Office-Wage and Salary, in the Personnel Office. Will provide secretarial support and assist in a variety of tasks including annual salary reviews and surveys. Responsibilities include: typing correspondence and reports; receiving and distributing mail and independently initiating or responding to correspondence as appropriate; coordinating meetings; collecting, compiling and proofreading data for salary surveys; maintaining and/or initiating files and various record keeping systems as necessary; answer phones and assist in special projects as necessary. Requires excellent typing skills, good facility with figures and excellent interpersonal skills, as well as ability to exercise discretion in dealing with sensitive information. 2.5 years of applicable experience required. Willingness to learn word processing and data entry also necessary. 37.5 hours/week. B1142

Sr. Secretary, (part-time, 1.5pm, M-F), 9-month (Sept.-May) permanent position, in the Humanities Department-Music Section, to maintain schedules and calendar for orchestra; order music parts; handle financial accounts; arrange logistics for recordings, concerts, tours, etc.; act as liaison between Department and graphic arts services; maintain musical instrument room; schedule meetings; perform general office management duties. Shorthand/speedwriting essential. Typing 60wpm required. 2.5 years direct/related experience necessary. Permanent nine-month position, September-May, 17.5 hours/week. B1141

Editorial Assistant/Production Assistant, Center for Advanced Engineering Study, for the Self-Study Video Course Program. Responsibilities include set-up, typing, proofreading and correcting of complex technical material. Also includes layout and pasteup of camera-ready copy; consultation with and correspondence with authors, and some secretarial/clerical duties. Position requires strong verbal and written skills; familiarity with preparation of complex technical material (mathematical symbols, Greek alphabet), good organizational and interpersonal skills, and willingness to learn and utilize new skills. Requires 65 wpm typing; Bachelor's degree or equivalent combination of education and experience. B1137

Sr. Secretary-Medical, to provide secretarial support to the Director and Associate Director of Nurses and to the Nursing and Surgical Service, Medical Department. Includes handling nursing telephone calls; typing travel arrangements, scheduling meetings, record keeping and administrative detail related to patient care. Will also provide secretarial support to three surgeons; scheduling operations with area hospitals and coordinating administrative detail regarding the admitting and discharge of patients. Must be an experienced secretary with excellent typing skills and demonstrated ability to work effectively in a very busy setting. Position requires strong organizational skills, flexibility and initiative to work independently with a minimum of supervision. Some editing of reports and correspondence may be required. Non-smoking area. 37.5 hours/week. B1127

Sr. Secretary, Admissions Office, to perform secretarial duties to two admissions officers. Will maintain accurate calendar, handle mail, arrange travel, provide secretarial assistance to additional staff members as needed. Much receptionist work required as well, including the answering of telephones and scheduling of appointments. Requires excellent typing and organizational skills; ability to work under deadlines; and ability to transcribe from dictating equipment. Interpersonal skills essential. B1120

Sr. Staff Assistant, Institute Archives and Special Collections, Libraries. Types correspondence, reports, catalog cards, inventories of manuscript collections and other material from draft and dictaphone for Archivist and staff. Answers and routes telephone calls; maintains files; distributes mail and composes routine correspondence. Handles scheduling, biweekly and student payrolls, petty cash, supplies, statistics. Assists with special projects as assigned. Non-smoking office. Requires a minimum of 2.5 years' direct/related experience; ability to organize a variety of tasks and handle work efficiently and accurately. Tact and respect for confidentiality will be important. Familiarity with MIT desirable. Typing accuracy and speed required. B1116

Sr. Secretary, to assist two members of the faculty of the Dept. of Architecture. Must be fast and accurate typist for typing of papers, correspondence, research papers, etc. Must have excellent organizational and filing skills and be able to handle details. Duties also include screening telephone calls; handling mail, petty cash; arranging travel. Must be able to work independently and coordinate office projects during absences of faculty. Should be able to deal well with a variety of faculty and students. Involves occasional opportunity to use graphic and editorial skills. 2.5 years' direct/related experience required. B1112

Rock Mechanics Symposium Planned

More than 250 mining, civil and petroleum engineers, geophysicists and rock physicists will attend the 22nd U.S. Symposium on Rock Mechanics to be held at MIT June 29-July 2.

The Symposium, titled "Rock Mechanics from Research to Application," is sponsored by MIT in cooperation with the U.S. National Committee for Rock Mechanics of the National Academy of Sciences of the National Research Council, and the local engineering community.

Dr. Herbert H. Einstein, associate professor in the Department of Civil

Engineering, and faculty coordinator for the symposium, called attention to two special parts of the program. State-of-the-art papers will be presented on Monday, June 29 from 8:30 am-12:30 pm in fluid flow, fracture propagation, deformation and site characterization. During another plenary session Wednesday, July 1, from 3-5:45 pm, papers will be presented on the transfer of research results into practice. The papers will touch on the role of the government and the practical implementation of hardware and of analysis methods.

A special evening session of the

symposium, on Tuesday, June 30, from 8-10 pm, will concern the newly published report, "Rock Mechanics Research Requirements for Resource Recovery, Construction, and Earthquake-Hazard Reduction."

On Thursday, July 2, field trips will be taken to view the MBTA Red Line extension and the Seabrook Station cooling water tunnels. Tours of the rock mechanics laboratories in the Departments of Civil Engineering, Mechanical Engineering and Earth and Planetary Sciences are scheduled for Tuesday, June 30.

Women's Coach Likes Challenge

(The following article about Christopher Lane, coach of MIT's newest varsity sport, women's cross country, was written by Mike Grenier of the Salem News sports staff and recently appeared in the Salem News.)

By MIKE GRENIER
Salem News

Chris Lane doubts that there will be any problems with motivation. Never mind that this is the first ever women's cross country team at the school. There won't be any confusion or slacking off even if the competition is vastly superior.

"The kids at MIT tend to be goal-oriented," said Lane, a former Peabody resident who has been involved with track for over 20 years. "I think they're going to be strong competitors, but the important thing for them is to get personal satisfaction out of it. They're the type of people who'll be able to assess their skills and work out goals based on that assessment. What I hope to do is work with them in that assessment and develop some skills they can carry through life."

Lane, 37, knows the Greater Boston track scene very well. The former St. John's Prep standout was an assistant coach at Boston College for three years, then spent nine years as an assistant at Brandeis before moving over to MIT, where he has been the head coach of the men's cross country team and an assistant coach for the indoor and outdoor teams for the last four years. When he isn't coaching, he is usually officiating a meet.

"I'm giving up my duties with the men's teams at MIT. They wanted a person full time for those jobs and I haven't got that kind of time," noted Lane, who is the headmaster at Boston Latin Academy.

"But this new team at MIT will do things thoroughly and completely, so I'll be plenty busy," he added. "Winning won't be the be-all and

end-all, though. We'll be looking to go against the Bowdoins, the Amhersts and the Wesleyans—schools with a similar philosophy of operation. I had some experience coaching women at Brandeis. I think cross country can really be a worthwhile experience for the women at MIT."

Lane himself still runs an average of five miles a day, but the days of serious competition are over. "Now I run strictly for enjoyment. The last time I ran competitively was for Boston College," said Lane, who was a half miler for the Eagles in the early and mid-1960's.

Prior to that, he did his bit for the St. John's Prep Eagles, who were the dominating force in state track at the time. Lane was the state indoor 1000 champ and the outdoor 880 champ as a senior. However, his schoolboy career reached its zenith when he combined with Prep teammates John Buckley of Lawrence, Dave Pendleton of Lynn and Johnny Barrett of Lawrence to win the national mile relay title at Madison Square Garden in New York. Lane ran the third leg.

"Our time was 3:27.5. It's something that's just emblazoned in my memory," Chris said.

Twelve Attend Student Pugwash Conference

Twelve MIT students served as delegates to the International Student Pugwash Conference on Moral Dilemmas of Technology and Democracy held at Yale University, June 15-21.

The first Student Pugwash Conference was held in June 1979 at the University of California, San Diego. It was conceived in the spirit of the International Pugwash Conferences on Science and World Affairs. The conferences are named for the location of the first of the meetings, Pugwash, Nova Scotia, where Albert Einstein and Bertrand Russell issued the "Pugwash Manifesto" calling all citizens—scientists in particular—to recognize their moral responsibility to seek solutions to world problems.

Some 75 students from around the world attended the conference which was divided into five week-long workshops led by senior participants who are experts in their respective fields.

The workshops and the MIT student delegates who attended are:

Biomedical Technology and Health Care: Sandra Tannenbaum, a graduate student in biology from Cambridge.

"But those St. John's teams, just great," Lane continued. "For a while there, they were winning two state titles a year, one indoors and one outdoors. I believe the streak ran to 11, or it might've been 13. One of the reasons was that we had a super coach in Brother Patrician, who was very intellectual as well as a good coach. He made us work; we paid our dues, but he also would take the time to tell us why we were doing certain things."

"The school developed a reputation, naturally. In those days we used to run in the North Shore League, and the (indoor) meets were held at the Salem Armory. They'd put these sheets of plywood down, use 'em for the corners. You had to be careful or you'd run into the howitzers. You couldn't come up with a super time in a place like that. As a matter of fact," he chuckled, "the times were awful."

He graduated from the Prep in 1960 and his enthusiasm for track doesn't seem to have dampened in the least.

"This women's cross country job is a new challenge," he said. "I'm looking forward to it."

Computers and Society: Harry A. Atwater, Jr., a senior in electrical engineering and computer science, from Waltham; Robert Bechek, a senior in mechanical engineering from West Bloomfield, Mich.; Susan E. Landau, a graduate student in mathematics from Somerville, and William Ramsey, a senior in electrical engineering and computer science from Terre Haute, Ind.

Energy, the Economy, the Environment: Delois J. Blakely, MIT Community Fellows Program; Peter Haas, a graduate student in political science from Somerville; George G. Hoberg, Jr., a graduate student in political science from Atherton, Calif.; and Stephanie L. Pollack, a junior in mechanical engineering from East Hanover, N.J.

Weapons and World Peace: Richard E. Sclove, a graduate student in political science from New York City.

Regulation of Science and Technology: Steven L. Solnick, a senior in physics from Jersey City, N.J., and Heidi R. Wyle, a graduate student in nuclear engineering from Melrose Park, Pa.

John J. Germain

Word has been received of the death of John J. Germain of Cambridge, a retired mechanic in the Department of Civil Engineering. He died April 5 at the age of 73.

Mr. Germain worked at MIT from 1950 until his retirement in 1968. He is survived by a sister, Mary Germain.

William J.A. Zakur

Funeral services were held yesterday for William J. A. Zakur, 70, of Waltham, a project technician at the Laboratory for Nuclear Science from 1952 until his retirement in 1975.

Mr. Zakur is survived by his widow, Virginia Desmond Zakur; five sons, Paul of Connecticut, Robert of Walpole, Michael of Lexington, William of Syracuse, N.Y., and Richard Zakur of Waltham; three daughters, Allison Shaw of Walpole, Patricia Urdi of Plymouth and Lynne Zakur of Waltham, and ten grandchildren.

Vaughan E. Henry

Vaughan E. Henry, 69, of Bolton, a retired library assistant at Lincoln Laboratory, died June 6. She was employed at Lincoln from 1960 until her retirement in 1974.

Mrs. Henry is survived by her husband, Waldo G. Henry, also a former Lincoln Laboratory staff member; two sons, Jerry of Dennis and Duane of Bolton; a brother, Warner Byerly of Columbus, Ohio, and three sisters, Regina Waugh of Columbus, Ohio, and Phyllis Hankison and Arlene Anderson of Arlington.

Memorial contributions may be made to the Bolton Federated Church Memorial Fund.

Sage Memorial

A memorial service for Charlotte Sage will be held Friday, June 26, at 3:30 pm in St. Paul's Episcopal Church, Brookline. Mrs. Sage, a 1913 graduate of MIT, died May 30 at her summer home in Vermont. She was 92.



Dr. Benjamin Lax, left, chats with MIT colleagues who gathered in Huntington Hall Monday, June 15, for a special day-long symposium in his honor. Dr. Lax will retire at the end of this month after 21 years as director of the Francis Bitter National Magnet Laboratory, which he founded. With Dr. Lax, above, are Dr. Herman Feshbach, head of the Department of Physics; Dr. Francis E. Low, MIT Provost; and Dr. Roshan L. Aggarwal, associate director of the magnet laboratory and chairman of the symposium's morning session. Speakers and guests at the symposium included colleagues and former students of Professor Lax from leading universities and research institutions in the US, Europe and Japan, as well as representatives of the National Science Foundation, which supports the laboratory.

—Photo by Calvin Campbell

Sr. Secretary, MIT Libraries-Catalog Dept., performs secretarial duties for Head, Catalog Dept., including the typing and proofreading of correspondence, Departmental manual procedures, etc.; answering telephones; making appointments; assisting in special projects. Will maintain staff absence records and prepare payroll adjustment sheets and student payroll reports; assign lockers, maintains office supplies, files, and other varied clerical assignments, such as typing catalog guide cards and labels. Requires a minimum of 2.5 years' direct/related experience or combination of education and experience. Accuracy and speed in typing required. Ability to organize a variety of tasks and work efficiently without close supervision important. B1104

Secretary (part-time, 21 hours/week), Committee on the Visual Arts, which oversees Hayden Gallery's exhibitions, art acquisitions and a number of visual arts educational activities. Responsibilities include typing correspondence, reports, exhibition material; greeting visitors, answering phone inquiries, sorting mail; maintaining filing system; supervising student interns; and on occasion assisting with Hayden Gallery operation. In addition, will handle general information requests; assist with publicity; maintain the mailing list and bulletin board; order supplies; take staff meeting minutes; and handle some accounting duties. Requires 55-70 wpm typing skill; previous secretarial experience; some familiarity with and strong interest in contemporary art preferred. Flexibility important. B1144

Staff Assistant, to perform secretarial and clerical duties for the Administrative Officer, Libraries. Types and proofreads correspondence, reports, financial statements and similar material from rough draft; answers phones; schedules appointments and meetings; handles mail and filing; maintains supplies; assists with various personnel and payroll functions. One year of direct/related experience necessary. Accurate typing (40 wpm) required. Should be able to handle detail and follow directions. B1140

Secretary, Center for Advanced Engineering Study, to assist in the day-to-day operations of the Advanced Study Program. Will involve extensive interaction with ASP fellows attending the program. Duties will include typing correspondence, drafts, forms and reports; assisting on word processor; answering questions and providing information on MIT and Boston area to ASP participants. Will also answer phones, screen calls and provide information; assist in coordinating seminars and social functions for Fellows; arrange travel; and perform other varied duties. Excellent typing skill a must; ability and willingness to work with men and women from foreign countries who may not speak English well and who are unfamiliar with American culture and customs important. MIT experience helpful. Minimum of one year direct/related experience required. B1113

Secretary, Office of Sponsored Program, will perform secretarial and clerical duties under the general supervision of an OSP Assistant Director and two assistant contract administrators. Will also provide occasional secretarial and clerical support for other assistant directors when necessary. Minimum of one year direct/related office experience or combination of education and experience required. Good typing skill essential; some MIT experience helpful. B1098

Sr. Office Assistant, Comptroller's Accounting Office-Benefits, to handle the typing of letters and forms, filing, xeroxing, receptionist duties, distribution of mail; preparation of bills for various benefits coverages, transmittal sheet of payments received and assist in various other insurance claims processing duties. Will assist in use of data entry and inquiry terminals. Good typing skills, accuracy with figures, good telephone skills required. Knowledge of accounting helpful. B1110

Office Assistant, Physical Plant/Administrative Services, will serve as receptionist; provide backup to purchase order and invoice clerks. Will issue keys, maintain related files, coordinate projection and distribution of keys; sort and deliver mail. Will also carry out study and work projects as assigned by Superintendent for Administrative Services and/or Accounting Officer. Requires general office skills and typing skill. B1143

Office Assistant, Physical Plant, Architecture/Engineering/Construction Office. Will coordinate Institute room numbering signs and directories, including ordering, coordinating, supervising of installation, etc. Will schedule sign painters, order materials and supplies, and maintain architecture and engineering library. Requires knowledge of lettrasing and lettraset use; printing of drawings on Ozalid printer. Will file drawings. Basic drafting skills would be helpful. 40 hours/week. B1138

Office Assistant, in the Student Financial Aid Office, responsible for administering the Pell

(Basic) Grant Program under the guidance of a staff officer. Entails the processing of forms, posting grant amounts to students' accounts and adjusting financial aid packages. Will assist in preparing quarterly and annual reports on the Program; manage outside scholarship book-keeping posting and billing. Familiarity with the 1040 and/or financial aid an asset. Good interpersonal skill and organizational ability necessary. B1134

Office Assistant, Student Financial Aid, with responsibility for monitoring half of the outside scholarships under the guidance of the Director or other staff officer. Duties include posting non-MIT scholarships to students' accounts; recording and depositing scholarship payments with the Cashier's Office; billing scholarship sources and corresponding with students and scholarship administrators. Filing correspondence in scholarship files and performing other secretarial duties such as typing also necessary. Requires good organizational ability, excellent typing skills. Knowledge of financial aid helpful. B1133

Receptionist/Office Assistant, Medical Department, under the supervision of the Manager for Members Services and Claims. Responsible for providing visitors with information regarding the MIT Employee and Student Health Plans; assisting visitors with claims and billing questions; directing visitors to appropriate individuals for complex insurance matters and for handling and triaging telephone inquiries. Will also perform clerical and typing duties as they relate to these functions and other special projects. Requires maturity and ability to interact effectively with MIT community in demanding situations; sensitivity to confidential matters; excellent telephone manner. Minimum of one year direct/related experience required. 37.5 hours/week. B1131

Office Assistant, Campus Housing, responsible to the House Manager for supervision of petty cash fund, collection of miscellaneous dormitory fees and maintenance of all dormitory records. Will distribute mail, maintain telephone messages; oversee scheduling of guest rooms. Must be able to work with residents of the facility and the Dean for Student Affairs Office in areas of shared responsibility. Must be familiar with bookkeeping, accounting and clerical functions. Should be able to coordinate student desk staff. Must be service-oriented and enjoy working with a great variety of people; accuracy and organizational skill a must. 40 hours/week, 8-4:30. B1111

Technical Support Staff

Stock Clerk, Office of Lab Supplies, to unpack incoming goods; inspect goods for quality and quantity; repack goods; pack goods away in storage rooms and keep work areas clean; deliver goods over the counter in requisitions; check requisitions for proper description of items and keep stock in good condition. Requires experience and knowledge of stock. H418

Technician A (Radiation Protection), Environmental Medical Service, to assist in laboratory, research or analytical work under direction or supervision of scientific personnel; operate highly technical experimental apparatus; has demonstrated considerable skill and good performance in the particular field of activity; requires some supervision. Duties (carried out principally at the MIT reactor) include: repair and calibration of instruments, radiation surveys, sample preparation, decontamination and lab clean-up work, packaging of radioactive waste and handling of waste drums, assistance in shielding areas using concrete and lead blocks, and other miscellaneous non-scheduled duties. Requires graduation from a two-year day technical school or its equivalent and a minimum of 2 years' applicable experience. In addition, should have had training and experience in electronics and radiation protection (minimum 2 years' experience). H411

Service Staff

Assistant Communications Console Operator, Physical Plant, to answer work center telephones used by the MIT community to report fire, trouble, maintenance requests and other related information. Will also monitor the Institute's auto call alarm system and operate the facilities management system to include monitoring of alarms, diagnosing problems and taking corrective action. Maintains a daily log of all work center calls, alarms; dispatches mechanics to investigate problems; operates various pieces of communications equipment; performs other clerical duties as required. Requires high school graduation or equivalent; at least one year direct/related experience in office environment. CRT experience desired. Must be at least 18 years of age. Typing skill and ability to communicate with public and act quickly and calmly under pressure important. (40 hours/week.) Irregular schedule. B1122

Assistant Computer Operator, Administrative Computing Services/PSO, Should have at least one year's working experience in the operation of IBM 370/148 DOS and VSI. Will perform all computer duties, detect errors and correct as necessary. Knowledge of JCL preferred. High school graduation or equivalent necessary. 40 hours/week. B117

MIT To Host NE Wrestlers

MIT will host the United States Wrestling Federation New England championships Saturday, June 27, in the Athletics and Special Events Center. Admission to Saturday's tournament is free.

The competition will start at 10am with the finals expected at about 6pm. Athletes of all ages will compete in three divisions (kids, junior and open), with the individual champions in the various weight classes advancing to the nationals in Iowa next month.

Tim Walsh, MIT wrestling coach and president of the Massachusetts Wrestling Federation, is the meet director.

More Tennis Lessons Coming

If sufficient interest is shown, the Department of Athletics will offer another series of tennis classes in July. There would be eight lessons for a fee of \$20, with a limit of 10 students per class. The instructor will be Jim Taylor, assistant coach of men's varsity tennis.

The tentative schedule is:

Beginners
Mondays and Wednesdays, 4:15, 5:15 and 6:15pm, July 6-29.

Intermediates
Tuesdays and Thursdays, 4:15, 5:15 and 6:15pm, July 7-30

Those interested should stop by Athletic Department headquarters, Rm W-32-109, or call x3-4498 by June 26. Participants will be notified of the final schedule by July 2.