

Ali Javan To Hold New Chair

Dr. Ali Javan, MIT professor of physics and one of the world's leading laser physicists, has been named as the Francis Wright Davis Professor of Physics at MIT.

The appointment of Dr. Javan, who is director of MIT's Optical and Infrared Laser Laboratory and who, in 1960, conceived and developed the first continuously operating gas laser, was announced by Dr. Walter A. Rosenblith, MIT Provost.

The chair has been endowed by Dr. Francis W. Davis, the inventor of power steering for automobiles, for the support of a distinguished senior faculty member, with special emphasis on seeking practical applications of the results of research in science and engineering. Professor Javan is the first holder of the chair.

As an inventor, Dr. Davis's contributions had a major impact on automotive development. He invented the first power-assisted steering device in 1924 and during the course of his career as an engineer-innovator he received more than 40 US and foreign patents.

In commenting on the appointment, Dr. Rosenblith said: "The transition from science and engineering to use continues to require extensive exploration of a wide range of fundamental topics leading to the analysis of practical problems. The appointment of Dr. Javan, who has made numerous basic contributions in his field, is significant in maintaining MIT's preeminence in this broad area."

Dr. Robert A. Alberty, dean of the MIT School of Science, said the award of the chair to Dr. Javan was "in recognition of his achievements as a scientist and inventor in the general field of laser physics and its application to fundamental problems."

Dr. Herman Feshbach, head of the MIT Department of Physics, noted also that "among the most important scientific consequences of Professor Javan's work in the field of lasers are the new insights we have been able to gain into atomic and molecular processes."

As director of the MIT laboratory, Dr. Javan has developed a variety of lasers and has been engaged in experiments to make extremely refined measurements on the interaction of radiation with matter.

His efforts at MIT have prompted the establishment of

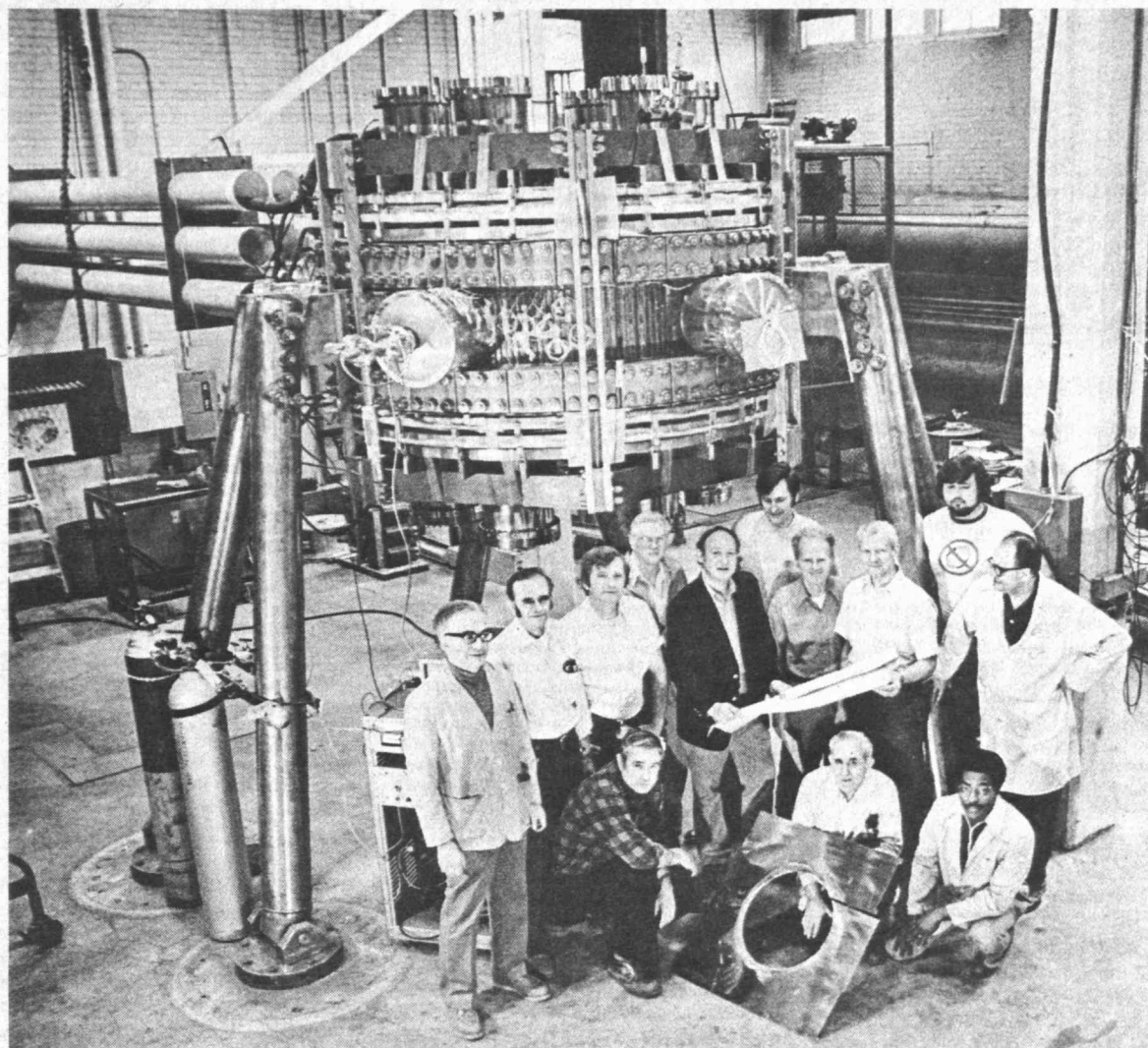
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Fraud Scheme Surfaces Again

A new wrinkle on the fraudulent invoice scheme has appeared at MIT according to Robert E. Durland, purchasing agent.

In this version, an invoice arrives together with a credit memo for goods returned to the warehouse. The credit memo, Mr. Durland says, seems to lend legitimacy to the invoice, making the receiving office eager to process payment.

The company, Trans World Systems of Los Angeles, has been added to the computer tape that prevents checks from being issued to organizations known to send fraudulent invoices.



The basic assembly of ALCATOR C has been completed after seven months of hard work and MIT's newest experimental fusion machine will be dedicated formally in a program to be held Friday, April 7. With the machine in MIT's Francis Bitter National Magnet Laboratory are some members of the ALCATOR physics and engineering group and the MIT Plasma Fusion Center who did the work. Kneeling, left to right, are Melvin R. Vestal, Jerry Gerolamo, and Ralph A. Griffith. Standing, left to right are

Harold S. Shriber, Alexander D. Rabasco, James E. Maher, Sheldon R. Rich, Dr. D. Bruce Montgomery, George H. Chihoski, Norton T. Pierce, Joseph M. Davin, Robert A. Childs, and Tamas Z. Bakucz. Dr. Montgomery, associate director of the Magnet Laboratory for development of high-field magnets, has overall magnetic design and engineering responsibility for the ALCATOR project.

—Photo by Calvin Campbell

ALCATOR C to be Dedicated

One of the newest and most powerful experimental machines in the US program to harness fusion energy for generating electricity will be formally dedicated in a program to be held April 7 at MIT.

The machine is ALCATOR C, which has been constructed in MIT's Francis Bitter National Magnet Laboratory, with the support of the US Department of Energy (DOE), as a joint effort of the ALCATOR physics and engineering group and the MIT Plasma Fusion Center.

The basic assembly of the machine is now complete, after

about seven months of intense work, and some preliminary tests have been made.

Representatives of DOE and physicists, engineers and officials of MIT will participate in the dedication, of which Dr. Albert G. Hill, director of the MIT Plasma Fusion Center, will be chairman. Members of national fusion laboratories, contributing industrial groups, and the Massachusetts Congressional delegation have also been invited to attend.

The dedication program will begin at 3:30pm in Room 10-250 on the MIT campus with welcoming

remarks by MIT president Dr. Jerome B. Wiesner.

Dr. John M. Deutch, director of energy research for DOE, will speak on "The National Energy Problem." In his federal post, Dr. Deutch is on leave from his academic position as head of the MIT Department of Chemistry.

Dr. Bruno Coppi, MIT professor of physics and one of the originators of the ALCATOR concept, will speak on "Compact High-Field Confinement Research."

"Development of High Magnetic Fields" will be the topic of Dr. D. Bruce Montgomery, who is one of the world's leading authorities on

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Eizenstat to be Speaker In JCUS Lecture Series

Stuart Eizenstat, assistant to President Carter for domestic affairs and policy, will be the second speaker in a forum series, "City Limits: Prospects for Urban America," sponsored by the MIT-Harvard Joint Center for Urban Studies.

Eizenstat, a major architect of President Carter's recently announced urban program, will speak on Monday, April 10, at 5pm in Rm. 100, Longfellow Hall, at the Harvard Graduate School of Education, Appian Way, Cambridge.

His topic will be, "A View from the White House." The talk will be followed by a question and answer period.

The first speaker in the series was Housing and Urban Development Secretary Patricia Roberts Harris.

Other speakers will be Joseph

Califano, Secretary of Health, Education and Welfare, who will talk on "The Urban Poor and Welfare Reform"; Vernon Jordan, executive director of the National Urban League, "Jobs and the Urban Economy"; and Coleman Young, mayor of Detroit, "Crime in the Cities."

The dates will be announced.

WCVB-TV (Channel 5), as part of its public service programming, is co-producing a television series coinciding with the forums. Dr. Arthur P. Solomon, director of the Joint Center, and WCVB-TV anchorperson Natalie Jacobson will interview each of the guests.

The interview with Mr. Eizenstat will be broadcast on Monday, April 17, at 7:30pm, and with Secretary Harris on Thursday, April 27, at 7:30pm.

S.A. Miller Appointed By FDA

The appointment of Dr. Sanford A. Miller, professor of nutritional biochemistry at MIT, as director of the Bureau of Foods of the federal Food and Drug Administration (FDA), has been announced by Donald Kennedy, FDA Commissioner.

Dr. Miller, who will be on leave from MIT, will serve as principal advisor to the FDA commissioner in the development of FDA regulatory policy concerning foods and cosmetics and will administer a bureau responsible for regulating much of the nation's \$130 billion food industry. He will be responsible also for the application and enforcement of all laws and regulations that the FDA administers in these areas.

The Bureau of Foods is one of the two largest of the FDA's five bureaus and has a staff of 850 employees, including 350 scientists.

Dr. Kennedy said: "There is no greater challenge and no greater responsibility in the FDA during the years immediately ahead and the FDA is fortunate indeed that a person of Dr. Miller's scientific stature and exceptional qualifications has agreed to accept the appointment as director of the Bureau of Foods."

Dr. Kennedy added: "I am personally grateful for his decision and look forward to working with Dr. Miller toward our goals of creating a comprehensive strategy to improve public safety through better food labeling; examining and seeking solutions to the clear legislative gaps in both foods and cosmetics regulation; and putting in place a continuing, periodic re-evaluation of the scientific decisions upon which the FDA relies in assuring food safety; and in attracting additional scientific support for the bureau."

Dr. Miller was selected after a nationwide search that included contacts with more than 400 consumer, industry, professional, and public groups, the FDA said. He will assume his new job in July.

In commenting on the appoint-

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Women's League Talks to Begin

A series of talks on "What Every Woman Needs/Wants to Know" concerning benefit programs and personal financial planning, will open today (Wednesday, April 5) at 11:30am in the Little Theatre.

First speakers in the program sponsored by the MIT Women's League will be Nancy Woodman-Urquhart and Donna J. Taylor of the Benefits Office who will discuss financial and social benefits available to MIT personnel and their families. Margaret F. Mann, 1978 chairwoman of the seminars, will be moderator.

On April 12, Dr. Melvin Rodman, director of the MIT Medical Department, will discuss options available in the health plans, with Jacqueline Ward as seminar coordinator. William Goodman III, vice president and trust officer of New England Merchants National Bank, will discuss individual financial planning at the final seminar on April 26, with Betty Johnson as moderator.

The seminars are open to all members of the MIT community.

Phi Beta Kappa Invites Others

All members of Phi Beta Kappa in the MIT community—wherever initiated—were invited this week by Professor Charles E. Holt, III, chapter president, to affiliate with the MIT chapter for its spring activities.

These include a chapter meeting April 11 (3:30pm in Rm. 10-280) and the annual initiation for new members April 28 at 5pm, followed by the annual dinner at the Faculty Club.

Further information on membership is available from Jay K. Lucker, treasurer of the chapter, Rm. 14N-216, x3-5651.

S.A. Miller Appointed

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ment, MIT Provost Dr. Walter A. Rosenblith said: "We are extremely proud that a member of our faculty has been selected for a national post of such importance, particularly at a time when our country's food policies and the public attitudes toward them are undergoing profound changes. I am sure that Professor Miller, with his exceptional breadth of knowledge in his field, will make outstanding contributions to his position in Washington.

Dr. Marcus Karel, associate head of the MIT Department of Nutrition and Food Science, said, "The department recognizes the tremendous importance of the assignment Dr. Miller is undertaking in Washington and is confident that he will make us all very proud by his performance there. At the same time, during his absence, the department will feel the effect of a great loss, especially in undergraduate teaching and in expertise in those areas of nutritional biochemistry for which Dr. Miller is justly recognized."

In addition to his teaching and research at MIT, Professor Miller has served since 1970 as director of MIT's Training Program in Oral Science. Since 1963, he has also been visiting lecturer in nutrition at the Tufts University School of Dental Medicine, Boston University School of Medicine and the Harvard University School of Medicine. In 1975 he was selected as outstanding teacher of the year by students in the MIT Department of Nutrition and Food Science.

Dr. Miller was one of the principal consulting nutritionists on food safety at the White House Conference on Food and Nutrition in 1969. He has been a member since 1972 of the Expert Committee on GRAS (Generally Recognized as Safe) Food Substances of the Federation of American Societies for Experimental Biology (FASEB), an advisory group that conducts studies and provides recommendations for the FDA on food safety.



Professor Miller

Dr. Miller was chairman of the committee on biochemical nutrition of the American Institute of Nutrition and has held important positions, including that of national councillor, with the Institute of Food Technologists. He was chairman of the 1973 Gordon Research Conference on Food and Nutrition and member of the program committee of the Western Hemisphere Nutrition Conference in 1977.

Advisory groups of which he has been a member include the Advisory Committee on Nutrition, Animal Care Panel, 1963-1969; Division of Space Medicine, National Aeronautics and Space Administration (NASA) Manned Space Flight Center, 1969; Committee on Growth and Development, National Institute of Child Health and Human Development (NICHD), 1972-73; chairman of the Ad Hoc Committee of the National Institute for Neurological Disease and Stroke (NINDS), 1972 to date; Committee on Contraceptive Steroids of the NICHD, 1973 to date; and the Advisory Committee on Nutrition of the National Institute for Dental Research (NIDR) 1973 to date.

His professional memberships include the American Chemical Society, the New York Academy of Sciences, the American Institute of Nutrition, the Society for Teratology, the Perinatal Research Society, the American Institute of Dental Research, and the Society for Pediatric Research.

Dr. Miller's general research interests have been in regulation and control of metabolism, but he

has had specific interests in other fields, including perinatal development of the infant with reference to dietary effects; development of oral tissues; relationships among diet, metabolic energy and structure of dietary energy sources; synthetic dietary energy sources and other sources of nutrients, such as single cell protein; food additive toxicology; diet and development of the central nervous system; and adolescent nutrition. He is the author or co-author of more than 100 scientific articles, reviews and book chapters.

Dr. Miller received the BS degree in chemistry and biology from City College of New York in 1952, and MS and PhD degrees, in 1956 and 1957, from Rutgers University, where he taught before coming to MIT in 1957 as a research associate. He was appointed assistant professor of nutritional biochemistry in the MIT Department of Nutrition and Food Science in 1959, associate professor in 1965, and was promoted to the rank of professor in 1970.

ALCATOR C to be Dedicated

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magnet design and who has had overall magnetic design and engineering responsibility for the ALCATOR project. Dr. Montgomery is associate director of the Magnet Laboratory for development of high-field magnets.

Dr. Ronald R. Parker, who has been in charge of the ALCATOR fusion experiments since 1973, will speak on "ALCATOR C: Objectives." Dr. Parker is associate director of the Magnet Laboratory for fusion and professor of electrical engineering and computer science. He assists in coordinating the efforts of the laboratory and the Plasma Fusion Center. When the Fusion Center was established in 1976, ALCATOR personnel became joint members of the Magnet Laboratory and the Center.

Final speaker for the program will be Edwin E. Kintner, acting director of the Office of Fusion Energy of DOE. His topic will be "The Promise of Fusion."

Following the addresses, a tour of the new ALCATOR machine will be led by representatives of the ALCATOR and Fusion Center group. The machine is in the Frances Bitter National Magnet Laboratory at 170 Albany St., Cambridge.

ALCATOR C is a follow-on machine from the highly successful ALCATOR A machine, in operation in the Magnet Laboratory since 1972. ALCATOR A holds a very important world record in fusion experiments—namely, the product of density and confinement time of 3×10^{13} seconds per cubic centimeter at a temperature of 10 million degrees Celsius.

Fusion is the process—which powers the sun—in which nuclei of light atoms, stripped of their electrons and subjected to extreme conditions of density and temperature, are caused to fuse together. The resulting mass is less than was present in the separate nuclei, and the "missing" mass is converted into energy.

Unique to the MIT ALCATOR project is the concept of using very high magnetic fields to contain the fusion plasma, or ionized gas, in relatively small chambers.

Fusion research machines such as the ALCATORs employ doughnut-shaped confinement chambers known as "tokamaks"—a Russian acronym for toroidal magnetic chamber. The ALCATOR program was initiated in 1969, following Soviet successes with their tokamak program, by Professor Coppi and Professor Benjamin Lax, director of the Magnet Laboratory.

In the ALCATOR tokamaks, the circular inner chamber is filled with hydrogen, from which the electrons have been stripped. This plasma of nuclei and an equal number of free electrons is thus



MIT PRESIDENT EMERITUS Julius A. Stratton, left, and others from MIT met last week with Dr. Patrick Henchy, right, of the Chester Beatty Library in Dublin and a group of distinguished Irish visitors. A major topic of conversation was controversial writings of Patrick Rogers, father of MIT founder William Barton Rogers, in the late 18th century which forced him to flee Ireland and come to the United States. Dr. Stratton is researching a book on the intellectual foundations of MIT and is eager to discover what influence Patrick Rogers' philosophy may have had on his four sons who all became noted 19th century scientists.

electrically neutral but will conduct electricity.

Powerful electromagnets arranged around the chamber exert magnetic fields on the plasma and, for a fraction of a second, compress the plasma into a narrow stream of dense gas at the center of the doughnut-shaped chamber. At the same time, more energy from the power source is sent through the stream to heat the gas in a process known as ohmic heating.

The overall objective is to maximize the combination of particle density, confinement time and temperature.

With ALCATOR C the scientists and engineers expect to achieve a density-confinement time of 10^{14} seconds per cubic centimeter at a temperature of about 20 million degrees. If the plasma can be further heated to 60 million degrees, this would result in meeting the "breakeven" criterion at which the energy produced by the fusion process equals the energy put into it.

Engineering for the ALCATOR C began more than two years ago and, while based on the earlier and smaller ALCATOR A machine, incorporates many innovative concepts. (ALCATOR B was designed but was replaced by the more ambitious ALCATOR C before it was produced.)

Five Magnet Laboratory engineers, most of whom were involved in the earlier machine, designed the new machine. They and their areas of specialty are George H. Chihoski, vacuum and quality control and diagnostics; Joseph M. Davin, assembly tooling and machine supports; Wayne S. Hamburger, computer program development; Norton T. Pierce, chief mechanical design, and Carl F. Weggel, chief magnetic design.

The first parts of the new machine were delivered in August, 1977, and assembly began on Sept. 1, 1977. Since then, the assembly crew has worked regular $10\frac{1}{2}$ hour work days, including Saturdays.

The principal assembly personnel have been Jerry Gerolamo, Ralph A. Griffith, David F. Johnson, James E. Maher, Daniel J. Sliski and Sheldon R. Rich for the electrical and mechanical machine assembly.

Assembly of the vacuum system was done by Tamas Z. Bakucz, Robert A. Childs and Harold S. Shriber. Helium welding of the vacuum chamber was done by Melvin R. Vestal.

Support work has been supplied by shops of the Nuclear Reactor, the Magnet Laboratory and the Research Laboratory of Electronics and major support work was provided by the Magnet Laboratory maintenance and engineering group under the leadership of Arthur M. Packard.

Design draftsmen for the project were Pellegrino R. Maruzzi and Alexander D. Rabasco.

Much of the electrical systems work for the machine is being carried out by MIT students. Stephen A. Fairfax, Marcel Gaudreau (now a member of the ALCATOR group staff), Mark M. Pickrell and Michael Sansone—all graduate students—have had major system responsibilities.

While ALCATOR A operated at 90 kilogauss (the earth's magnetic field is 0.5 gauss) from the Magnet Laboratory's 30-megawatt power supply, the new machine will ultimately require 150 megawatts for operation with fields up to 150 kilogauss.

This increase in power will be provided by a huge alternator donated by Consolidated Edison Co. of New York and recently installed adjacent to the Magnet Laboratory. The alternator is expected to go into operation late in 1978.

The new power supply project is managed by James W. Meyer, assistant to the director of the Plasma Fusion Center, with engineering operations the responsibility of James C. Rose, Jr. The 328-ton alternator, which was moved by barge and rail from New York City, is being installed by the General Electric Co. A 140-megawatt rectifier is being supplied by Robicon Corp. of Pittsburgh.

Major suppliers for the ALCATOR C tokamak have been Edel-Brown Co. of Everett, Mass., which made the toroidal field Bitter plates; Nashua Industrial Machine Co. of Nashua, N.H., which manufactured the magnet flanges; Fitchburg Engineering, Fitchburg, Mass., which provided the assembly tooling and machine supports; Magnetic Corporation of America, of Waltham, Mass., which made the equilibrium and ohmic heating coils; the Transrex division of Galton Industries of Carson, Calif., which supplied the three 15-megawatt equilibrium and ohmic power supplies; Revere Brass and Copper Co., which manufactured the cryogenic-grade oxygen-free copper plates for both the toroidal and ohmic heating magnets; Metal Bellows Corporation of Sharon, Mass. and Chatsworth, Calif., which made the toroidal portion of the vacuum, and M.L. Riley Vacuum Specialties which made the external diagnostic flanges.

Estimated cost of the ALCATOR C project is \$6.7 million, of which about \$3.3 million is for moving, installing and housing the new alternator and rectifier. The donation of the alternator saved MIT and DOE an estimated \$2.3 million.

Høeg to Present Civil Engineering Mathis Lecture

Dr. Kaare Høeg, director of the Norwegian Geotechnical Institute (NGI), will be the speaker April 19 at the fourth annual Mathis Memorial Lecture sponsored jointly by the Boston Society of Civil Engineers and MIT. The lecture will be in MIT's Green Building in Rm. 54-100 at 4pm.

The lecture series was established in the MIT Department of Civil Engineering to honor the late Sam J. Mathis of Standard Oil Co. of New Jersey, who was a widely known civil engineer and construction authority.

Professor T. William Lambe of MIT heads the arrangements committee.

Dr. Høeg will discuss "Foundation Engineering for Offshore Gravity Platforms." During the last few years large concrete gravity platforms have been used as alternatives to the more conventional piled steel structures at several locations in the North Sea.

Dr. Høeg will focus in his lecture on the NGI's evaluation of present practice and available engineering analyses, based on a comparison of before-the-event predictions to actual field measurements.

Before becoming director of NGI in 1974, Dr. Høeg was a professor of civil engineering at Stanford from 1968-74. During 1965-67 he was an assistant professor of civil engineering at MIT.

A native of Norway, he received the BS in 1961, the SM in 1962 and the Doctor of Science in 1965, all from MIT. A widely known geotechnical engineer, Dr. Høeg interests include soil-structure interaction, constitutive relationships, offshore foundation engineering, earthquake engineering and the application of probabilistic approaches.

Billard Award Nominations Due

Nominations are being invited from members of the MIT community for the Gordon Y. Billard Award.

The Billard Award is made annually to "a member of the faculty or to its non-faculty employees or one not affiliated with the Institute, for special service of outstanding merit performed for the Institute."

It is expected that two such awards will be made this year. Previous recipients include Mrs. Helen P. Padelford, Dr. Mary P. Rowe, Professors Harold Edgerton, William C. Greene, and Bernard S. Gould, and Messrs. William Speer, John A. Little, William H. Carlisle, Jr., Philip A. Stoddard, Walter L. Milne and George Dummer.

The Fund from which the Billard Awards are made was established by Mr. Gordon Y. Billard, a member of the class of 1924.

The name or names of individuals to be recognized by the Billard Award are recommended to President Wiesner by the Academic Council, and the award is presented by him annually on Technology Day.

Nominations should be addressed to the Committee for the Gordon Y. Billard Award, Room 7-103, MIT, and should include a brief statement of the nature of the service meriting this special recognition.

Harris to Speak To British Group

Professor Wesley L. Harris of the MIT Department of Aeronautics and Astronautics and of the Department of Ocean Engineering will deliver a paper on Wednesday, April 5, at the spring conference of the Institute of Acoustics at Cambridge University in England.

The subject of the paper is "Effects of Free Stream Turbulence on Low Frequency Broadband Noise from a Model Rotor."

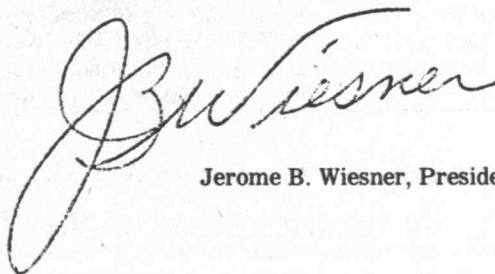
The conference is the main annual British meeting on acoustics.

AFFIRMATIVE ACTION PLAN
of the
MASSACHUSETTS INSTITUTE
OF TECHNOLOGY

April 5, 1978

This Institute-wide Affirmative Action Plan has been prepared as an expression of M.I.T.'s commitment to the principle of equal opportunity in employment and in education and is in accordance with all Federal government regulations affecting equal opportunities in higher educational facilities as of February 28, 1978.

This Plan, the commitment it affirms, and the policies it proclaims have my full personal agreement and support.



Jerome B. Wiesner, President

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I. INTRODUCTION

As a major educational institution, a large-scale employer, and an influence on our society through its students, its alumni, and its employees, the Institute stands committed to the principle of equality of opportunity in employment and in education.

In its most elementary and comprehensive form, our adherence to the concept of equality of opportunity requires that we strive toward a condition in which considerations of race, sex, national origin, and religion are irrelevant as determinants of the access an individual has to opportunities for education, for employment, for achievement, and for personal fulfillment. Rather, the controlling factors in all such matters must be individual ability, interest, and merit.

The Institute's posture with respect to principle of equality of opportunity in this community was expressed in the *Report of the President and the Chancellor* for the academic year 1971-1972 and reemphasized in the 1974-1975 Report:

M.I.T., together with other institutions in this society, must rethink and recast the structure of opportunity which we afford those who spend time with us — opportunity for individual satisfaction and self-fulfillment, opportunity for participation in affairs which affect them, opportunity for employment and subsequent advancement. All who study here and work here stand to benefit from greater attention to these basic human needs. Persons employed at the Institute require ready access to opportunities for advancement, as well as greater attention to their needs for personal and career development. Those who study here deserve an education which enriches the essential lifelong process of growth and educational self-renewal and places a premium on self-sufficiency and intellectual independence.

While these goals pertain to all members of the M.I.T. community, at this moment in time we have a special responsibility to expand opportunities for members of minority of the M.I.T. community, at this moment in time we have a special responsibility to expand opportunities for members of minority groups and women at all levels of the Institute. We must not stand aside from the society as it struggles to consolidate the opportunities for a decent life that now exist. Indeed, we should be innovative and creative in our handling of these difficult problems with the hope that, in so doing, we will point the way for others, as well as enriching our own environment for all members of this community. We must put special emphasis on placing in significant positions at all levels competent women and members of minority groups with whom young people may identify professionally and personally. Our record of achievement in the past year has been significant but falls short of the standard that we have set for ourselves. We are taking steps to improve our means for meeting our pledge to the Federal government and, even more importantly, to ourselves.¹

At the time this Plan was last revised, women and members of some minority² groups continued to be underrepresented in many categories of employment and in most student categories. This underrepresentation which has resulted from the history of American society, was reflected in past Institute practices which, until very recently, have been at best neutral with respect to this underrepresentation and, at worst, discriminatory with respect to minorities and women.

The President and the Chancellor of the Institute, in their annual report, commented on our progress and prospects for success in Affirmative Action:

We look to the past with a sense of both satisfaction at the effort expended and frustration at our inability to reach all of our objectives. We look to the future with a blend of optimism and uncertainty. It is clear that the need for affirmative action programs in the form of "crisis measures" will diminish, as educational institutions move toward a new mode of operation in which minorities and women are better represented and in which inequitable barriers are eliminated. It is equally clear, however, that some of the vexing problems and challenges will be with us at least through this decade and perhaps beyond. Affirmative action steps will and must continue to be taken at M.I.T. and in all other American institutions until equality of opportunity is not only an accepted concept but an intrinsic part of the fabric of organizations.³

The Institute's present and future course in these matters, which goes beyond non-discrimination, i.e., the elimination of all policies and practices that work to the disadvantage of individuals on the basis of race, sex, national origin, or religion, is based on the concept which has come to be known as Affirmative Action.

The principle of Affirmative Action requires the Institute to determine if it has met its responsibilities to recruit, admit, employ, promote, and reward women and minorities to a degree consistent with their availability and merit, whether or not any failure to do so can be traced to specific discriminatory policies or actions. Where women and minorities are underrepresented at M.I.T. in the student and employment ranks, the Institute will continue to recruit and employ them in accordance with their increasing availability. The premise of this commitment is that the corrosive effects of systematic exclusion, inattention, and overt discrimination in the past cannot be remedied in appropriate ways and in a reasonable time by a posture of neutrality with respect to race and sex. Affirmative action is necessary to avoid the perpetuation of the inequities that are our heritage from these exclusionary and discriminatory practices of the past.

While the Institute is obliged, as a major Federal contractor, to develop and sustain a program of Affirmative Action, our commitment to these matters transcends legal or contractual requirements. We undertake these actions and adopt these policies not because we are required to, but because it is right and proper that we do so.

IA. Communication of the Plan

The substance of this Plan will be disseminated to the M.I.T. community through publication in *Tech Talk*, the official Institute newspaper. Subsequent Institute policies and procedures developed either to meet goals outlined in this Plan or to address later provisions and amendments of Federal government regulations, will be disseminated to the Institute community through *Tech Talk*, and will be added to this Plan biennially.

A reference copy of this Plan will be on file in each department, office, and laboratory and in the Institute Information Center, Room 7-111. Copies of the total Plan, including each department's specific Affirmative Action Plan will be on file in the appropriate Personnel Offices, in the Office of the Special Assistant for Women and Work, in the Office of the Special Assistant for Minority Affairs, and in the Office of the President and Chancellor.

Additional information on the dissemination of the Plan internally to the Institute community and externally to the community and public at large can be found in Appendix E.

I.B. Persons Directly Responsible for Overseeing M.I.T.'s Affirmative Action Plan

The President and Chancellor have delegated to the following persons the responsibility for monitoring the progress of M.I.T.'s affirmative action programs. All inquiries in reference to this Plan should be directed to the appropriate person listed below.

M.I.T. Campus

John M. Wynne Ext. 3-4942, 3-4943

Vice President, Administration and Personnel and the Institute's Equal Employment Opportunity Officer — overall equal opportunity coordinator and official liaison with all appropriate Federal and state agencies.

Patricia A. Garrison Ext. 3-4516

Assistant Equal Employment Opportunity Officer.

Lincoln Laboratory

John T. Dargin Ext. 181-7407

Personnel Officer and Equal Employment Opportunity Coordinator for Lincoln Laboratory — reports directly to Laboratory Director.

Additional Assistance May Be Obtained From the Following Persons:

Mary P. Rowe Ext. 3-5921

Special Assistant to the President and Chancellor for Women and Work — coordinator of equal opportunity in employment and education for women.

Clarence G. Williams Ext. 3-5446

Special Assistant to the President and Chancellor for Minority Affairs — coordinator of equal opportunity in employment and education for minorities.

Appendix F outlines the responsibility for implementation of the Affirmative Action Plan in more detail and clarifies the decision-making process in the employment area.

II. M.I.T. AFFIRMATIVE ACTION POLICY

The Institute's Affirmative Action program is intended to expand our efforts to guarantee equality of opportunity in employment and in education and to reduce underrepresentation and underutilization of minorities and women at M.I.T. For all Institute categories of employment, our objectives are to achieve a representation of women and minorities that is at least in proportion to their current availability and to provide new opportunities for career development which both stimulate and respond to their changing interests and aspirations. Similarly, for all of the Institute's educational programs, our objectives are both to achieve representation of minorities and women in the student body which reflect their current availability and interests and to encourage larger proportions of these groups to seek careers for which the Institute's educational resources are designed to prepare them.

In accordance with these overall objectives, numerical goals and time-tables for employment at the Institute have been set.⁴

Achievement of these goals and attainment of the longer-range objectives require adoption of the following principles:

1. All categories of employment at the Institute having fewer minorities and women than would reasonably be expected on the basis of their availability in the work force must be identified. These imbalances must be reduced by vigorous and systematic recruitment efforts. Where appropriate and feasible, job training and professional development efforts will be undertaken. These requirements apply to academic departments (including faculty and academic staff categories), laboratories, and all administrative and support activities.

It is important to note that many unreasonable limitations and inequitable situations in employment are rooted in occupational segregation and in the stereotyping of roles in our society. Thus, equality of opportunity requires that we make equally accessible to all persons job categories that have been preponderantly occupied by women and/or minorities.

2. All employees will be encouraged to make the fullest use of their skills and talents by participating in educational and career development opportunities and by taking advantage of opportunities for promotion and transfer consistent with both the needs of the Institute and the individual's ability and aspirations. Special efforts will be made to ensure that women and minorities are aware both of this principle and of specific opportunities that may be of interest.
3. Equal compensation, benefits, and support will continue to be provided without regard to race, sex, national origin, or religion to all staff and employees of equal merit in positions of equivalent responsibility.
4. Access to educational programs, financial assistance, and other services and facilities will be provided to students in a manner that does not discriminate against women and minority students.
5. It will be our goal to increase the numbers of women and members of minority groups within our undergraduate and graduate student bodies. This goal can be attained only by a vigorous program to recruit potential applicants and to increase the interests in, preparation for, and availabilities of women and minorities for careers in science and technology. While ultimate success will result in substantial changes in admission patterns, our immediate efforts must concentrate on enlarging the pool of qualified women and minority applicants from which we admit students.

6. Selections among candidates for employment and among student applicants must reflect both continuing attention to individual merit and quality and a recognition that narrow interpretation of qualifications or credentials has worked to the disadvantage of women and minorities. In other words, the Institute's employment practices and its admission policies must emphasize individual merit, performance, and potential in ways that reflect the fact that limited prior opportunity, social discrimination, and enforced segregation influence a person's record of achievement.

7. Procurement and purchasing practices must ensure maximum opportunity for the participation of minority and female vendors in the provision of services and materials and for the employment of minority contractors and construction workers in the construction or renovation of Institute facilities, either on or off campus. In this regard, each contractor who seeks M.I.T. business is expected to have and to follow an affirmative action program that is in accord with Federal and state regulations.

1 Report of the President and the Chancellor for the academic year 1971-1972.

2 The term "minority" used in this Plan refers to Black Americans, Native Americans, Oriental Americans, and Spanish-surnamed Americans.

3 Report of the President and the Chancellor for the academic year 1974-1975, p. 20.

4 The specific employment objectives are detailed in the individual Plans of the Institute's organizational units which are listed in Appendix A. These goals have been projected for July, 1978 and July, 1979 and the aggregation of the individual department goals is shown in Appendix G.

The primary responsibility for adherence to these principles, and for the establishment of an atmosphere in which the evolving concept of Affirmative Action is accepted and supported, rests with supervisors at all levels and with every person having administrative responsibility within the Institute. Further efforts must be made to ensure that the perspectives of minorities and women are considered in the

evolution of Institute policy and practice, particularly in those situations in which they do not currently participate directly.

Overall monitoring, auditing, and staff coordination of the Institute Affirmative Action program has been assigned to the Vice President, Administration and Personnel who was designated the Institute's Equal Employment Oppor-

tunity Officer in July, 1973 and who has the responsibilities outlined in the Federal Contract Compliance regulations.

In the long run, our objective as an institution is to change in ways that will achieve true equality of opportunity in employment and in education and which, thereby, will obviate the need for specific programs of affirmative action.

II. AFFIRMATIVE ACTION FOR ACADEMIC STAFF

II.A. Aims and Plan of Action

Although significant progress has been made since this plan was revised, women and minorities are underrepresented in many academic positions within the Institute, particularly in faculty positions, both tenured and untenured. Our commitment to a policy of affirmative action requires that we make every effort — and that we show substantial progress over time — in the following directions. First, we must increase the number of minorities and women on our faculty and academic staff. This increase must be consistent with departmental needs for teaching and research talent and consistent with the needs for development of existing and/or new professional fields and programs. Second, M.I.T. must seek to broaden the pool of available candidates for each position on the faculty and academic staff by recruiting and educating minority and women students (see Section V), as well as by developing shorter-range programs of career orientation and professional development. In particular, our efforts must be designed to encourage and to facilitate the movement of promising women and minority candidates into the fields of science and engineering and the applications of science and technology to human and social problems. The academic fields related to science and technology are of particular concern to us because M.I.T. is committed to leadership in these fields, in which the present imbalance in representation of minorities and women is large.

In addition to our efforts to increase the numbers of qualified women and minorities, we are committed to supporting those who are now on our faculty and academic staff by providing for them the opportunities for promotion and professional growth that will in turn increase their representation in the senior ranks of the academic professions. As expressed in the *Report of the President and the Chancellor*:

While the needs of professional growth and development represent a significant challenge to essentially all young members of university faculties, the task is doubly difficult for most of our female and minority colleagues. These individuals are the objects of a set of pressures that are a direct consequence of their minority and/or female status. We have an obligation to be understanding of these pressures and to provide a supportive and sympathetic environment. Several departments address these concerns by insuring that every junior faculty colleague has a senior mentor, who can provide advice and counsel; the central administration has tried to provide a sympathetic ear and to build sufficient support structures for women and minorities.⁵

In short, our program for the faculty and academic staff is maximum, result-oriented effort to increase the number of women and minorities and to create an atmosphere of support, encouragement, and collegiality in which all faculty and academic staff may thrive professionally and personally.

The following course of action is intended to achieve the Institute's goals and meet existing problems in this area:

Each academic department will identify the extent to which women and minorities are underutilized in each professional rank, by means of a utilization analysis of the department's faculty and academic staff. In academic areas where there is underutilization⁶ of women and minorities, vigorous and systematic efforts will be undertaken to identify and to recruit women and minority candidates.

5 *Report of the President and the Chancellor for the academic year 1974-1975*, p. 26.

6 According to the Federal guidelines for affirmative action programs, "underutilization is defined as having fewer minorities and women in a particular job classification than would reasonably be expected by their availability." The utilization analysis, which is a required part of the Plan, is intended to show representation of women and minorities in comparison with relevant recruitment "pools" for faculty and academic staff positions. The utilization analysis should estimate the proportions of women and minorities available at the appropriate skill levels both within and without the Institute. It is the purpose of this analysis to show clearly those areas where women and/or minorities are underrepresented, together with the reasons for underrepresentation.

7 See Appendix D.7.

8 See Appendix C.

9 See Appendix D.1.

10 See Appendix D.1.

11 See item 6 in Section II.

12 See Higher Education Guidelines, Executive Order 11246, as amended.

13 See Appendix D.2.

2. Each department will establish biennially numerical goals and timetables as guidelines for its progress in recruiting and hiring women and minorities for academic positions for the subsequent two-year period. Appendix G includes statistical summary sheets showing the representation of minorities and women at the Institute as of July, 1977 and goals for July, 1978 and July, 1979 aggregated from the individual goals of each department, laboratory and center.

3. Each department will seek to increase the pool of potential candidates in their areas by vigorous and systematic recruitment of women and minority graduate students.

To implement this program, departments will follow the specific set of procedures outlined below.

III.B. Affirmative Action Procedures for Academic Staff

Each academic department, center, or laboratory has developed its own Affirmative Action Plan for academic positions, consistent with the Institute goals and the procedures outlined below:

1. Each department will continue to set goals and timetables for the appointment of minorities and women in academic positions. These goals will be based on an analysis of the present and projected pool of candidates and on departmental needs and be set every two years.

2. Each department head will periodically inform all faculty and staff in the development of the policies, procedures, goals, and progress of the department's Affirmative Action Plan.

3. Annually, between June and August, each department will review and evaluate its plan in depth to determine the progress made toward achieving its goals. Problem areas will be identified, and the plan will be updated in terms of specific correctional action.

4. In seeking to fill academic positions, every effort will be made to recruit in a way that women and minorities will have adequate opportunity to be considered.

Also, each academic department, with its School, will compile and continuously update a list of women and minorities who are potential candidates, including candidates from among M.I.T. alumni, students, and current employees, as well as candidates identified through communication with professional societies, graduate schools, and predominantly black and women's institutions, and other appropriate sources. This search should include the use of professional journals and other media, as well as educational search organizations and professional organizations that reach minorities and women in academic fields appropriate to the programs available at the Institute. The use of exchange programs and summer institutes will be explored in an effort to widen the search beyond traditional channels.

Department heads are encouraged to announce in *Tech Talk* a search to fill faculty positions whenever it appears likely that qualified candidates may be found by that means, either by direct application or referral.

5. The Institute employment policies and practices shall not prohibit the simultaneous employment of two members of the same family.⁷

6. There will be full opportunity for staff appointments, including tenured appointments on the faculty, for persons who may be able to devote only part of their time to their academic or staff duties during their child-rearing years.

III.C. Responsibility for Implementation

Responsibility for meeting departmental goals and timetables rests with each department head. It will be expected, however, that all members of the academic staff will cooperate and support these efforts, in terms of both their supervisory roles and their participation on various Institute committees.

Responsibility for the assurance of good faith efforts belongs to the academic Deans and the Academic Appointments Subgroup⁸ of the Academic Council which considers serious search efforts⁹ with regard to women and minority candidates in weekly reviews of proposed academic appointments.

The Institute's Equal Employment Opportunity (E.E.O.) Officer and Assistant E.E.O. Officer and the Special Assistants for Women and Work and for Minority Affairs will play leading roles in the development, coordination,

and monitoring of all affirmative action programs. They will assist department heads in the preparation and implementation of specific plans to ensure the effectiveness and continuity of the Institute Plan within each department unit.

To assure good communication and visibility, each department head (or director of a research center or laboratory) will act as departmental E.E.O. Representative. If a department head chooses to delegate some of the responsibility in this area, he or she may appoint a member of the department as E.E.O. Representative. This person will assist the department head by working with members of the department, the appropriate dean or senior officer, the E.E.O. Officer and the Special Assistants for Women and Work and for Minority Affairs to implement and monitor both the academic and non-academic policies and procedures that are contained in the Institute's Affirmative Action Plan, as well as the department's Affirmative Action Plan.

E.E.O. departmental representatives are listed in departmental plans and with the E.E.O. Officers and the Special Assistants for Women and Work and for Minority Affairs.

The specific responsibilities of the departmental E.E.O. Representative (whether or not he or she is the department head) will be as follows:

1. to establish specific methods for identifying the underutilization of skills and talents of women and minority staff and employees within the department and to encourage both their participation in educational and career development programs and their taking advantage of opportunities for promotion and transfer, consistent with their individual abilities and aspirations and with the needs of the Institute;

2. to seek the help of everyone in the department, particularly women and minorities, in identifying problem areas related to the goals of affirmative action (including possible problems with attitudes, atmosphere, etc.) and in referring qualified minority and women candidates for both academic and non-academic positions;

3. to develop a serious search¹⁰ strategy, including an up-to-date list of contacts, for identifying women and minority applicants in career fields appropriate to the department's needs;

4. to maintain a file on minority and women applicants and potential candidates for academic positions within the department;

5. to undertake a careful review of departmental employment criteria relating to merit¹¹ and to make certain that all job requirements are specifically necessary for the category under consideration (e.g., whether certain degrees are necessary, whether "requisite" skills are actually utilized, and whether on-the-job training could be substituted for certain requirements);

6. to review the criteria for departmental hiring, retention, promotion, and tenure as actually implemented to ensure that procedures are in compliance with the Higher Education Act of 1972 and H.E.W. Guidelines;¹²

7. to disseminate the latest Institute policies and procedures on equal employment opportunity to all members of the department, both professional and non-professional;

8. to develop strategies for increasing the available pool of candidates for academic positions, such as actively recruiting women and minorities for graduate programs and postdoctoral training;

9. to conduct quarterly reviews of progress, and, if necessary, to take steps for or recommend re-evaluation and corrective action; and

10. to develop within the department specific procedures for reviewing alleged complaints of discrimination consistent with the Institute's grievance procedure.¹³

IV. AFFIRMATIVE ACTION FOR NON-ACADEMIC EMPLOYMENT

IV.A. Aims and Plan of Action

Women and minorities are underrepresented in many non-academic positions at the Institute. Furthermore, the Institute recognizes that many inequitable situations in employment are rooted in occupational segregation and in stereotyping of roles in our society. These persistent problems have resulted in widely held perceptions by many minority and women employees (and prospective employees) that job responsibilities and opportunities for advancement are seriously limited, and that individual skills and talents will be inadequately recognized and rewarded. Accordingly, given the Institute's commitment to equal opportunity in all employment areas, the Affirmative Action Plan for non-academic employment has a double responsibility: first, to correct the present underrepresentation and underutilization of women and minorities; and, second, to reverse prevalent feelings of frustration and low expectations for change on the part of many valuable and talented employees.

The functions of the Office of Personnel Services are intended to help alleviate these problems. Personnel Officers are assigned to each department, office, and laboratory with full responsibility for all personnel matters including assistance in affirmative action at all levels of non-academic employment.

In view of both the problems and aims described above, the following course of action has been established:

1. Within each non-academic area (administrative unit, office, department) of M.I.T., the imbalance in representation of minorities and women vis-a-vis other (white male) employees will be identified and documented.
2. Each department will establish biennially specific numerical goals and timetables for the subsequent two-year period in an effort to correct imbalances, and specific methods will be developed to facilitate achievements of the goals.
Appendix G includes statistical summary sheets showing the representation of minorities and women at the Institute as of July, 1977 and goals for July, 1978 and July, 1979 aggregated from the individual goals of each department, laboratory and center.
3. Vigorous and systematic recruitment of minorities and women, both inside and outside the Institute, will continue.
4. Professional and organization development programs are offered by the Office of Personnel Development and on-the-job training is available in some departments. Career counseling will continue to be offered through the Office of Personnel Services.
5. All employees will be informed of the policies, goals, and procedures with respect to non-discrimination outlined in the Institute's Affirmative Action Plan. Special efforts will be made to ensure that women and minorities are aware of specific opportunities for promotion, transfer, and training that may be of interest to them.
6. Steps will be taken to sensitize supervisors to both subtle and overt forms of discrimination and to inform them in detail about the affirmative action program, both in terms of legal requirements and of M.I.T.'s particular commitments.
7. The Institute will make efforts in the direction of improving access by all persons to job categories which have traditionally been preponderantly occupied by women and/or minorities.

Specific affirmative action policies for non-academic employment are detailed in Section IV.B. In addition, procedural instructions to implement the policy considerations in the plan have been developed by the Office of Personnel Services and are available for review.

IV.B. Affirmative Action Procedures for Non-Academic Employment

Each organizational unit at the Institute has developed its own Affirmative Action Plan, which is consistent with the following policies and procedures:

1. Each organizational unit will continue to set goals and timetables for the employment of minorities and women in each non-academic job classification. These goals will be based on an analysis of the present and projected number of qualified and qualified minorities and women in M.I.T.'s potential recruitment area, as well as on M.I.T.'s projected employment needs and be set every two years.
2. Each department will review its plan in depth and will evaluate the progress made toward reaching its goals on a yearly basis (between June and August, as described in Section III B, item 3).

3. In seeking to fill positions, vigorous and systematic efforts will be made to ensure that women and minorities have adequate opportunity to be considered, based on the following recruitment and hiring procedures:

a. Records will be maintained in the Personnel Office of the receipt and disposition of all applications, and a summary will be forwarded to the EEO Officers and the Special Assistants for Women and Work and for Minority Affairs on a quarterly basis.

b. At all major locations where interviews are conducted, notices shall be displayed that M.I.T. is an "Equal Opportunity Employer," as prescribed by law.

c. Employment advertisements have been and will continue to be run regularly in publications with wide circulation to minorities and women. An ongoing evaluation of the effectiveness of these ads will be made by the Office of Personnel Services. It will be a standard procedure to use the phrase "An Equal Opportunity Employer" in all advertisements and job postings. Whenever advertisements are placed in non-minority publications, the phrase "We are an Equal Opportunity/Affirmative Action Employer" shall be used in the text or the ad.

d. In those areas where there is underrepresentation of minorities and women because of a history or pattern of exclusion and/or discrimination, preference in the applicant referral and selection process will be given to minority or women applicants if two candidates are equally qualified according to the concept of merit expressed in Section II, item 6.¹⁴

e. Procedures have been instituted, and will be periodically reviewed, to ensure that minorities and women (as well as other employees) are considered for promotion or upgrading before a position is filled from the outside.¹⁴

f. A minorities and women applicants' file has been established and will be maintained in the Office of Personnel Services. A similar career development file of those women and minorities seeking transfers or career advancement will be established. (This file will be available only to the employment interviewers in the Office of Personnel Services.) A search of this file will be required as the first step in identifying candidates for all new appointments and other vacancies, temporary or otherwise.¹⁴

g. Vacancies for all non-academic positions will ordinarily be posted,¹⁵ and no offers or commitments may be made before the end of an application period which allows for a reasonable response to the posting by interested applicants; however, reasonable exceptions, such as, for example, in cases of internal reorganization, will be permitted. Such positions will be announced initially to the M.I.T. community by the Office of Personnel Services through publicizing all vacancies in *Tech Talk* and through posting them in the Office of Personnel Services reception area. Vacancies will also be posted in other areas, when appropriate. All such positions and openings will also be announced to agencies and other sources in the community where minority and women applicants are registered.

h. Supervisors will be apprised that positions are to be made equally accessible to all qualified candidates for job categories that have traditionally been preponderantly occupied by women and/or minorities.

i. The supervisor will make the final hiring decision and will contact the personnel interviewer to begin final hiring arrangements. Reasons for not hiring minorities and women deemed qualified or qualified by the personnel interviewer will be explained by the supervisor on the referral forms.

The personnel interviewer shall determine whether the requirements of the law and the policies of the Institute have been met, with respect to both external appointments and internal transfers. If so, the Office of Personnel Services will process the appointment document.

No employment commitment can be made until these procedures have been followed.

j. If the personnel interviewer suspects non-compliance with the Affirmative Action Plan, the matter will be reviewed with the Director of Personnel Services who will resolve the matter with the department head before final personnel action is taken.

k. All supervisors will be apprised that compliance with the policies of the Institute's Affirmative Action Plan is a responsibility for which they will be held accountable.

4. Promotion policies and practices will be administered in such a way as not to discriminate against minorities and women. In many cases, special efforts may be required to ensure that minorities and women are not at a disadvantage:

a. In some instances, a minority or woman applicant may not be fully qualified, but is judged to be highly qualified. Whenever possible, opportunity for "on-the-job" training will be provided.

b. When an employee applies for another position in the same department or elsewhere at M.I.T. for which he or she is currently qualified, no covert or overt barriers will be placed in the way of his or her application for the position.

c. Possible career ladders for non-academic positions will be defined and disseminated as appropriate.

5. The Institute, through the Office of Personnel Development, will initiate and continuously review programs to provide opportunities for employee and organization development.

The following programs are now offered:

a. Tuition Assistance

b. Administrative Development Program

c. Introduction to Administrative Procedures Program

d. Communications Workshops

e. Affirmative Action/Equal Employment Opportunity-Management Training Program (Lincoln Laboratory)

f. New Employee Orientation

g. Technical Typing

The Office is currently presenting a management training program at Lincoln Laboratory emphasizing supervisory responsibilities in implementing the Laboratory's Affirmative Action Plan. Over 1,000 supervisors and technical staff are required to attend the program.

IV.C. Responsibility for Implementation

Responsibility for meeting these objectives in the Plan rests with the department head or the director of each office, center, or laboratory. For certain staff positions, the responsibility of good faith efforts is vested in the Provost or in the Vice President responsible for the specific organizational unit, and in the Staff Appointments Subgroup¹⁶ of the Academic Council which considers the serious search effort¹⁷ in weekly reviews of non-academic staff appointments.

For the recruitment, referral, and hiring of candidates in non-academic categories, there is a sharing of responsibility between the departmental leadership and the Office of Personnel Services. Specifically, in order to enable each department to meet its equal opportunity goals, Personnel Services is responsible for providing minority and women applicants according to their availability. It is the responsibility of individual departments to supply Personnel Services with basic, essential job requirements for each available position in sufficient time to allow for a serious search to produce "qualified"¹⁸ minority and women candidates either from within the Institute or from external recruitment sources.

An annual review and analysis of all employment categories will be undertaken by the E.E.O. Officers and the Special Assistants for Women and Work and for Minority Affairs to monitor progress toward full representation of minority and women employees at M.I.T. Minority and women referrals and transfer requests from each department will be included in this analysis. These data will be supplied by Personnel Services in cooperation with each of the departments, laboratories, offices and centers.

The E.E.O. Officers and the Special Assistants for Women and Work and for Minority Affairs will play the same roles in developing, coordinating, and monitoring departmental affirmative action programs as described in Section III.C.

The head of each administrative unit (office or department), or his or her designee, will be appointed as Equal Employment Opportunity (E.E.O.) Representative and will have specific responsibilities as outlined for academic E.E.O. Representatives in Section III.C.

14 To be monitored by the Office of Personnel Services on the campus and by the Personnel Office at Lincoln Laboratory.

15 Posting and bidding requirements for unionized employees will be as specified in union contracts.

16 See Appendix C.

17 See Appendix D.1.

18 Defined in terms of merit as described in Section II, item 6.

V. AFFIRMATIVE ACTION FOR EDUCATIONAL OPPORTUNITY

This section describes M.I.T.'s commitment to increasing the numbers of women and minority group members in our undergraduate and graduate student body through a vigorous and systematic program of recruitment. The plans and procedures set forth in this section have also been written to conform with Title VI of the Civil Rights Act of 1964, the Equal Educational Opportunity Act of 1972, and Title IX of the Education Amendments of 1972.

V.A. Aims and Plan of Action

Since the Plan was last revised, there has been considerable growth in the number of women undergraduates. However, women and members of some minority groups are underrepresented in many student categories at M.I.T. It is our policy to reduce these imbalances by increasing the interests in, preparation for, and availability of women and minorities for careers in science and technology. While ultimate success will result in substantial changes in admission patterns, our immediate efforts must concentrate on enlarging the pool of qualified women and minority applicants from which we admit students. As expressed in the *Report of the President and the Chancellor*:

Future increases in the number of minority students who pursue careers in engineering and in the physical sciences are contingent on the degree to which young people can be informed about opportunities in these fields much earlier — probably in junior high school — and encouraged to study the necessary mathematics and science. Such information and encouragement have, in the larger society, traditionally come from parents and friends, and it is just this influence which is largely absent for minority students as a consequence of the virtual exclusion of minorities from these fields in the past. While it is not clear what role the Institute can play in addressing this problem, we need to be more imaginative in our efforts than just recruiting from the available pool at the high school level.¹⁹

It is also our objective to remove educational, social, and financial barriers which have discouraged many women and minority students from taking advantage of educational opportunities offered by the Institute.

On another level, the Institute and each of its academic departments are aware that most professional opportunities for women and minorities in science and engineering require graduate degrees, and, hence, the number of minorities and women with advanced degrees must be greatly increased to help increase their representation at M.I.T., at other universities, and in business and industry.

In view of these objectives, the Institute has established the following plan of action:

Access to educational programs, financial assistance, and other services and facilities will continue to be provided to students in a manner that does not discriminate against women and minority students.

Minorities and women often feel isolated academically and socially at M.I.T. both because of their small numbers and because of cultural and/or sex role stereotypes. To address this problem, the Institute will continue to provide special support both formally, through the Office of the Dean for Student Affairs and the Office of the Dean of the Graduate School, and informally, by encouraging minority and women faculty, staff, and students to serve as advisors on academic and social matters.

The Institute will continue to provide special academic support services, where appropriate, to ensure that the needs of students with special problems are met.

Implementation policies and procedures in student-related areas — admissions, financial assistance, student support services, student activities and housing, student placement, and graduate student support — are detailed in Section V.B.

V.B. Student-Related Affirmative Action Procedures

1. Admissions

In 1968 special efforts to recruit minorities, particularly Blacks, were begun at M.I.T. These efforts are continuing and, in addition, special efforts have been made to recruit women students.²⁰

- a. All persons involved in the process of reviewing applications will be kept aware of M.I.T.'s equal opportunity policies regarding admissions.
- b. Admissions information and other official publications sent to prospective students, high school counselors, and others will continue to reflect and emphasize the Institute's equal opportunity policy.
- c. Special admissions pamphlets and brochures will continue to be produced and distributed to assist in the recruitment of minority and women students.
- d. Admissions criteria will be reviewed periodically to help ensure that no minority applicant who has the potential for academic success at M.I.T. is refused admission.
- e. The selection teams reviewing applications will continue to include minority and women faculty and staff.
- f. The Admissions Office, the Educational Council, and other groups and offices engaged in recruiting students will continue to make special efforts to locate and recruit minority and women students; continuing efforts will be made to increase the number of women and minority Educational Counselors.
- g. Minority and women prospective students will be counseled on the full range of opportunities at M.I.T., particularly in those fields in which they have been conspicuously underrepresented.
- h. The Institute will continue, when feasible, to invite prospective minority and women students from high schools near M.I.T. to the campus for first-hand familiarization.
- i. Minority and women students at M.I.T. will continue to aid the Institute in recruiting women and minority prospective students through personal contacts and, where appropriate, through visits to their hometown high schools.
- j. M.I.T. will continue to support a Talent Search Program in Cambridge and to maintain an Upward Bound Program in cooperation with Wellesley College.
- k. M.I.T.'s recruitment efforts with respect to minority students will include an intensive search for prospective students who meet M.I.T.'s admissions criteria, as well as those who have potential but who need additional academic preparation (such as that provided by Project Interphase).

1. The undergraduate Admissions Office has prepared a booklet describing life at M.I.T. for women which will be used to aid in recruiting prospective women students. A similar booklet has been prepared for minority students and will be utilized as an aid in recruiting as well.

2. Financial Assistance

- a. All services provided by the Financial Aid Office are available to every student without regard to race or sex. M.I.T. will continue to ensure that there are on the staff persons, including minorities and women, sensitive to the special needs and circumstances of minority and women students.
- b. Financial assistance to all students, undergraduate and graduate, will continue to be provided in such a manner as not to discriminate against applicants on the basis of race or sex. All eligible minority and women students are encouraged to participate in scholarship, loan, and work-study programs.

3. Student Support Services

- a. The Institute will continue to encourage minority and women faculty, staff, and upperclass students to help provide supportive services for minority and women students by serving as freshmen advisors, tutors, and informal resource personnel.
- b. All services in the Office of the Dean for Student Affairs are available without regard to race or sex, and the office will continue to ensure that there are on the staff, persons including minorities and women, sensitive to the special needs and circumstances of minority and women students.
- c. An Assistant Dean for Student Affairs will continue to serve, in part, as an advocate for the needs of undergraduate women and minority students.
- d. The Institute will continue its intensive efforts, through such programs as Project Interphase, to make educational opportunities available to those minority group members (and others) whose academic preparation differs somewhat from M.I.T.'s usual admission criteria. Such programs will be reviewed on an annual basis to help ensure that they are meeting the students' expressed needs. Project Interphase includes: 1) search and selection procedures directed toward bringing such people to M.I.T.; 2) special introductory academic programs, including counseling, during the summer preceding the freshman year; and 3) special arrangements for financial assistance, as required.

- e. In September, 1975 the Office of Minority Education was established as a means for identifying and assessing factors important in the learning process of minority students at M.I.T. This office will serve as additional support in structuring and implementing a program to improve academic performance of minority students and will be concerned with the general teaching and learning process in the undergraduate academic program.

4. Student Activities and Housing

- a. Rooms or apartments in Institute-supported housing are made available to all students in a non-discriminatory manner. There is no restriction on admission of women based on available campus housing.
- b. Landlords participating in the Institute's off-campus housing program must submit a non-discriminatory pledge issued by the Massachusetts Commission Against Discrimination before their offerings may be listed with the Community Housing Service. Any realtor who refuses to sign the pledge or who has a just cause complaint issued against him or her will be ineligible to have his or her rentals listed in the office files. Complaints presented to the Housing Office will be turned over to the Massachusetts Commission Against Discrimination for appropriate action.
- c. Though the Institute encourages all of its students to participate in the wide range of social, cultural, research or other education programs and activities sponsored by the Institute, special efforts will continue to be made to help ensure full participation in Institute life by minorities and women.
- d. All social clubs and fraternities supported by the Institute will be required to submit a written non-discrimination pledge to the Office of the Dean for Student Affairs.
- e. The Institute will encourage women students to participate fully in athletic activities and classes of their choice.
- f. The Athletic Department has appointed a Director of Women's Athletics to address the growing needs of women students at the Institute and has also published a booklet entitled "Athletics for Women at M.I.T."
- g. As the number of women students increases at M.I.T., attention will be given to increase the number of full-time women faculty and staff where they are especially important in assisting in the implementation of programs and activities.
- h. The use of M.I.T. athletic facilities, i.e., locker rooms, etc., will be made comparable and equally accessible for all members of the M.I.T. community, regardless of race or sex.
- i. The Institute will continue its policy of not recruiting any student because of his or her athletic capabilities.

5. Student Placement

It is the policy of the Office of Career Planning and Placement to ensure not only the equitable treatment of graduating minority and women students in finding employment, but also to help ensure that employers using the services of the Office of Career Planning and Placement recruit graduating students for all positions in their companies without regard to race or sex.

- a. Each employer seeking to hire M.I.T. graduates is requested to:
 - i. provide proof that the organization is an equal opportunity employer as defined by Executive Order 11246 as amended;
 - ii. whenever possible, send minority and/or women recruiters who are familiar with the employer's priorities and commitments with respect to equal opportunity; and
 - iii. hire undergraduate minority and women students for summer internship programs when possible.
- b. Each company or business representative inquiring about M.I.T. graduates will continue to be apprised of M.I.T.'s equal opportunity placement procedures.
- c. Companies are encouraged to distribute literature that expresses their commitment to equal opportunity for minorities and women in all of their job categories.
- d. The Office of Career Planning and Placement will continue to work with the Office of the Graduate School, the E.E.O. Officers, the Special Assistants for Women and Work and for Minority Affairs and the Office of Personnel Services of the Institute to keep minority and women graduates informed of career opportunities at M.I.T. and at Lincoln Laboratory.
- e. The monthly schedule of visiting company recruiters will be circulated to academic and administrative offices and be posted on bulletin boards in areas frequented by minority and women students.

¹⁹ Report of the President and the Chancellor for the academic year 1974-1975, p. 25.

²⁰ M.I.T. has been coeducational as early as 1872 and has enrolled minorities including Black Americans since 1897.

6. Graduate Student Support

In cooperation with the Office of the Graduate School and the Committee on Graduate School Policy:

- a. All academic departments offering advanced degrees will be encouraged to recruit minority group members and women to the faculty from their graduate programs and will be expected to monitor continuously their progress. Departments should appoint such students to positions as research assistants and teaching assistants and should make their policy known to all of their faculty members.
- b. Present admissions and financial aid policies will continue to be reviewed and modified, where appropriate, to assure that they do not discriminate against women applicants with children.
- c. All policies which concern a student's actual or potential parental, family or marital status will be reviewed and modified where appropriate to ensure that students are not being treated differently on the basis of sex.
- d. All information on grants, loans, scholarships and fellowships will be posted in a manner to which all inquiring students have access.
- e. Health and insurance benefits and services will be provided in a manner which does not discriminate against women students.

V.C. Responsibilities for Implementation

Responsibility for implementation of the affirmative action programs and procedures in the student-related areas rest with each office director or Dean and the standing review committees in the areas mentioned above.

Each administrative unit with responsibility for various aspects of the educational and student affairs areas defined above will review its particular policies and procedures according to the Affirmative Action Plan and will develop an implementation plan incorporating specific goals which will be reviewed and approved by the appropriate policy committee at M.I.T.

On a biennial basis, each office will review its plan and will prepare a report which will outline and analyze both efforts and progress made toward meeting Institute goals and Federal regulations. This biennial report, including any proposed changes in policies or procedures, will be submitted to the Office of the Equal Employment Opportunity Officer and will be reviewed by the E.E.O. Officers and the Special Assistants for Women and Work and for Minority Affairs.

VI. AFFIRMATIVE ACTION IN CONSTRUCTION, VENDING AND PROCUREMENT

VI.A. Aims and Plan of Action

Over the years, M.I.T. has strived for a position in promoting minority business participation in Institute-related construction and vending enterprises. As a demonstration of our commitment in this area and to comply with Executive Orders 11246, 11458, and other Federal and state regulations governing construction and vending, the Institute will continue the following course of action:

1. An equal employment opportunity clause has been written into all renovation and new construction contracts.
2. The Institute, through the department involved, will require contractors negotiating or bidding on work to be in compliance with Executive Order 11246 and 11375 before contracts are awarded.
3. A description of the plan for minority contractor utilization, including subcontractors, will be required as a component of the bid procedure for major contracts.
4. During actual construction, each prime contractor will submit a monthly statement to the appropriate resident engineering outlining the work force composition and the use of minorities by his or her organization both directly and through subcontracting.
5. A representative of the Department of Physical Plant will visit construction sites biweekly to review and report on affirmative action compliance.

With regard to vending contracts the following provisions will apply:

1. The phrase "M.I.T. is an Equal Opportunity Employer" will continue to appear on all purchase orders.
2. A listing of suppliers, purchasing agents, and purchasing associations having affirmative action programs has been compiled and will be updated on a regular basis.
3. A listing of minority and women suppliers, purchasing agents, and purchasing associations has been compiled and will be updated on a regular basis.
4. The above lists will be used by Institute buyers in the Purchasing Department to maximize opportunities for minority and women vendors and to see that all vendors are aware of M.I.T.'s affirmative action requirements in order to improve their opportunities to bid for Institute contracts.
5. At the time of bid presentation, vendors will continue to be required to provide certification of compliance with Federal and state guidelines.
6. M.I.T.'s Purchasing Council will continue to review progress annually in the utilization of minority and women suppliers and, subsequently, will continue to make appropriate changes in procedures.

VI.B. Affirmative Action Procedures for Construction and Vending

1. Existing procedures will continue to be employed, and new procedures will be developed to secure maximum participation of minority vendors in Institute purchasing and minority contractors and construction workers in new construction or renovation, both on and off campus.
2. An effort will continue to be made to develop appropriate means to address the growing problem of discrimination against women in these areas.
3. It is the Institute policy to give its full support to local agencies such as the State Office of Minority Business Assistance (SOMBA) and other organizations working to improve the utilization of minority contractors.
4. Minority firms identified through various methods will be apprised of potential construction projects on the campus and encouraged to submit bid documentations.
5. Meetings will be held with newly established minority firms that respond to the Institute's bidding invitations to inform them of campus bidding procedures and to discuss potential construction projects.
6. If minority businesses are unsuccessful bidders, attempts will be made to identify problem areas and assistance will be given where appropriate.
7. As construction bids are received, the Executive Assistant to the Director of Physical Plant will continue to review documentations to determine minority business utilization.
8. The Department of Physical Plant will continue to review progress annually in the utilization of minority businesses. Records will be maintained on the utilization of minorities on construction projects, unsuccessful minority bidders, and contracts awarded to minority businesses compared to overall awards.

VI.C. Responsibility for Implementation

With respect to construction contracts, the Director of Physical Plant will be responsible for making sure that the provisions stated above are carried out during all phases of the planning and actual construction of each project on campus. Reports of each project will be forwarded to the E.E.O. Officers and the Special Assistants for Women and Work and for Minority Affairs. The Equal Employment Opportunity Officers will be responsible for auditing the construction program efforts and for recommending changes whenever necessary.

With respect to vending contracts, it is the responsibility of the Purchasing Office to identify minority and women businesses among potential suppliers and to require the compliance of all suppliers with Executive Orders 11246 and 11375.

Appendix A: Departments, Offices, Centers and Laboratories having Affirmative Action Plans

Office of the President, Chancellor and Vice President (including Special Assistants, Analytical Studies and Planning Group)
 Athletic Department
 Dean for Student Affairs
 Information Processing Services
 Institute Information Services (including News Office and Campus Information Services)
 M.I.T. Press

Lincoln Laboratory

Office of the Provost (including Lowell Institute School, Institute Professors, ROTC Programs)
 Arteriosclerosis Center
 Artificial Intelligence Laboratory
 Cell Culture Center
 Center for Advanced Visual Studies
 Center for Cancer Research
 Center for International Studies
 Committee on the Visual Arts
 Division for Study and Research in Education
 Harvard-M.I.T. Division of Health Sciences and Technology
 Haystack Observatory
 Libraries
 Neurosciences Research Program
 Laboratory for Computer Science
 Sea Grant Program
 Summer Session

Office of the Vice President for Research
 Center for Materials Science and Engineering
 Center for Space Research
 Energy Laboratory
 Francis Bitter National Magnet Laboratory
 Laboratory for Nuclear Science
 Nuclear Reactor
 Research Laboratory of Electronics

Office of the Vice President, Administration and Personnel (including Academic Staff Records Office, Child Care Office)
 Admissions
 Career Planning and Placement
 Office of Facilities Management Systems
 Personnel Development
 Personnel Relations
 Personnel Services
 Student Financial Aid Office

Office of the Vice President, Financial Operations
 Audit Division
 Comptroller's Accounting Office
 Lincoln Fiscal Office
 Office of Director of Finance (including Budget Office)
 Office of Sponsored Programs

Office of the Vice President, Operations (including Planning Office and Endicott House)
 Campus Patrol
 Graphic Arts and Audio-Visual Services
 Housing and Food Services
 Physical Plant
 Purchasing Office
 Safety Office

Office of the Vice President and Dean of the Graduate School
 Medical Department (including Environmental Medical Services, Radioactivity Center, Division of Laboratory Animal Medicine)
 Office of the Graduate School
 Office of the Registrar

Office of the Vice President, Resource Development
 Industrial Liaison Office
 M.I.T. Associates
 Resource Development
 Resource Operations
 Resource Planning
 Volunteer Leadership Appeal

Office of the Treasurer

Secretary of the Institute

Office of the Dean of Architecture and Planning (including Laboratory of Architecture and Planning)
 Architecture
 Urban Studies and Planning

Office of the Dean of Engineering
 Aeronautics and Astronautics
 Chemical Engineering
 Civil Engineering
 Electrical Engineering and Computer Science
 Materials Science and Engineering
 Mechanical Engineering
 Nuclear Engineering
 Ocean Engineering
 Center for Advanced Engineering Study
 Center for Policy Alternatives

Office of the Dean of Humanities and Social Science
 Economics
 Humanities
 Linguistics and Philosophy
 Political Science
 Psychology

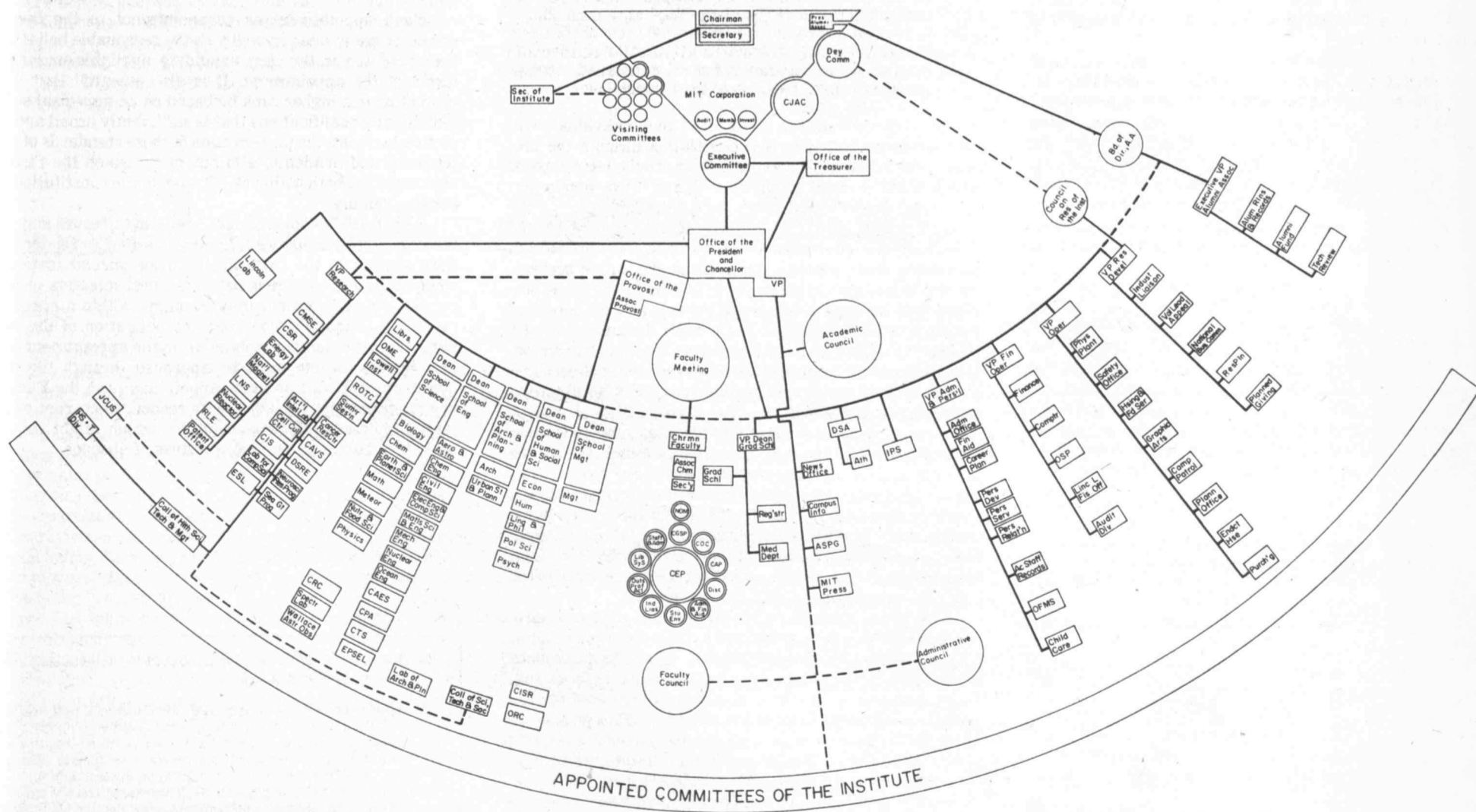
Office of the Dean of the Sloan School of Management
 Management
 Operations Research Center

Office of the Dean of Science
 Biology
 Chemistry
 Clinical Research Center
 Earth and Planetary Sciences
 Mathematics
 Meteorology
 Nutrition and Food Science
 Physics

Alumni Association

Faculty Club

Appendix B: Administrative Organization of the Massachusetts Institute of Technology*



*This appendix is the most recent organizational chart of the Massachusetts Institute of Technology and is included in copies of the Institute Plan on file in the locations listed in section I.A. of the Introduction.

Appendix C: Role of the Academic Council and the Equal Opportunity Committee in the Implementation of the Plan

C.1. Academic Council

The Academic Council is the senior policy-making group of the Institute within the administration, composed of the President, Chancellor and Provost, Associate Provost, the Deans and Vice Presidents, Director of Libraries and Chairman of the Faculty. The Academic Council reviews major policy issues, budgetary levels and priorities, significant organization changes, major appointments and plans and programs involving issues of the nature and direction of the Institute. The status and progress of the affirmative action program and proposals for significant changes in policy or procedure to increase its effectiveness, from whatever source, will be subject to the review and final approval of the Academic Council.

For purposes of considering appointments, the Academic Council contains two (overlapping) subgroups, the Academic Appointments Subgroup and the Staff Appointment Subgroup. The affirmative action responsibility of these groups is to receive requests for authorization to make offers of appointment to faculty and other academic positions in the case of the Academic Appointments Subgroup and to administrative and research staff positions in the case of the Staff Appointments Subgroup. The subgroups review search proposals and examine the evidence provided by the department head regarding the serious search for qualified minority and women candidates which have been conducted by the department, how the appointment relates to the Affirmative Action Plan of the depart-

ment and either authorize or withhold authority from the department head to make the offer of appointment. The members of the Academic Council, including the Academic Appointments and Staff Appointments Subgroups, are so designated because of the particular position they hold within the Institute. The Vice President, Administration and Personnel who holds the additional responsibility of the Institute's Equal Employment Opportunity Officer, is a member of the Academic Council and of the two appointment subgroups. As such, he has the opportunity and responsibility to keep the Council informed on the progress of the affirmative action program, and to bring to the Council recommendations for policy or procedural improvements which are of the level or scope to require the Council's approval.

C.2. Equal Opportunity Committee

The Equal Opportunity Committee, a broadly representative Committee of the Institute concerned especially with equal opportunity in employment and education, is appointed by the President of the Institute. In his choice of persons to be appointed to the membership, the President seeks to assure the equitable representation of protected class members on the Committee. The Special Assistant for Women and Work, the Special Assistant for Minority Affairs, and the Equal Employment Opportunity Officer and the Assistant E.E.O. Officer are members of the Committee, ex-officio. The E.E.O. Officer has a special relationship with the Committee, given his responsibilities as Vice

President, Administration and Personnel. He will bring to the Committee reports of progress in affirmative action efforts, problems arising in the implementation of the Affirmative Action Plan and will review with the Committee proposals for changes in policy or procedure relating to affirmative action including comment on proposals originating within the Committee itself.

The authority and scope of the Committee is comparable to that of other Presidentially-appointed Institute committees in that it assists the President in maintaining cognizance over the program assigned to it, with authority to obtain such information as necessary to keep itself informed as to the effectiveness of the program. In assessing effectiveness, the Committee has the responsibility for initiating improvements, including making recommendations to the President and the Academic Council or to the faculty for changes in policy or procedure to make the program more effective. The Committee may request such information from appropriate Institute sources as necessary for it to judge the need for changes in policies or procedures or the merits of proposed changes.

The Committee will consist of 24 members drawn from the faculty, the research and administrative staff, other employees, and the student body. The President will designate the Chairperson, and the Committee will meet at the Chairperson's call. The names of the Chairperson and members of the Equal Opportunity Committee are published in the *Tech Talk* supplement which annually lists Presidentially-appointed committees, or are available from the E.E.O. Officers or the Special Assistants for Women and Work and for Minority Affairs.

Appendix D: Affirmative Action Serious Search Policy and Other Institute Policies with Affirmative Action Implications

The following are statements of policies bearing on affirmative action which are included in *Policies and Procedures*, the Institute guide for faculty and staff members.

D.1. Affirmative Action Serious Search Policy

In furtherance of M.I.T.'s commitment to affirmative action in the employment of women and members of minority groups, Institute policy requires a thorough search of the relevant employment market for qualified candidates, including women and minority candidates, whenever underrepresentation is found to exist.²¹ For particular groups of positions, outlined below, approval of the appropriate Appointments Subgroup of the Academic Council must be obtained prior to making an offer of appointment. These positions include (1) salaried appointments for an academic year or longer to the three faculty ranks (including visiting faculty) and instructors, and (2) salaried full-time sponsored research staff,²² administrative staff, library staff, or medical staff appointments with a term of one year or more.

At the time a search is begun for a person to fill one of the above positions, the department head or laboratory director will forward to the cognizant Academic Council member a brief statement of the qualifications being sought and the plan for the search. If satisfied that the qualifications are not unnecessarily restrictive and the search plan is appropriate to the position and the relevant employment market, the Council member will review the proposal with the Council. The search need not await Academic Council approval but may be modified following the Council review.

When the search is completed and the best qualified candidate is determined, after full consideration of the various candidates' potential for growth and development (M.I.T. Affirmative Action Policy, Section II, Item 6), the cognizant Academic Council member should bring to the Council a recommendation for an offer of appointment, reporting that the approved search plan was followed with detail as to the candidates generated and considered, method of evaluation, and reasons for the preferred choice. This procedure should be followed regardless of the race or sex of the proposed candidate.

D.2. Procedure for Complaints of Discrimination

All persons employed²³ at M.I.T. who believe that they have been treated unjustly for any reason, or that the Institute's stated policy of non-discrimination has been violated should have access to a clear means of seeking redress. The following steps should be taken when individuals have a concern, grievance, or inquiry about their employment.

1. The Institute strongly encourages individuals to discuss their work situations and problems with their immediate supervisors. Supervisors are expected to provide a supportive environment which fosters open communication related to work life at the Institute and are encouraged to resolve work problems and grievances at the departmental level.
2. If the problem is not resolved with their immediate supervisor individuals should feel free to discuss the problem with the next higher supervisor in the department, laboratory, or school including the department head. In the cases of other than academic staff, this may include the departmental administrative officer and/or Personnel Officer in the Office of Personnel Services on campus or their Personnel Representative at Lincoln Laboratory. Individuals who are not satisfied with these discussions might consider talking with the Director of Personnel Services on campus or the Personnel Officer at Lincoln Laboratory.
3. Individuals who feel that the matter has not been resolved may then take the problem to one of the Special Assistants to the President and Chancellor. Either of them will discuss the apparent alternatives with the individual. The individual may then choose to request a formal inquiry into the facts of the case. The Special Assistants will attempt to resolve the matter to the satisfaction of all concerned, recommending a final decision to the Chancellor.

In most instances it is expected that individuals will take concerns, inquiries and complaints through the process specified above. There may be unusual circumstances which warrant direct inquiries with any of the above persons regarding advice about a work situation.

Individuals should feel free to obtain the support and assistance of a co-worker or any other M.I.T. associate in presenting their concern. Throughout the entire process, the individual should be assured that the information provided will be kept confidential insofar as the individual wishes it or until such time as the individual agrees that a third party or parties must be informed to facilitate action. It is the Institute's policy that individuals will not be reprimanded nor discriminated against in any way for initiating an inquiry or complaint.

Once an inquiry or complaint is presented, a sincere attempt should be made at each step to either resolve the problem or refer it to the next step within one week. If this time schedule cannot be met, the status of the investigation should be communicated to the parties involved on a weekly basis. In cases where either presentation or resolution is delayed more than two weeks, the individual may, after informing his or her supervisor, elect to proceed to the next level indicated in the above procedure.

The above procedure serves as the grievance procedure for employees as required by Title IX of the Federal Education Amendments of 1972 with regard to grievances arising out of alleged discrimination on the basis of sex. This procedure is available similarly to students for the purpose of resolving complaints alleging actions prohibited by Title IX. The procedure is also available to handicapped students and employees alleging failure to comply with Section 503 and 504 of the Rehabilitation Act of 1973. It is expected that students will attempt to resolve issues directly with a work supervisor, academic advisor or instructor. When a problem cannot be resolved at that level, the student should avail himself or herself of the assistance

of the Office of the Dean for Student Affairs or the Office of the Dean of the Graduate School as appropriate before bringing it to the attention of one of the Special Assistants to the President and Chancellor.

D.3. Appointment and Tenure Policy for the Faculty

The ideal attributes of any departmental staff, taken as a group, are creativity, professional competence and leadership, ability and desire to teach, and willingness to cooperate with other departments in promoting the work and welfare of the Institute as a whole. Thus, within each department, there are recognized opportunities for different types of individual contribution to these several ends. It is the duty of the administration to ensure, within any department, not only a proper balance among these activities but also the maintenance of each at the highest level, together with suitable recognition of individual achievement and service.

Each appointment or reappointment to the faculty should be based unequivocally on the reasonable belief that the appointee is the best candidate available under the terms of the appointment. It is also essential that each promotion to a higher rank be based on an appraisal of the individual's qualifications that is sufficiently broad and objective to ensure the preservation of those standards of professional and academic attainment by which the rank is characterized both within M.I.T. and at other institutions of the first quality.

A professorial appointment, including a tenure appointment, normally obligates a faculty member to render full-time service to the Institute. In those special instances where full-time service is not in the best interests of both parties, an appointment may be made within a specified part-time obligation. The specified obligation of the individual faculty member is inherent in the appointment, and any change thereto must be approved through the academic appointment process. Appointments to the Faculty are made without prejudice with respect to current or potential child-rearing responsibilities which might require periods of part-time service or leaves of absence.

21 This revised policy will be published in *Policies and Procedures*, section 2.15.2, p. 35.

22 Certain sponsored research staff appointments that are immediate postdoctoral appointments requiring highly specialized knowledge and limited to two years or less are reviewed on an individual basis by the appropriate dean or vice president, prior to offer of appointment and by the appropriate Subgroup quarterly. These positions are subject to *Tech Talk* posting requirements. (See Section IV.B, item 3(g).)

23 This procedure does not apply to employees who are represented by a labor union. Collective bargaining agreements applying to these employees include grievance and arbitration procedures and equal opportunity provisions.

D.4. Maternity and Parental Leave Policy

The Institute's policy is to treat pregnancy and childbirth as any other temporary disability under its leave and benefits program. It is our policy also to afford opportunity for parental leave without pay both to male and female employees. These two policies described below apply regardless of marital status.

A. Maternity Leave

Disability arising from pregnancy and childbirth, miscarriage, or abortion will be treated, for an individual who has had one or more years of continuous service, as a temporary disability under M.I.T. sick leave policy. However,

1. A person who chooses not to work after the period of disability surrounding the birth of a child will have authorized leave without pay for the time remaining in the total period granted under the policy of Parental Leave, Section 3.24.2 of *Policies and Procedures*.

2. Sick leave salary payments for disabilities arising from childbirth are conditional on return to work. The Institute will take measures to collect the amount should the individual choose not to return to work.

B. Parental Leave Without Pay

Regular full-time or part-time (50% or more of normal work week) persons (male or female) who have completed their probationary periods of employment are eligible for leaves of absence at the time of the birth of each of their children, subject to the conditions below:

1. **Regular Leave:** A leave without pay of up to eight weeks will be granted provided the individual gives reasonable notice (normally four weeks) and indicates intention to return to work. The individual's job, or a job of equivalent classification and pay, will be restored by the department or laboratory at the completion of the leave unless the position has been eliminated by a reduction in the work force or an operational change under circumstances applying equally to other similar jobs in the department. If the former position has been so affected, efforts will be made to find other suitable employment, first in the department concerned and, secondly, within the Institute as a whole.

2. All benefits may be kept in force, at the option of the individual, provided arrangement is made in advance for the normal benefit deductions. Health insurance benefits must be kept in force during this period or specifically waived in writing.

D.5. Child Care Policy

The M.I.T. Child Care Office serves as the focus for issues related to child care. Its services are available to all members of the M.I.T. community, especially those who need assistance in locating suitable care for their children.

The Child Care Office coordinates and supports the development of all on-campus child care programs. Currently, two programs are operating on campus which serve children from four weeks to five years old. Care for infants and toddlers, full or part-time, is arranged in family day care homes licensed by the State Office for Children; for pre-school aged children, two years and nine months to five years old, both full day and part day programs are available under the auspices of Technology Children's Center, Inc. Plans are underway for an extended-day kindergarten program.

Special problems such as child care during emergency school closings and care during special events may be brought to the Child Care Office where every attempt will be made to effect a reasonable solution.

The Child Care Office maintains information about private and public programs available in other parts of Cambridge and surrounding communities. The Office also has a library of publications on children and their development. All materials are made available to parents upon request.

D.6. Benefits

In order to increase the opportunities for part-time employment at the Institute, especially to accommodate persons who must combine employment with child-rearing responsibilities, the Institute offers its benefit programs on a prorated basis to those persons who work at least 50% time for more than three months duration.

D.7. Policy on Employment of Members of the Same Family

M.I.T. encourages its employees to recommend to the Office of Personnel Services employment applications of relatives or friends who are interested in working at the Institute. In considering any applicants for employment, the Institute's policy is to base appointments, or offers of employment, and promotions on qualifications and performance. In keeping with this policy, members of the same family, including husband and wife, are eligible for employment in positions within any job category. Where members of the same family work for the same supervisor, the arrangement shall be approved in advance by the Chancellor. However, a supervisor-employee relationship between family members shall not prevail at the time of employment or thereafter, nor shall one member of the family relationship assume the other role of advocate or judge with respect to conditions of employment, salary, or promotion.

It should be clear that the reasons underlying such restrictions on employment, defined as applying to members of the same family, should apply with equal validity to those whose living arrangements approximate family relationships. These principles similarly apply if a family or living relationship exists between a faculty or academic staff member and a student where there exists the role of advocate or judge.

While general responsibility for assuring adherence to these policies must rest with those responsible for appointments and assignments and principally academic and administrative department heads, laboratory and center directors, a particular responsibility for sensitivity to the potential conflicts falls on those whose family or personal relationships may give rise to them.

D.8. Termination of Employees for Lack of Work or Funds

The following are applicable portions of the layoff policy²⁴ relevant to affirmative action (for the full policy statement, see *Policies and Procedures*, section 3.25, p.94). They set forth the decision criteria which apply whenever it becomes necessary to terminate one or more employees because of reduced funding, changes in the nature and scope of the work or for other operational reasons.

This policy covers those factors which influence the determination of employees to be laid off, as well as the content of the letter of notification, the length of the notice period, method of funding the notice period to a long-service employee and the persons who should be consulted in the process.

A. Decision Criteria

In making the decision on a layoff, where the choice is not clearly dictated by the work to be eliminated and range of skills of those engaged in it, department heads should carefully consider three important factors: individual performance, the length of employee service, and the status and goals of affirmative action in the department. No one of these considerations automatically outweighs the other. They must each be judged and balanced in such a way as to be as fair as possible to the individuals concerned while serving as well the Institute's need for an effective staff.

While seniority is not an overriding factor in personnel administration at M.I.T., length of service at the Institute must be an important consideration in determining individuals to be laid off. Long service testifies to loyalty and commitment and implies a record of responsible performance. At the same time, outstanding work also must be recognized in layoff decisions. Superior performance on the part of an individual with less service may lead, on balance, to a decision to retain the more junior person. Similarly, our commitment to the employment and advancement of women and members of minority groups must play a part in the layoff decision. Underrepresentation of minorities and women within the department should be an influential factor in the decision.

The final choice in each instance will derive from the interplay of these criteria and each should be considered and weighed. It is important to remember that layoff notices carry the presumption that the individuals receiving them are valuable contributing members of the community who must be released only because insufficient work and/or funds exist to continue their employment. As valuable employees, they will be given preference in placement and re-employment. It should be clear that layoff is not a method of terminating employees who have not performed in an acceptable manner. The regular Institute policy for warning and discharge for cause should be followed in such cases.

B. Consultation with Personnel Officers

In all these actions, department heads are urged to consult with their personnel officer for assistance in assuring that all Institute policies and procedures pertaining to layoff are fully understood and applied.

In the case where a department head proposes to issue a layoff notice to a minority employee, to a woman with exempt or staff status, or to an individual with ten or more years of continuous service, the department head should forward to the personnel officer a statement describing the situation and giving the basis for the decision to lay off this particular person. After reviewing the case, the personnel officer may urge the department head to discuss the action with the appropriate dean or vice president or the Provost before making a final decision.

Appendix E: Dissemination of Affirmative Action Plan

The preface to the Institute Affirmative Action Plan outlines the major dissemination of the Plan through publication in *Tech Talk*. Additionally, a reference copy of the Plan is available in each Institute office. Offices with special responsibilities regarding the Plan (i.e., Vice President, Administration and Personnel, Office of Women and Work, Office of Minority Affairs, Information Office) will have copies available for general distribution upon request.

Each department at the Institute has listed in its own departmental plan the method of dissemination to be used in informing persons in the department about the plan. Each department, center and laboratory plan at the Institute is reviewed by members of the Institute administration, including the procedures for disseminating the Plan to all employees. These major review meetings are followed by periodic reviews through the efforts of the E.E.O. Officers and the Special Assistants for Women and Work and for Minority Affairs.

The intent and substance of the Plan have been discussed extensively with members of the Academic, Faculty and Administrative Councils and they are periodic agenda items for these groups.

The Manager of Labor Relations in the Office of Personnel Relations and the Assistant E.E.O. Officer will continue to meet with union officials to inform them of Institute policies with regard to affirmative action. The collective bargaining agreements with the major unions representing employees at M.I.T. expire biennially on July 1. Negotiations for new agreements commence every spring and the issue of a non-discrimination clause in the agreement and review for any possible discriminatory aspects will be raised at that time.

All documents relating to Institute policy and procedure will include, where appropriate, a statement of affirmative action policy taken from the Institute's Plan. This statement of policy has already been incorporated in the Guide to Administrative Offices, the Institute Policies and Procedures Manual and will be included in the Supervisors Manual when revised.

All recruitment sources receive a *Positions Available* listing which includes all non-academic openings at the Institute. The introduction to this list is reproduced below and indicates the Institute's commitment to affirmative action. The majority of the recruitment sources specialize in the placement of women and minority candidates. (The total list of recruitment sources is available for review at the Office of Personnel Services.) These sources are continually reviewed for commitment and degree of success in our affirmative action efforts.

Enclosed is the new, complete listing of all non-academic employment opportunities currently available on the M.I.T. campus. You will note an inclusion of many high level administrative and research staff

positions, as well as the clerical and support positions ordinarily listed. Similar listings will be sent to you weekly. We ask that you share them with your colleagues and branch offices.

This list has been circulated throughout the M.I.T. community for at least a week before it reaches you. This is in keeping with our Institute policy for making all career development opportunities available first to our own employees. Consequently, when you have interested candidates to refer to positions listed, please call the Office of Personnel Services at 253-4251 to verify the vacancies and to arrange appointments for your applicants.

Concurrent with our responsibilities to our present employees is our deep and serious commitment to affirmative action in the employment of minorities and women. We look to the support of you and your services to help us achieve our goals.

Section VI of the Affirmative Action Plan describes the policy for construction contracts, vending and procurement. In addition, a letter has been sent to our entire list of active suppliers (approximately 5000) advising them of our affirmative action program and stating the action required of them as M.I.T. suppliers. The Purchasing Office will keep on file, and have available for review, a list of current suppliers and their statement of understanding of our commitment to affirmative action.

²⁴ The layoff provisions of collective bargaining agreement will take precedence whenever they are in conflict with these guidelines.

Appendix F: Summary of Responsibility for Affirmative Action Plan Implementation

The President and the Chancellor have delegated the responsibility for monitoring the progress of M.I.T.'s affirmative action program to the persons listed in the preface of the Plan. Additionally, it is the common responsibility of all members of the Institute community to implement the affirmative action program, particularly in the employment area. The following narrative elaborates on the levels of authority at the Institute, shown in the organization chart in Appendix B, as they relate to employment decisions.

F.1. Non-Academic Employment

General Authority

- Academic or Administrative Department Heads, Laboratory or Center Directors**
Hiring authority for non-academic positions rests with the heads of the 80 some academic and administrative departments, laboratories and centers. This authority includes the hiring of administrative, exempt, sponsored research, secretarial/clerical, hourly and union employees.
- Office of Personnel Services**
The Office of Personnel Services has authority for initial interviewing, screening and referral of candidates to Institute supervisors for all categories of employment mentioned above. Personnel Officers refer applicants for positions available and will process documentation on employment *only* if requirements of law and policies of the Institute have been met.
- Dean or Vice President in Charge of Area**
The concurrence of the Dean or Vice President having the responsibility for the specific unit doing the hiring is required for all "additional" appointments. This concurrence is not required for routine replacement resulting from turnover.

Special Authority

- Staff Appointment Subgroup of the Academic Council**
Approval for the administrative and sponsored research staff categories of non-academic employment rests with this subgroup if a full-time appointment of a year or more is to be made. Such approval is based upon a review of the department's documentation of serious search for women and minority candidates to fill the position. (See Appendix D-1.)
- Executive Committee of the Corporation**
The Executive Committee of the M.I.T. Corporation has certain responsibilities regarding appointments of sponsored research staff and administrative staff appointments. This group has final approval on all staff employment of persons whose salaries exceed stipulated salary levels.

F.2. Faculty Employment Authority

General Authority

- Academic Department Heads**
The effective authority for appointing faculty members (professors, associate or assistant professors) rests with the department head in each department, often in consultation with other members of the faculty in the department, and with the concurrence of the Dean of the School. Since the procedures differ by department, the details are left to the individual departmental Affirmative Action Plan. The appointment of Professors and Associate Professors further requires the approval of the Academic Appointments Subgroup of the Academic Council.

Special Authority

- Academic Appointments Subgroup of the Academic Council**
As a special procedure, concurrence of this group is required regarding the adequacy of the search for minority or women candidates prior to an offer of a full-time salaried appointment of one academic year or more to any of the three ranks of Professor (including Visiting) or to Instructor. (See Appendix D-1.)
- Executive Committee of the Corporation**
The Executive Committee of the Corporation has certain responsibilities regarding appointments of faculty. This group has final approval on the appointment of all ranks of faculty whose salaries exceed a stipulated amount.

F.3. Academic Appointments (other than faculty)

General Authority

Academic Department Heads, Laboratory and Center Directors
Appointment authority for academic appointments such as Research Associate, Postdoctoral Fellow, Technical Assistant, etc., rests with the head of the academic department, laboratory or center in which the appointment is being made. Because of procedural differences in the appointment process, the details must be left to individual departmental plans. These appointments require the concurrence, as appropriate, of the Provost, the Vice President for Research or the Academic Dean of the School.

Special Authority

- Staff Appointments Subgroup of the Academic Council**
Approval for certain categories of Academic appointments (other than faculty) rests with this group in terms of affirmative action objectives. The "serious search" process outlined in Appendix D-1 includes such academic staff categories as Administrative Officer, Administrative Assistant, Librarian and Medical Staff member.
- President/Provost and/or Vice President for Research**
The appointment of Senior Research Associates and Senior Research Scientists requires the concurrence of the President. In the case of appointments of other academic staff in the various research laboratories and centers, the concurrence of the appropriate senior officer, either the Provost or the Vice President for Research, is required.

F.4. Accountability for Affirmative Action Policy Implementation in Employment

A process of review for possible violations of the Institute policy of non-discrimination is described in Appendix D.2. Additionally, Section IV.B. specifies a procedure to be used for any failure to adhere to equal employment opportunity policies and procedures in non-academic hiring, specifically, "if the personnel interviewer suspects non-compliance with the Affirmative Action Plan, the matter will be reviewed with the Director of Personnel Services who will resolve the matter with the department head before final action is taken."

M.I.T. has no formalized "disciplinary procedures" for failure to adhere to any Institute policy or procedure. Supervisors are expected to adhere to all policies, however, and when violated, appropriate action is taken through normal channels of supervision. Input on problems of supervision come from many sources: employees, colleagues, Office of Personnel Services, and others. Action on improper supervision or failure to adhere to equal employment opportunity policies rests with the department head and/or the responsible senior officer.

Appendix G: Statistical summary of M.I.T. representation of minorities and women as of July, 1977 and goals projected for July, 1978 and for July, 1979.

Summary for the Institute

INSTITUTE EMPLOYMENT ACTUALS FOR JULY 1977

	Tot	F		M		Black Am.				Native Am.				Orient Am.				Span. Am.				Tot. Minority				Tot. Other			
		F	%	M	%	F	M	Tot	%	F	M	Tot	%	F	M	Tot	%	F	M	Tot	%	F	M	Tot	%	F	M	Tot	%
Faculty	926	73	8	853	92	1	13	14	2	-	-	-	-	3	35	38	4	1	5	6	1	5	53	58	6	68	800	868	94
Professor	521	11	2	510	98	1	3	4	1	-	-	-	-	-	22	22	4	-	3	3	1	1	28	29	1	10	482	492	94
Assoc. Professor	220	30	14	190	86	-	5	5	2	-	-	-	-	1	7	8	4	-	-	-	-	1	12	13	6	29	178	207	94
Asst. Professor	185	32	17	153	83	-	5	5	3	-	-	-	-	2	6	8	4	1	2	3	2	3	13	16	9	29	140	169	91
Visiting Faculty	35	6	17	29	83	-	-	-	-	-	1	1	2	-	1	1	2	-	-	-	-	-	2	2	6	6	27	33	94
Visiting Professor	19	-	-	19	100	-	-	-	-	-	1	1	5	-	-	-	-	-	-	-	-	-	1	1	5	-	18	18	95
Visiting Assoc. Prof.	14	6	43	8	57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	8	14	100	
Visiting Asst. Prof.	2	-	-	2	100	-	-	-	-	-	-	-	-	-	1	1	50	-	-	-	-	-	1	1	50	-	1	50	
Other Acad. Staff	720	188	26	532	74	4	3	7	1	-	-	-	-	10	28	38	5	3	4	7	1	17	35	52	7	171	497	668	93
Acad/Non-Acad. Admin Staff	540	176	33	364	67	6	15	21	5	-	-	-	-	5	2	7	1	1	4	5	1	12	21	33	6	164	343	507	94
Sponsored Research Staff	1187	148	12	1039	88	4	14	18	2	-	-	-	-	14	37	51	4	4	7	11	1	22	63	85	7	126	976	1102	93
Exempt	625	167	27	458	73	5	16	21	3	-	-	-	-	3	4	7	1	-	6	6	1	8	21	29	5	159	437	596	95
Office/Clerical	1593	1360	85	233	15	94	22	116	7	1	-	1	-	21	1	22	1	10	4	14	1	126	27	153	10	1234	206	1440	90
Hourly	1518	149	10	1369	90	32	141	173	11	-	1	1	-	3	8	11	1	6	47	53	3	41	197	238	16	108	1172	1280	84
INSTITUTE TOTAL	7144	2267	32	4877	68	146	224	370	5	1	3	4	-	59	116	175	2	25	77	102	1	231	419	650	9	2036	4458	6494	91

CAMPUS EMPLOYMENT GOALS FOR JULY 1979

	Tot	Black Am.				Native Am.				Orient Am.				Span. Am.				Tot. Minority				Tot. Other							
		F	%	M	%	F	M	Tot	%	F	M	Tot	%	F	M	Tot	%	F	M	Tot	%	F	M	Tot	%				
Faculty	989	98	10	891	90	2	23	25	3	-	-	-	-	3	35	38	4	1	7	8	1	6	65	71	7	92	826	918	93
Professor	541	14	3	527	97	1	4	5	1	-	-	-	-	-	24	24	4	-	2	2	-	1	30	31	6	13	497	510	94
Assoc. Professor	225	37	16	188	84	-	4	4	2	-	-	-	-	1	7	8	4	1	-	1	-	2	11	13	6	35	177	212	94
Asst. Professor	223	47	21	176	79	1	15	16	7	-	-	-	-	2	4	6	3	-	5	5	2	3	24	27	12	44	152	196	88
Visiting Faculty	26	6	23	20	77	-	3	3	12	-	1	1	3	-	-	-	-	-	-	-	-	-	4	4	15	6	16	22	85
Visiting Professor	17	3	18	14	82	-	3	3	18	-	1	1	6	-	-	-	-	-	-	-	-	-	4	4	24	3	10	13	76
Visiting Assoc. Prof.	7	3	43	4	57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	4	7	100
Visiting Asst. Prof.	2	-	-	2	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	100
Other Acad. Staff	869	242	28	627	72	9	18	27	3	-	-	-	-	13	37	50	6	5	7	12	1	27	62	89	10	215	565	780	90
Acad/Non Acad Admin Staff	523	189	36	334	64	8	21	29	6	-	-	-	-	4	8	12	2	1	5	6	1	13	34	47	9	176	300	476	91
Sponsored Research Staff	574	108	19	466	81	6	24	30	5	-	1	1	-	4	18	22	4	2	11	13	2	12	54	66	11	96	412	508	89
Exempt	294	124	42	170	58	7	11	18	6	1	-	1	-	2	2	4	1	-	1	1	-	10	14	24	8	114	156	270	92
Office/Clerical	1377	1202	87	175	13	137	16	153	11	1	-	1	-	23	-	23	2	17	4	21	2	178	20	198	14	1024	155	1179	86
Hourly	957	127	13	830	87	27	118	145	15	-	1	1	-	3	3	6	1	7	35	42	4	37	157	194	20	90	673	763	80
TOTAL	5609	2096	37	3513	63	196	235	431	8	2	3	5	-	52	97	149	3	33	70	103	2	283	405	688	12	1813	3108	4921	88

Summary for Lincoln Laboratory

LINCOLN LABORATORY EMPLOYMENT ACTUALS FOR JULY 1977

	Tot	Black Am.				Native Am.				Orient Am.				Span. Am.				Tot. Minority				Tot. Other							
		F	%	M	%	F	M	Tot	%	F	M	Tot	%	F	M	Tot	%	F	M	Tot	%	F	M	Tot	%				
Administrative Staff	50	10	20	40	80	1	1	2	4	-	-	-	-	2	-	2	4	-	-	-	-	3	1	4	8	7	39	46	92
Research Staff	679	35	5	644	95	-	5	5	1	-	-	-	-	2	25	27	4	-	5	5	1	2	35	37	5	33	609	642	95
Exempt	342	52	15	290	85	1	8	9	3	-	-	-	-	2	2	4	1	-	-	-	-	3	10	13	4	49	280	329	96
Office/Clerical	271	213	79	58	21	11	6	17	6	-	-	-	-	1	-	1	-	2	-	2	1	14	6	20	7	199	52	251	93
Hourly	558	20	4	538	96	5	30	35	6	-	-	-	-	-	5	5	1	-	12	12	2	5	47	52	9	15	491	506	91
LINCOLN LAB TOTAL	1900	330	17	1570	83	18	50	68	4	-	-	-	-	7	32	39	2	2	17	19	1	27	99	126	7	303	1471	1774	93

LINCOLN LABORATORY EMPLOYMENT GOALS FOR JULY 1978

	Tot	Black Am.				Native Am.				Orient Am.				Span. Am.				Tot. Minority				Tot. Other							
		F	%	M	%	F	M	Tot	%	F	M	Tot	%	F	M	Tot	%	F	M	Tot	%	F	M	Tot	%				
Administrative Staff	50	13	26	37	74	1	2	3	6	-	-	-	-	2	-	2	4	-	-	-	-	3	2	5	10	10	35	45	90
Research Staff	680	43	6	637	94	1	11	12	2	-	1	1	-	2	23	25	4	0	8	8	1	3	43	46	7	40	59	634	93
Exempt	329	48	15	281	85	2	10	12	4	-	-	-	-	2	3	5	2	0	2	2	-	4	15	19	6	44	266	310	94
Office/Clerical	254	204	80	50	20	17	5	22	9	-	-	-	-	2	0	2	-	5	0	5	2	24	5	29	11	180	45	225	89
Hourly	550	21	5	529	95	6	45	51	9	-	-	-	-	0	5	5	1	2	11	13	2	8	61	69	12	13	468	481	88
LINCOLN LAB TOTAL	1863	329	18	1534	82	27	73	100	5	-	1	1	-	8	31	39	2	7	21	28	2	42	126	168	9	287	1408	1695	91

LINCOLN LABORATORY EMPLOYMENT GOALS FOR JULY 1979

	Tot	Black Am.				Native Am.				Orient Am.				Span. Am.				Tot. Minority				Tot. Other							
		F	%	M	%	F	M	Tot	%	F	M	Tot	%	F	M	Tot	%	F	M	Tot	%	F	M	Tot	%				
Administrative Staff	50	14	28	36	72	1	2	3	6	-	-	-	-	2	-	2	4	-	-	-	-	3	2	5	10	11	34	45	90
Research Staff	680	45	7	635	93	1	11	12	2	-	2	2	-	2	23	25	4	-	8	8	1	3	44	47	7	42	591	633	93
Exempt	329	49	15	280	85	2	10	12	4	-	-	-	-	2	3	5	2	1	3	4	1	5	16	21	6	44	264	308	94
Office/Clerical	254	204	80	50	20	18	5	23	9	-	-	-	-	2	-	2	1	6	-	6	2	26	5	31	12	178	45	223	88
Hourly	598	23	4	575	96	6	45	51	9	-	-	-	-	-	6	6	1	2	12	14	2	8	63	71	12	15	512	527	88
LINCOLN LAB TOTAL	1911	335	18	1576	82	28	73	101	5	-	2	2	-	8	32	40	2	9	23	32	2	45	130	175	9	290	1446	1736	91

Symphony to Play in New York

The MIT Symphony Orchestra, conducted by Professor David Epstein, will perform at Lincoln Center's Avery Fisher Hall in New York City Wednesday, April 12, at 8:30pm.

The concert will mark the third appearance of the Orchestra in New York City since 1969. Two previous performances were in Carnegie Hall.

The concert will include the New York premiere of Kurt Weill's "Suite from the Opera *Der Silbersee*," Berlioz's *Harold in Italy*, with Marcus Thompson as viola soloist, and Stravinsky's "Scherzo à la Russe" will also be on the program.

The Orchestra's appearance at Lincoln Center is jointly sponsored by the MIT Alumni Center and the Council for the Arts at MIT. The noted architect I.M. Pei, an MIT alumnus of the Class of 1940, and a member of the Council for the Arts at MIT, is chairman of the concert committee.

The MIT Symphony Orchestra, some 95 members strong, is a

dynamic part of the music program at MIT. Founded in 1884, its members are drawn from the MIT and Wellesley College communities. MIT musicians represent all fields of engineering, biology, chemistry, management, physics, economics and psychology as well as humanities.

The Orchestra presents a full season of concerts, including a series at MIT's Kresge Auditorium and a spring tour each year. In a nationwide tour in 1973, the Symphony played to capacity audiences in major halls in Philadelphia, Chicago, Dallas, San Francisco and Los Angeles. The Symphony has also played at the Kennedy Center in Washington, D.C., in addition to the two previous concerts at Carnegie Hall in New York, about one of which a New York Times critic wrote:

"Shades of Leonardo! There is new Renaissance in the making.... It was a concert that would have been a credit to a professional orchestra."

The MIT Symphony Orchestra

has recently begun a series of recordings on the Vox/Turnabout label. Three records, which have been received with critical praise, have been issued so far.

Conductor David Epstein, professor of music at MIT, is a composer and critic as well as teacher and conductor. He received the AB degree from Antioch College and the MFA and PhD degrees from Princeton University, where he studied composition with Roger Sessions and theory with Milton Babbitt. He studied conducting with Max Rudolf and Izler Solomon and worked as a conducting fellow under George Szell of the Cleveland Orchestra. Dr. Epstein has directed the MIT Symphony Orchestra for the last 13 years; he has also been guest conductor with several major orchestras in the US and abroad.

Marcus Thompson, associate professor of music at MIT, studied viola with Walter Trampler at the Juilliard School of Music, where he received a doctorate in music. He made his New York solo debut in Carnegie Hall in 1968 and has since appeared with the National Symphony Orchestra, the Symphony of the New World, the St. Louis Symphony and the Boston Pops. He has performed with the Juilliard and Amadeus String Quartets and with a number of chamber groups in the Boston area.

Stravinsky's "Scherzo à la Russe" was composed in the early 1940s at the request of Paul Whiteman. Stravinsky chose to base the piece on music of Russian country fairs and festivals, as he had his earlier ballet, *Petroushka*. Later he reorchestrated the work for large orchestra, exhibiting the brilliance, wit, and clear, precise control of sound that marks all of his work.

Weill wrote *Der Silbersee* shortly after writing the *Threepenny Opera* and *The Rise and Fall of the State of Mahagony*, but it never achieved their popularity. Apart from a small number of performances in Europe, it has remained largely unrecognized, despite the fact that its music has much of the same acerbic quality. Weill adapted the opera into an orchestral suite in 1947 with the assistance of his friend and colleague Karel Salomon. The MIT Symphony Orchestra presented the American premiere of the "Suite from *Der Silbersee*" at its winter concert last December at MIT.

In *Harold in Italy*, a four-movement symphonic poem inspired by Byron's *Childe Harold*, Berlioz recalls some of his own early experiences during the time he resided in Rome as a winner of the French Prix de Rome. The character of Harold is represented in this work by the viola solo. An early work of Berlioz, the piece exhibits his dramatic flair, unusual sense of compositional organization and brilliant capacity for orchestration.

Steinberg to Give Music Lecture

Michael Steinberg, Director of Publications for the Boston Symphony Orchestra, will give a lecture entitled "The Music Hater: E.T.A. Hoffmann as Music Critic" on Monday, April 10, at 3:15 in Room 10-250. Presented through the I. Austin Kelly fund by the MIT Music Section, the lecture will be free and open to all. Refreshments will be served.

E.T.A. Hoffmann (1776-1822) is best known as a writer of fiction (*Tales of Hoffmann*), but he was also a composer and therefore his writings on music are of special interest.

Michael Steinberg, born in Germany, educated there, in England, and in the United States, was trained as a musicologist at Princeton. A teacher and writer, he has been on the faculty of many universities and music schools, locally at Wellesley College and the New England Conservatory of Music, where he was awarded an honorary doctorate in 1969.



From left: John Thayer, Ron Lyons, Curtis Fennel (top), Mike Davis and Richard Newirth rehearse "The Oldest Established Permanent Floating Crap Game in New York" for the Musical Theatre Guild's production of *Guys and Dolls*.

Musical Theatre Guild To Present *Guys and Dolls*

Guys and Dolls, Frank Loesser's musical mixture of New York City's gamblers and missionaries, will be presented by the Musical Theatre Guild at Kresge Auditorium beginning Friday, April 7, at 8pm.

Performances will also be held Saturday, April 8, and Thursday-Saturday, April 13-15, with a matinee at 4pm on Sunday, April 9. Tickets at \$2.50 (\$2.00 Sunday and Thursday) are on sale in Lobby 10. For information or reservations, call 3-6294 or dl5-9155.

The plot revolves around two romances. One is that of Nathan Detroit, the proprietor of "the oldest established permanent floating crap game in New York," and his fiancée of 14 years, the dancer Miss Adelaide, whose despair of ever marrying Nathan has led to severe bronchial complications immortalized in the plaintive song, "A Person Can Develop a Cold." The second, a new involvement between Sky Masterson, big time gambler, and Sarah Brown, missionary at the Save-A-Soul Mission in Times Square, results from Nathan betting Sky that he can't

get Sarah to accompany him to (pre-Fidel) Havana. Sky persuades the straight-laced Sarah to go with him by promising to deliver 12 bona-fide sinners for her failing mission.

Songs from *Guys and Dolls* include "Fugue for Tinhorns" ("I've got the horse right here"), "Luck Be a Lady Tonight," "Sit Down, You're Rockin' the Boat," and "I've Never Been in Love Before."

Guys and Dolls is produced by John Q. Peers ('72) and directed by Claude A. Boyd, choreographer of the Musical Theatre Guild's production of *Brigadoon*. Music Director is Howard Boles ('78).

The cast is: Sky Masterson, David Cohen, Emerson College; Sarah Brown, Rosalie Grant; Nathan Detroit, Curtis H. Fennel, a senior in earth and planetary sciences; Miss Adelaide, Deirdre Alexander; Nicely-Nicely Johnson, Jonathan Mark Goldblith; Arvide Abernathy, Mitchell Weitz, a senior in chemistry; Male dance captain, Ron Lyons, a junior in mechanical engineering; Female dance captain, Joan Solomon, a sophomore in civil engineering.

Community Invited to View Proposed Bldg. 10 Art Work

The Committee on the Visual Arts has proposed that a major environmental "kitework" by British artist Richard Smith, whose recent work is on view in Hayden Gallery through April 19, be commissioned for the lobby of Building 10 in honor of the new Alumni Association offices located in an adjacent space.

A one-quarter inch scale model of the piece will be displayed in Hayden Gallery for the duration of the exhibition. Gallery hours are 10-4 Sunday through Friday. On April 6, 7, 10 and 11 from 12 to 1pm, Committee on the Visual Arts members will be available in Lobby 10 to answer questions and elicit comments.

The idea for the proposed commission was generated when Smith visited MIT last spring. His ceiling pieces, festive in spirit and formally dramatic and colorful, seemed appropriate for the heavily-trafficked thoroughfare. As the model suggests, Smith sought to enliven and unify the lobby and corridor areas by orienting the piece toward Killian court rather than underlining the east-west axis of the site. This placement encourages the viewer to shift from his visual path in order to fully encounter the piece. The configuration of the work also echoes the Roman numeral X, a fitting and conspicuous emblem for Lobby 10.

Smith was asked to present his design to the Committee. Members of the administration and representatives of the Alumni Association also considered the model. The work would be acquired for the MIT Permanent Collection with funds allocated through the Institute's art purchase policy as it applies to the recently completed Alumni Association office complex. Under this stipulation, one per cent of funds raised for new or renovated facilities at MIT is set aside for the purchase of artwork.

Smith is already represented in the MIT Permanent Collection with a shaped canvas *Revolva I* (1966) now sited in the Bush Building Lobby and three graphic works located in the Norris Room of the Dreyfus Building. The retrospective survey of Smith's manipulations and alterations of conventional canvas stretchers, his so-called "kite" paintings, currently on view in Hayden Gallery, provides the community with a unique opportunity to become familiar with the phase of his work that relates to the proposed commission.

Comments may be directed to the Committee on the Visual Arts office, Room 7-145; phone: 253-4400.

Javan to Hold Chair

(Continued from page 1)

several active international fields of research. These include high resolution nonlinear laser spectroscopy, laser studies of molecular dynamics and relaxation, and the extension of microwave detection and frequency measurement technology into the infrared and optical regions.

Dr. Javan has made major contributions to the field of high-energy lasers and other areas of industrial laser applications. He holds numerous basic patents and is the author of hundreds of papers. Dr. Javan has been associated with government and industry in developing a variety of technological innovations in the laser field.

For his work on gaseous lasers, Professor Javan was awarded the Stuart Ballantine Medal of the Franklin Institute in 1962, and in 1966 he received the Fanny and John Hertz Foundation Award. He received the Frederic Ives Medal of the Optical Society of America in 1975 and was the recipient in 1977 of the Outstanding Patent Award of the Research and Development Council of New Jersey.

As a student, Ali Javan spent a year at the university in Teheran, where he was born, then came to the United States where he entered Columbia University as a special student in 1949. He received his PhD in physics in 1954 and remained at Columbia as an in-

structor until 1958, when he joined the technical staff of Bell Telephone Laboratories. It was at the Bell Laboratories that he developed the first gaseous laser. Dr. Javan came to MIT in 1961 as associate professor of physics and was appointed professor in 1964.

Professor Javan is a fellow of the National Academy of Sciences, the American Academy of Arts and Sciences, the American Physical Society, and the Optical Society of America. He was a Guggenheim Fellow in 1967 and is a member of



Professor Javan Sigma Xi.

He and his family reside in Cambridge, Mass.

Love: Theme and Variations Dramatic Reading Planned

A program of modern poetry and music entitled "Love: Theme and Variations" will be presented at 3pm on Sunday, April 9, in the Little Theatre at Kresge. The public is invited, free of charge.

The program, originally scheduled as a celebration for Valentine's Day, was postponed because of the February blizzard.

Dr. Ilona Ricardo, lecturer in French in the MIT Department of Humanities, who has extensive acting experience, will recite a selection of primarily modern English and American poetry by men and women poets, many of whom are still writing today. Pianist Richard Busch will play music in anticipation of or conclusion to a section of poetry. The music was selected to complement and amplify the emotions expressed in the poems. Dr. Ricardo and Mr. Busch presented a similar program last July at the Provincetown Art Association with such success that it was presented again in August.

"The poetry goes through a whole lifetime of love," Dr. Ricardo said, "and covers all the harmonies and disharmonies of love." The infatuation of first love, love's irony, fantasy and destruc-

tion, and the love of old age will all be treated.

Mr. Busch will play music by Beethoven, Brahms, Ravel, Bartok, Satie and a sonatine he wrote himself.

Dr. Ricardo has acted and given poetry readings since she was a child in Holland. She acquired considerable acting experience in England where she read stage plays and poetry for the BBC. In the US she has presented one-woman shows of her own work in New York City and Provincetown, Mass. She narrated *And Now Miguel*, a movie produced by the United States Information Agency, and has given poetry readings in collaboration with such artists as Spanish guitarist Julio Prol and modern dancer Lucas Hoving.

Composer and pianist Richard Busch, a year-round resident of Cape Cod, received a 1977 grant from the National Endowment for the Arts to complete a major choral work. He has given recitals in New York City and on Cape Cod, and the Indianapolis Symphony Orchestra has performed his compositions.

The entire program, including music and intermission, is expected to last for one-and-a-half hours.