

100 Named Educational Counselors

The band of some 1200 alumni and alumnae throughout the world who are known as the MIT Educational Council will be augmented this year with the addition of approximately 100 in the eastern Massachusetts area.

Educational counselors assist high schools and advise young men and women in the broad areas of education offered by MIT. They interview high school students as part of the application process and are available for follow-up when prospective students have questions about MIT.

The Educational Council was established in 1952 to expand MIT's recruiting efforts and to assure that potential students across the nation would have access to accurate information about the Institute.

"Because they have been students here themselves, educational counselors can impart a personal feeling of what MIT is like to prospective students," said Peter H. Richardson, director of admissions.

The expansion of the Educational Council into Eastern Massachusetts will provide the same kind of service for prospective students in the local area. Until now, applicants from the area have had their interviews with members of the admissions staff during campus visits and have not had the follow-up attention given applicants from other parts of the country.

Each of the local area educational counselors will have six to eight interviews during the year as well as some high school visiting. They will also attend college nights, local occasions when representatives of many colleges gather to talk with high school students and their families. The total time commitment for the new educational counselors is expected to be 10-15 hours per year.

M-m-m Good

Help for the hungry will be available Thursday, Nov. 10, when the Technology Wives Organization opens its annual fall bake sale at 9am in the Maclaurin Lobby (Building 10).

Cakes, brownies, cookies and other baked goods will be sold. There will also be fresh-made sandwiches for lunch.



The natural curves of Kresge Auditorium are emphasized by shadows cast by the window frames as the morning sun shines through.

—Photo by Calvin Campbell

D. Reid Weedon Cited For Conspicuous Service

D. Reid Weedon, Jr., of Winchester, Mass., a 1941 graduate of MIT, a member of the MIT Corporation, and a long-time volunteer worker on behalf of MIT and its Alumni Association, has been named 1977 recipient of MIT's Dalton Bowl in recognition of conspicuous and sustained service in the enhancing of MIT's financial independence.

Mr. Weedon, senior vice president of Arthur D. Little, Inc., Cambridge, was presented the award, an appropriately inscribed Paul Revere Bowl, last week at the annual meeting of MIT's Corporation Development Committee by Howard W. Johnson, chairman of the MIT Corporation.

The Dalton Bowl is named for the late Marshall B. Dalton, Class of 1915, one of the most active and respected alumni leaders in MIT history who, at the time of his death March 29, 1976, was the senior member of the MIT Corporation having served on the Institute's governing body for 39 years. Mr. Dalton, former board chairman of Arkwright-Boston Manufacturers Mutual Insurance Co., was head of

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Alumni Fund telethon was conducted Monday night (Nov. 7) by members of the MIT 50-year class of 1928 and their wives, who solicited pledges from their classmates throughout the country. Among those making the calls, from the left, were Mr. and Mrs. Willis F. Tibbets of Reading, James Donovan of Cambridge, and Mr. and Mrs. Walter J. Smith of Winchester. Mr. Donovan is the class president and reunion

gift chairman. Volunteers from 12 other reunion classes will be conducting similar telethons over the next two weeks, according to Joan G. Sclar, administrative assistant to the director of the Alumni Fund. The Class of 1928 volunteers made their calls from the Vannevar Bush Room, which is to become part of the new Alumni Center under construction in Building 10.

Solar House to Have 'No Moving Parts'

A completely "passive" solar-heated building—one that collects, stores and radiates heat without any special equipment, using only its own building materials—is being constructed on the MIT campus at the west end of Briggs Field at Vassar Street.

The 900-square-foot building, believed to be the first of its kind anywhere, will demonstrate passive solar space heating by using new materials developed in recent years at MIT and by various industrial concerns. The experimental, one-story structure is expected to supply more than 85 percent of its own heat.

The building is due to be ready for occupancy by January and will

be used as a classroom and studio by MIT's Department of Architecture. The project is being funded by the US Energy Research Development Administration and the MIT Godfrey L. Cabot Research in Solar Energy Fund. The approximate cost of the project is \$100,000.

The principal new building materials being utilized are:

1) A new type of window that loses one-fourth the amount of heat of ordinary double-pane glass, with only a 20 per cent reduction in transparency.

2) A thin ceiling tile, with a chemical core, that stores a day's heat at constant temperature (so that overheating doesn't occur)

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Commitment Needed In Minority Retention

A strong institutional commitment, deep faculty and staff involvement in social as well as in academic counselling and a broader funding base emerged as key points in the conclusions of a workshop on the retention of minority undergraduate students in engineering held at MIT last week.

Workshop participants concluded, in addition, that while the number of programs for minority students is increasing, the total amount of funds available for such programs is limited, leading to what was termed an "unstable situation."

The Oct. 30-Nov. 2 workshop, co-sponsored by MIT and the National Research Council's Committee on

Minorities in Engineering, brought about 125 university educators and staff members, students and people from industry and government who have been working on programs for minority students in engineering to the campus.

Dr. Wesley L. Harris, associate professor of aeronautics and astronautics and of ocean engineering, director of MIT's Office of Minority Education, was chairman of the workshop planning committee.

"The value of the workshop," Professor Harris said, "is contained in the definition of the minimum conditions necessary for the structuring, implementing and evaluating of academic support services

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OFFICE OF THE CHANCELLOR


November 7, 1977

TO: Members of the M.I.T. Community

At the middle of last week the United Way campaign at the Institute had received gifts and pledges totalling \$70,000, which is a little better than half way to our goal. In this respect we are ahead of the entire group of educational institutions in Greater Boston, which at the same date had reached 30% of their aggregate goal. The percentage of participation at the Institute is less encouraging, however.

The United Way is the principal source of funding for the human care agencies in the Massachusetts Bay area that serve more than a million people each year. Our friends and neighbors, indeed our families, are the beneficiaries. Every gift helps these agencies, which deserve our generous and wholehearted support.

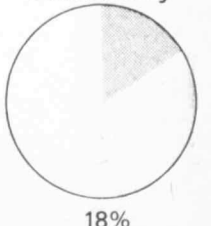
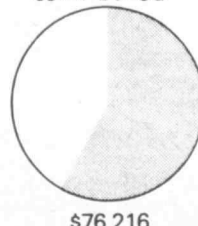
The M.I.T. campaign will continue until November 18. I hope that all who have not yet contributed this year will do so in the ten days that remain, either by pledge or by direct donation through the departmental solicitor.


Paul E. Gray
Chancellor

\$
contributed

M. I. T. UNITED WAY
\$135,000 GOAL

%
contributing



Local Architects, Planners To Participate in IAP

By MARY ENTERLINE
Editor, IAP Guide

Boston-area architects and urban planners can study architectural graphics, color theory, the design of theaters, statistics, housing policy in developing countries, and eighteen other topics by enrolling in the School of Architecture and Planning's Independent Activities Period offerings this January.

This will be the second IAP in a row in which the School will open its January seminars to practicing professionals as part of a continuing education program. Last IAP about 40 professionals registered for IAP offerings.

The idea for turning IAP activities into a continuing education program came from William Ronco of Lexington, Mass., acting assistant director of the Lab of Architecture and Planning and a PhD candidate in the Department of Urban Studies and Planning. Before coming to MIT, Mr. Ronco was director of continuing education for the Boston Architectural Society; so it was only natural that when he learned that the School did not have a continuing education program, he decided to try to have one instituted.

Rather than investing money and time in developing a special program and the bureaucracy necessary to support it, Mr. Ronco proposed that the School simply send out to alumni and other professionals a brochure advertising its IAP offerings as "January Seminars." To offset the cost of the mailing, registrants were charged a small fee, last year ranging from \$5 to \$50 depending on the course.

Besides being easy to institute, Mr. Ronco said that this program is different from the typical continuing education program consisting of special evening or weekend classes which "bring in professionals and put them in boxes, away from others, so that they

have no contact with students and faculty." By letting professionals attend IAP seminars, Mr. Ronco said they were able to become involved in the real MIT. At the same time on the basis of their practical experience in the fields of architecture and planning, they are able to make contributions to classroom discussions which benefit students and faculty.

Of course, in opening IAP offerings to professionals, Mr. Ronco emphasized that the School is not closing them to students and other members of the MIT community. "The policy is never to exclude students, but rather where possible to open activities also to practitioners," he said.

"It's more difficult to have a mixed class; it puts a greater strain on the person teaching the course, but the benefits are worth it," added Mr. Ronco, who himself taught a seminar last January on "Professional Practice and Human Interaction."

After the success of the program last IAP, the School of Architecture and Planning ventured further into the continuing education field and joined with the Harvard School of Design to offer extension courses during the summer and at night this semester. One of the School's offerings, a one-week seminar on nontraditional techniques in economic development, brought three people all the way from Alaska.

Mr. Ronco doesn't expect anyone to come that far for the IAP seminars which will only be publicized in the Boston area. However, he hopes this year to create a new option which would permit some professionals to attend as many offerings as they wish.

Anyone wanting information on the continuing education program should contact Nancy Doolan in the Lab of Architecture and Planning, Rm. 4-209, Ext. 3-1354.

D. Reid Weedon Cited for Service

(Continued from page 1)
MIT's Committee on Financing Development in the 1940s and early 1950s, served as first chairman of the MIT Development Committee when it was formed in 1951, and was senior member of the CDC at the time of his death.

First recipient of the award was Mr. Dalton himself in December, 1975, when the CDC at its annual meeting that year singled him out for special recognition in the form of a Revere Bowl suitably inscribed. Following his death a few months later, the bowl was established as a permanent annual award named in his honor and recognizing individu-

als whose service in support of the Institute's financial goals was both conspicuous and sustained over a period of many years.

The 1976 recipient honored at the CDC meeting a year ago was Cecil H. Green of Dallas, Tex., Life Member, Emeritus, of the MIT Corporation, a member of the Corporation since 1958, and one of MIT's principal benefactors over a long period of years. A 1923 graduate of the Institute, Mr. Green was co-founder of Geophysical Services, Inc., predecessor company to Texas Instruments, Inc. Mr. Green and his wife, Ida, have for many years taken an active interest in MIT and have



CONGRATULATIONS are extended to Dr. James R. Killian, Jr., (left) 1977 recipient of the Eugene McDermott Award of the Council for the Arts at MIT, by Luis A. Ferré, chairman of the Council. Mr. Ferré presented the award to Dr. Killian at the Council's annual meeting luncheon on November 2.

—Photoby Calvin Campbell

McDermott Arts Award Presented to J.R. Killian

The Eugene McDermott Award of the Council for the Arts at MIT, presented annually for "major contributions to the arts as a means of human fulfillment," was presented at the Council's sixth annual meeting luncheon on November 2 to Dr. James R. Killian, Jr., honorary chairman of the MIT Corporation.

Chairman of the Council Luis A. Ferré, in announcing the 1977 McDermott Award recipient, cited Dr. Killian as "someone who has given MIT a sense of the importance of art in life."

Ida Rubin, chairwoman of the Council's Award Committee, spoke of the accomplishments of Mr. McDermott and of Dr. Killian. Mr. McDermott, in whose memory the Award was established in 1974, was a geophysicist, a founder and former president of Texas Instruments, Inc., a Life Member of the

Corporation, and a benefactor to the Institute in education and the arts. Among Dr. Killian's many achievements, Mrs. Rubin cited his presidency of MIT (1949-59), his work as special assistant for science and technology to President Eisenhower (1957-59), and his service as chairman of the MIT Corporation (1959-71). On behalf of the arts, she mentioned his efforts to establish the School of Humanities and Social Science, his service as first chairman of the Visiting Committee on the Arts, and his efforts "to make the work of the Council a meaningful part of MIT."

Mrs. Rubin also read from a letter from Mrs. Margaret McDermott who wrote, "... how pleased and proud Gene would be to have another association with Jim—a person for whom he had such admiration and affection."

The Award citation, presented by Mrs. Ferré to Dr. Killian, read in part, "Jim Killian himself has received many honors for the many contributions of his many-faceted career. Now we specially honor his continuing contributions—in the words of the Institute's founding charter—to the 'advancement, development and practical application of science in connection with the arts...' No one has seen this connection more clearly than Jim Killian nor spoken more persuasively of an enlarged vision of education in which the sciences and the arts have much to say to one another."

In accepting the Award Dr. Killian paid tribute to the "civility, elegance and beauty" that Mr. and Mrs. McDermott have brought to MIT. He cited many examples of the burgeoning of creative ideas and of the arts at MIT, observing that "over the past one hundred years MIT has evolved a role for itself in the arts and humanities marked by imagination and leadership... We have every reason to emphasize that this great institute of technology considers art not simply as an embellishment but as an essential part of its task of educating men and women for the kind of society we are eager to achieve in this country."

Former recipients of the McDermott Award are Gyorgy Kepes, artist and founder of the MIT Center for Advanced Visual Studies (1974), Klaus Liepmann, musician and for many years director of music in the MIT Department of Humanities (1975), and Paul Tishman, noted New York builder, collector of African art and first chairman of the Council for the Arts at MIT (1976).

Draper to Speak

Dr. Charles Stark Draper, Institute Professor Emeritus and president of the Draper Laboratory, will discuss "The Engineer" in the Cambridge Forum Series on great vocations, Wednesday, Nov 9, at 8pm at the First Parish in Cambridge, 3 Church Street. The program is open to the public free of charge.

No Paper

Tech Talk will not be published Wednesday, Nov. 23, because of the Thanksgiving holiday.

The Institute Calendar in next week's paper (November 16) will cover the period of November 16 through December 4.

Deadline for submitting listings for the Institute Calendar, Institute Notices and Classified Ads is Thursday noon, Nov. 10, because of the Veterans' Day holiday Friday, Nov. 11.



1977 DALTON BOWL RECIPIENT at MIT is D. Reid Weedon (right) of Winchester, Class of 1941, senior vice president of Arthur D. Little, Inc., Cambridge. Presenting the Bowl is Howard W. Johnson (left) chairman of the MIT Corporation. The award recognizes conspicuous and sustained service over many years in enhancing MIT's financial independence.

—Photoby Calvin Campbell

4 Appointed Assistant Professors

Four assistant professors have been appointed in three departments in the MIT School of Science, according to Robert A. Alberty, Dean of the School of Science.

The new assistant professors are Edward A. Boyle and Charles C. Eriksen, appointed for three years in the Department of Earth and Planetary Sciences; Robert S. Langer, Jr., for two years in the Department of Nutrition and Food Science; and Margaret H. Weiler, for three years in the Department of Physics.

Dr. Boyle is interested in changes in the chemical composition of seawater, rivers, and estuaries. A native of Aberdeen, Md., he is a member of the American Geophysical Union and Sigma Xi, and he was a NATO postdoctoral fellow at the University of Edinburgh from 1976-1977. He received the BA from the University of California at San Diego in 1971, and the PhD from the joint program in oceanography of MIT and the Woods Hole Oceanographic Institution.

Dr. Eriksen has done research on waves and currents in deep ocean. He was born in San Francisco, Ca., and he received the BA from Harvard College in 1972, and the PhD from the MIT/Woods Hole Joint program in 1977. His honors include membership in the American Geophysical Union and the American Meteorological Society. He was a postdoctoral investigator at Woods Hole from 1976-1977.

Dr. Langer, who will be a visiting assistant professor, has been doing research in inhibiting the growth of cancer tumors and new methods for administering drugs as a research associate at Children's Hospital Medical Center of the Harvard Medical School since 1974. He received the BS from Cornell University in 1970, and the ScD from MIT in 1974, both in chemical engineering. While a graduate student at MIT, he received the Karl Taylor Compton award for outstanding contributions to the MIT community. Dr. Langer is a member of the American Institute of Chemical Engineers, the American Chemical Society, Sigma Xi, and Tau Beta Pi. He was born in Albany, NY.

Dr. Weiler's research has dealt with semiconductor magneto-optics and nonlinear optics. She has been a staff member and research assistant at MIT's Francis Bitter National Magnet Laboratory since 1965. A member of Sigma Xi, Phi Beta Kappa, the American Physical Society, and the Optica Society of America, she received the AB from Radcliffe College in 1962, the MS from the University of Maine in 1964, and the PhD from MIT in 1977.

Savicki Named Course XVI AO

Donna R. Savicki, assistant to the director of the Innovation Center since January 1974, has been appointed administrative officer of the MIT Department of Aeronautics and Astronautics.

She succeeds John R. Martuccelli who resigned the post to head the School of Engineering's new Engineering Internship Program.

From September 1973 to January 1974 Mrs. Savicki was a research assistant in the School of Library Science at Simmons College where she received her MS. She also received the BA, summa cum laude, from the University of Massachusetts, Boston, where her major was Russian.

From September 1967 to June 1968 she studied German at Trinity College, Washington, DC, and was honored by the German Embassy for special accomplishment in the German language and literature.



...ence (Bergman)* — MIT Film Society. Fri, Nov 18, 7:30 & 9:30pm, 20. Donation \$1.25.

... — LSC Movie. Sat, Nov 19, 7 & 9:30pm, Rm 26-100. Admission 75¢ MIT or Wellesley ID.

... (Japan)** — International Students' Association Film Festival. Sun, 20, 2pm, Rm 9-150. Free.

... **Thing Happened on the Way to the Forum**** — LSC Movie. Nov 20, 6:30 & 9pm, Rm 26-100. Admission 75¢ w/MIT or Wellesley ID.

Music

... **Library Concert*** — Brady Millican, pianist. Wed Nov 9, 5:15pm. Concert will include works by Beethoven, Villa-Lobos, Debussy, and Mac-dowell.

... **Friday Noon Hour Concert*** — Catherine & Robert Strizich will present program of Baroque guitar & lute duets. Thurs, Nov 10, 12n, Chapel. Free.

... **Artist Series: American Brass Quintet*** — Sun, Nov 13, 8pm, 12n. Program will include works by Gabrieli, Lawes, Coperario, Carter, Nelhybel, Bach & Dahl. Free.

... **Hour Concert*** — Harpsichord Recital by Aline Parker. Thurs, Nov 12n, Chapel.

... **Brass Ensemble*** — Robert Pettipaw, conductor. Works by Gabrieli, Gabrieli, Byrd and others. Sat, Nov 19, 8pm, Kresge. Free.

Theater and Shows

... **Madison*** — MIT Musical Theatre Guild Play. Nov. 4, 5, 10, 11, 12, 8pm, 12n. Sat, Nov. 6, 4pm. Admission \$3.75, w/MIT ID \$2.50; Sun & Thurs \$3, w/MIT ID \$2. Info, x3-6294.

... **Evening of One-Act Plays*** — MIT Dramashop. Fri & Sat, Nov 18 & 19, 8pm, Kresge Little Theatre. Free.

Dance

... **MIT Dance Workshop*** — Classes taught by Beth Soll. **Modern Technique**, Wed, 6-7:30pm, W31-125; **Independent Student Work**, Wed, 7:30-9pm, W31-125. **Modern Technique**, Mon, 5:15-6:45pm, McCormick Dance Studio; **Improvisation/Composition**, Mon, 7-8:30pm, McCormick Dance Studio.

... **More Tango Workshop*** — MIT-Wellesley Ballroom Dance Club. Will review basic steps & go on to more advanced. Sun, Nov 13, 2:15-4pm, Sala. Donation 50¢.

... **MIT Folk Dance Club — International:** Sun, 7:30-11pm, Sala. **Balkan:** Tues, 7:30-11pm, Stu Ctr Rm 491. **Informal:** Fri, 12n-2pm, Kresge Oval (Bldg 7 Lobby in bad weather). **Israeli:** Wed, 7:30-11pm, Sala.

Exhibitions

... **Exhibition & Sale of Original Oriental Prints**** — Sponsored by the MIT Student Art Association. Pieces from Japan, China, Tibet, Nepal, Thailand, & India will be shown, and a representative will answer questions. Nov 7 thru 9, Mon & Wed, 10am-5pm, Tues, 10am-7pm, West Lge, Stu Ctr. Info: x3-7019, 1-5pm.

... **Photographic Exhibit by MIT Student Art Association*** — Instructor Linda Wasko. Thru Wed Nov 30, Lobby 7 Corridor.

... **Esther Felix: Paintings*** — Faculty Club Exhibit. Thru Nov 30, 9am-11pm.

... **Eye of the West: Camera Vision & Cultural Consensus*** — An exhibition of contemporary photography focusing on the idea of the representation of reality utilizing the photographic medium, organized by Peter Schlessinger, director, Apeiron Workshops, Inc, & Starr Ockenga, director, MIT Creative Photography Lab. Thru Wed, Nov 30, Mon-Sat, 10am-4pm, Hayden Gallery.

... **Women See Men*** — On exhibit Tues, Nov 15 thru Fri, Dec 16, Mon-Sat, 10am-6pm, Sun 12n-8pm, Creative Photography Gallery. Public Opening, Tues, Nov 15.

... **Unfinished Works*** — Music Library, Rm 14E-109. Examples of unfinished musical compositions from Bach to Bartok.

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

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

... **MIT Historical Collections*** — Permanent exhibition Mon-Fri, 9am-5pm, Bldg N52, 2nd floor. **Bicentennial Exhibits:** Katharine Dexter McCormick, '04; Vannevar Bush, '16; Karl Taylor Compton; Norbert Wiener, and 1876 Exhibit, Bldg 4 corridor. **The New Technology Exhibit** 2nd floor balcony of Lobby 7. **Energy Exhibit** Bldg E40, 1st floor. **Radiation Laboratory Exhibit** main corridor, Bldg 8. **Center for Space Research, Astrophysics Exhibit** main corridor, Bldg 4.

... **Graphics by MIT Design Services*** — On exhibit in Bldg 7 corridor.

Athletics

... **Maggie's Self-Design Fitness Class**** — An athletic class that can fit into anyone's schedule: choose 12 hrs for 2 credits. 12n-1pm, 1-2pm, 5-6pm, Mon-Fri, duPont Wrestling Room.

... **MIT Grad Soccer*** — Mass Industrial League. Uniform: Dark blue shirt w/MIT seal on left breast, white trunks & socks. Show up dressed to play 1/2 hr before home game time. All games Sat, 2pm, Briggs Field. **Nov 12:** Canary Square.

... **Home Schedule*** — Thurs, Nov 10 — **Field Hockey**, Endicott, 3pm, Briggs Field.

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

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

... **Send notices for Nov 16 through Dec 4 to the Calendar Editor, Room 5-111, Ext. 3-3270, before noon Thursday, Nov 10.**

... **Because of the Veterans' Day holiday, the deadline for listings in the Institute Calendar, Institute Notices and Classified Ads will be noon Thursday, Nov. 10.**

Photo Gallery to Present 'Women See Men' Show

"Women See Men," a series of more than 90 photographs of men taken by women photographers, will be on exhibit from Nov 15 through Dec 16 in the Creative Photography Gallery.

A public opening for the exhibition will be held from 5 to 7pm on Tuesday, Nov 15.

The exhibition represents the work of 70 women photographers, including several by Starr Ockenga, assistant professor of photography and director of the Creative Photography Laboratory at MIT.

Chosen for their excellence and effectiveness rather than as a feminist manifesto, the photographs confirm that women see men in diverse ways—often in ways that men do not see themselves. They reveal men in unguarded moments expressing a variety of emotions—melancholy, sensuality, vulnerability, aggression. Among the many portraits on exhibit are those of such figures in the arts as Merce Cunningham, Fritz Lang, Norman Mailer, Isaac Bashevis Singer and Saul Steinberg. Equally important are the studies of young children and old, forgotten men.

The photographs reveal men in the

unaccustomed role of being beheld and conscious of the woman's eye. They also reveal women in the act of seeing—their fantasies, hopes, disillusionment, searching and compassion.

"Women See Men" is derived from the book of the same title recently published by McGraw-Hill Book Company. Edited by Yvonne Kalmus, Rikki Ripp and Cheryl Wiesenfeld, the book has an introduction and text by Ingrid Bengis.

According to the editors, "Women See Men uses photography as a vehicle to interpret and redefine relationships. Taken on the simplest level, this collection presents a telling graphic statement about the place of men in society. More importantly, the photographs illuminate many of the questions, myths and misapprehensions that still plague the delicate exchange between women and men."

The Creative Photography Gallery, on the third floor of du Pont Gymnasium, is open to the public free of charge from 9am to 10pm on weekdays; from 10am to 6pm on Saturdays, and from noon to 8pm on Sundays.

Guest Lecture, Workshop Planned at Photo Gallery

Barbara B. Crane, associate professor of photography at the School of the Art Institute of Chicago, will give a lecture and weekend workshop at the Creative Photography Laboratory.

The lecture, "Visual Connections/Sequential Thinking," will be held at 8pm on Friday, Nov. 18, and be open to the public without charge. The workshop, from 10am to 5pm on Saturday and Sunday, Nov. 19 and 20, will be limited to 15. Applications—accompanied by a \$15 lab fee for MIT students, \$25 for non-students—must be submitted to MIT Rm W31-310 by Tuesday, Nov. 15. Workshop participants will discuss and see examples of creative use of large-scale photography for contemporary architecture. The workshop will also explore combining images, random and modular imagery, repeat and serial pictures in order to produce a cohesive, singular visual statement.

Ms. Crane's photographic work in progress explores visual experimentation and social documentation. Among her recent projects are "City Compressions," prints showing the layering of city buildings, and "Unexpected and Random Relationships" made possible by a 1974-75 grant from the National Endowment for the Arts.

She received the BA degree from

New York University in 1950 and the MS degree from the Institute of Design at the Illinois Institute of Technology in 1966. She has taught at the School of the Art Institute of Chicago since 1967 and served as artist in residence at the Oxbow Summer Art School in Michigan in 1976 and as visiting professor of photography at the Philadelphia College of Art in 1977.

Ms. Crane has exhibited her work at many one-women and group exhibitions, including "Be-ing Without Clothes" at MIT's Hayden Gallery in 1970. Her photographs are included in the permanent collections of the Art Institute of Chicago, the Pasadena Art Museum, and the International Museum at George Eastman House in Rochester, NY, among others.

Mooradian, Kelley Elected OSA Fellows

Dr. Aram Mooradian and Dr. Paul L. Kelley, leader and associate leader, respectively, of the Quantum Electronics Group (Group 82) at Lincoln Laboratory have been elected fellows of the Optical Society of America.

Election as Fellows is conferred upon scientists who have served with distinction in the advancement of optics.



THE AMERICAN BRASS QUINTET will give a free concert at 8pm on Sunday, Nov. 13, in Kresge Auditorium. Quintet members are (left to right) Louis Ranger, trumpet; Raymond Mase, trumpet; David Wakefield, French horn; Ronald Borrer, tenor trombone, and Robert Biddlecome, bass trombone.

American Brass Quintet to Perform Here

The American Brass Quintet, five brass virtuosi acclaimed for the quality of their ensemble playing, will give a concert at 8pm on Sunday, Nov. 13, in Kresge Auditorium at MIT.

Sponsored by the MIT Music Section, the concert will be open to the public free of charge.

The Quintet, whose repertoire spans five centuries, will open the concert and Three Canzoni by Gabrieli and the *Triumph of Peace and Divers Masque Music*—music from five different masques—by Lawes, an anonymous composer and Coperario. The program will also include Quintet for Brass, written for the American Brass Quintet by Elliott Carter in 1974. The Quintet gave the world, US and New York premieres of this work, always with great praise from the press, and has recorded it for Columbia Records. Following intermission the Quintet will play Trio for Brass (1962) by Nelhybel, Contrapuncti III and VII from the *Art of the Fugue* by J.S. Bach and Music for Brass Instruments (1944) by Ingolf Dahl.

The style, elegance and flexibility of the American Brass Quintet have inspired many composers to write works especially for them. The repertoire for brass players has also grown as the Quintet has searched for unknown works from the past, editing them for publication.

The Quintet has performed throughout the United States at many universities and chamber music societies and has toured in Europe, Asia and South America where they have performed at such distinguished Festivals as those of Shiraz in Iran, Edinburgh in Scotland and Spoleto in Italy. They have been in residence at the Aspen Music Festival since 1970 and have recorded for Columbia, Nonesuch, CRI and SERENUS, among others.

Formed in New York City in 1958, the American Brass Quintet made its debut in 1960. Its members are Raymond Mase, trumpet; Louis Ranger, trumpet; Ronald Borrer, tenor trombone; Robert Biddlecome, bass trombone; and David Wakefield, French horn.

Mr. Mase received the bachelor of music degree from the New England Conservatory of Music and was the 1972 recipient of the Albert Spalding award given to the "most promising instrumentalist in the program" at Tanglewood. He has played with the Boston Symphony Orchestra, the Opera Company of Boston, and has been soloist with the Boston Pops under the direction of Arthur Fiedler.

Mr. Ranger, who received the bachelor of music degree at the Juilliard School of Music, is a member of the New York Philharmonic, the American Symphony Orchestra and the Musica Aeterna Orchestra in New York City. He has performed with many symphonic and chamber music organizations, including the Boston Symphony Orchestra, the Chamber Music Society of Lincoln Center and the Joffrey Ballet.

Epstein Wins ASCAP Award

Dr. David M. Epstein, conductor of the MIT Symphony Orchestra and professor of music in the Department of Humanities, has received a 1977-78 award from the American Society of Composers, Authors and Publishers in recognition of his professional stature as a composer.

Given to assist and encourage writers of serious music, ASCAP

A doctoral candidate at Yale University, Mr. Borrer currently performs with the New York City Ballet Orchestra, New York Cornet and Sacbut Ensemble and New York Renaissance Band. He has performed with many musical organizations, including the Waverly Consort, New York City Opera and the orchestras of various Broadway shows.

Mr. Biddlecome is bass trombonist of the New York City Ballet Orchestra, the American Symphony Orchestra, and a member of the Group for Contemporary Music. A graduate of the Juilliard School of Music where he received the bachelor's and master's degrees, he has performed with almost every major musical organization in New York City. He is an assistant to the dean of Aspen Music School and on the faculty of Brooklyn College.

Mr. Wakefield has performed with such groups as the Arioso Woodwind Quintet, Musica Aeterna Orchestra, Israel Chamber Orchestra and New York Philharmonic. He is currently a doctoral candidate at the Juilliard School of Music where he received the bachelor's and master's degrees.

Awards are based on the unique prestige value of each writer's catalog and the performances of his compositions.

Professor Epstein is completing the orchestration on a cello concerto commissioned by the New York State Council for the Arts.



MIT PRESIDENT Jerome B. Wiesner, left, talks with participants in a workshop on the retention of minority undergraduate students in engineering which was held last week at MIT. Others from left are Dr. Clarence G. Williams, special minority affairs assistant to Dr. Wiesner and to Chancellor Paul E. Gray; Dr. Edward R. Kane, president of the DuPont Co. and chairman of the National Advisory Council on Minorities in Engineering, who spoke on "Retaining Tomorrow's Engineers: An Industry Perspective," and Dr. Wesley L. Harris, director of MIT's Office of Minority Education and chairman of the committee that planned the workshop.

Commitment Needed In Minority Retention

(Continued from page 1)

designed to reduce attrition of targeted students."

Among those conditions, he said, are a strong institutional commitment, an effective faculty that is teaching with competence, additional funding to support tutorial programs and provide scholarships, and meaningful counseling that deals with social as well as academic issues.

"It is important," Professor Harris said, "that this definition of conditions was arrived at by a synthesis of several tested experiences."

Dr. Clarence G. Williams, special minority affairs assistant to the MIT president and to the chancellor, said the workshop was significant, in addition, because of the involvement of Chancellor Paul E. Gray and Dr. Edward R. Kane, president of the DuPont Co. Kane is chairman of the National Advisory Council on Minorities in Engineering.

The efforts of people such as Chancellor Gray and Dr. Kane will allow a new audience to be reached, Dr. Williams said, and what that audience will hear is the definition of minimum conditions referred to by Professor Harris.

"This effort by such national leaders is extremely important at this stage in development of programs for the retention of minority students in engineering," Dr. Williams said.

Fall Blood Drive Nets 1,689 Pints

The Fall 1977 MIT Red Cross Blood Drive collected 1,689 pints of blood and had the highest turnout in four years, according to the Technology Community Association (TCA), sponsor of the drive.

Several dozen individuals, including many with no affiliation to TCA, volunteered hours of time working at the drive and an additional 260 people offered to donate blood, but were deferred for medical reasons, according to a letter from TCA to the MIT community.

"The Technology Community Association would like to thank all of the people responsible for the success of the Fall Blood Drive," said Jim McCormack, secretary, speaking for TCA in the letter. "It is such responses to the needs of the community which make TCA projects (such as the Blood Drive) work," he continued.

"The results of this drive indicate once again that people at MIT really do care about others," the letter continued. "We hope that they will continue to give of themselves. . ."

The conference approached the question of retention from four directions: Academic Problems; Counseling; Organization, Funding and Governance, and Pre-College and College Programs.

Among its conclusions and recommendations:

—A principal responsibility of the general faculty is to generate scholarship in minority students.

—An "early warning system" is essential if the institution and the student are to respond in a timely way to academic and social problems.

—Such a warning system should be centralized.

—There is a need for skill clinics that would cover such topics as how to study, how to take notes effectively, and "quizzmanship."

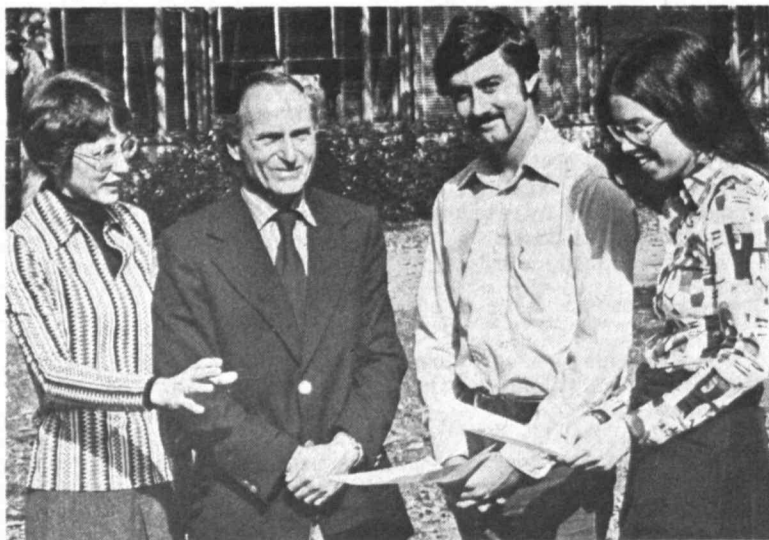
—A need exists for an enhancing of the intellectual exchange between the faculty and the student. The conference referred to "mentorship" in this regard.

—A higher attrition rate among students who transfer from junior colleges to four-year engineering colleges was identified and should be explored.

—A single person in authority is vital to the success of programs aimed at the retention of minority students. This is true, the workshop participants concluded, for both academic and counseling programs.

—A faculty person—but not necessarily a minority faculty person—should be the single person in authority for such programs.

—The total available funds for programs is limited, but the number of programs is increasing, leading to an unstable situation.



SIGMA XI WINNERS—Two MIT students have been awarded grants from Sigma Xi, the honorary science society, to support their Undergraduate Research Opportunities Program projects. The winners, Debra Kaden of the Department of Nutrition and Food Science and Nino Pedrelli, whose major is civil engineering and management, accept the official notice of their \$750 awards from Dr. George Wolf, professor of physiological chemistry in the Department of Nutrition and Food Science, who is secretary of MIT's Sigma Xi chapter. At the left is Dr. Margaret L.A. MacVicar, associate professor of physics and UROP director. Sigma Xi is devoted to advancing research in pure and applied sciences. Ms. Kaden's project involves bacterial mutation assay of soot and soot components. Mr. Pedrelli is studying the legal aspects of risk in tunnel contracting.

Chancellor Cites Program Needs

The following are excerpts from remarks by Dr. Paul E. Gray, MIT's Chancellor, delivered during the workshop on the retention of minority undergraduate students in engineering.

In his address, "An Institutional Commitment to the Retention of Minority Engineering Students," Dr. Gray listed "six elements of our academic programs which bear on retention of minority students and which must be considered in appraising and building institutional commitments."

The elements are: Adequacy of financial aid, effectiveness of advising, program flexibility, efforts to ease the transition to university life, effectiveness and availability of academic support and a willingness to recognize and sort our errors in judgment.

The excerpts follow.

Financial Aid

Minority students are, on the average, much more likely to reflect family economic circumstances that are well below national norms. Consequently the availability of adequate financial aid is often, for these students, the *sin qua non* of enrollment in an engineering or science program.

What are the components of an adequate program of financial aid? First of all, need must be fully met. That is, the cost that remains after making reasonable expectations of assistance from the student's family and from his or her own summer or part-time earnings must be provided for by the institution. Needless to say, those expectations for family assistance—the parental contribution in the jargon of the College Scholarship Service—must be fair and reasonable and must reflect accurately the detailed economic circumstances of the family, including the fact that families in lower income ranges often face higher costs for some of the basic necessities of life than do families in higher income ranges. Finally, the financial aid program, which almost without exception these days includes a significant element of self-help in the form of subsidized loans, must seem reasonable to the prospective student, who may be quite skeptical about loans in general, let alone a loan for something as elusive, unfamiliar, and intangible as a college education. You and I know that the levels of loans expected of young men and women entering upon preparation for careers in science or engineering are generally not unreasonable when measured in terms of likely career path and earnings potential. It should come as no surprise, however, that many minority youngsters are quite apprehensive about educational loans of the size often associated with present college costs. This apprehension requires that we make a special effort to avoid placing excessive loan burdens on students and try, as well, to communicate

with prospective students about financial aid matters in ways that encourage a reasonable and balanced perspective about these matters.

I am painfully aware that the costs associated with adequate financial aid programs are non-trivial issues for essentially all of the institutions represented here. At a time when many institutions, particularly privately-supported ones, are struggling with rampant cost increases made more burdensome by the heavy hand of government regulation and interference, the budgetary demands of financial aid programs must compete with other legitimate academic needs and priorities. Nevertheless, we all must recognize and act on what seems to me to be an incontrovertible fact: Those minority students we enroll cannot perform up to their abilities, let alone up to our expectations for them, if they are constantly worried either about how to eat next week and how to buy next term's textbooks or about the impact their education is having on the welfare of their families. Without adequate financial aid we are likely to be working with distracted or worried students, which is not a satisfactory setting for education...

Advising

In engineering and other scientific programs it is, I believe, particularly important that the advising responsibility be shouldered by the faculty. Advising is, after all, teaching, albeit in a different mode, and faculty have the professional experience and insight that is essential to the effective advising of engineering students.

It should go almost without saying that the responsibility of advising minority students must be one that is shared by several members of the faculty...

Our minority colleagues bring an important perspective and special knowledge to the advising of minority students. In addition, they inevitably serve as role models for minority students and often have a unique capacity to support minority students in their educational ambitions and plans. Nevertheless, it is certainly unfair, and, I believe, unwise as well, to require or permit a few members of the faculty to carry, because they are minorities, the lion's share of the responsibility for advising minority students. In this respect, as in so many other aspects of the education of minority students, our pluralistic objectives or ends are best served by appropriately pluralistic means.

Program Flexibility

In my experience, minority students are frequently unaware of opportunities that exist to vary the pace of their educational programs or to break those programs with a term or a year of employment or other activity.

I believe that it is in the interest of our students and that it contributes to retention if we permit, and encourage where appropriate, reasonable departures from the "normal" rate of progress. Of course, doing so requires that we accommodate those students who choose to take more than four years by providing reasonable, continuing access to financial aid, housing, and other amenities of undergraduate life.

Transition

For most of the minority students with whom we are concerned, our institutional settings represent both a more demanding, faster-paced academic environment and a less-structured, more-permissive social environment than they have experienced previously.

At the very time their studies require that they develop a new singlemindedness and intensity of purpose about their academic tasks, the new social environment in which they function offers more freedom and fewer guidelines. The adjustment is, for many students, a wrenching one.

Here at MIT we believe that this transition, and the adjustments it requires, can be eased by introducing a subset of our minority undergraduates to the In-

stitute in a setting which encourages them to adapt to the demands and freedoms of this community without quite the intensity and "on-the-permanent-record" character of the regular academic year. Toward this end we invite these students to participate in a seven-week, pre-freshman year summer program known as *Project Interphase*. They study subjects in calculus, physics, chemistry and humanities, thereby gaining important experience and practice in critical academic skills. At the same time, they have a chance to adjust to a new lifestyle and to learn about the social, cultural, and academic communities in which they will spend four or more years.

Academic Support

Many, but by no means all, of the minority students we enroll will be less well prepared for fast-paced science and mathematics-based programs than are our traditional students. These difficulties have little to do with ability or potential—they have to do with prior educational experience.

In my experience these differences in preparation or readiness are more related to the extent or duration of previous instruction in necessary areas of preparation than to coverage of specific topics...

To the extent that this is a problem—and it is not a problem that is confined to minority students—we as teachers are not likely to discover its existence through casual questions about prior preparation. Rather, the problem will become apparent only as the student undertakes subjects which place a premium on the self-confident use of mathematics or elementary physical principles in other disciplines.

The existence of academic problems of this kind requires that we make available to students flexible, supportive resources when the need arises. Such support can come in many forms: The use of videotaped instruction, modules for self-paced study, short courses in specific techniques, and tutoring have all been employed successfully. What matters most for success is that the supportive resources be available when the need arises...

Errors of Judgement

Some fraction of the minority students we enroll will not only be less well prepared for engineering programs than their peers, but some will have less innate ability to cope with such programs. And some of these students will, in spite of heroic efforts on their part and on the part of others interested in their welfare, find academic success an unattainable goal and will inexorably fall farther and farther behind.

I believe that we have a dual responsibility with respect to these students, who, after all, entered our institutions at our invitation. First, we have the responsibility to go the second and third miles in providing them with guidance, counsel, and support in their efforts to test their ability to succeed in our programs.

However, if and when it becomes clear that consistent performance at the necessary level of achievement is unlikely, we have the additional responsibility of helping that student sort out the alternatives open to him or her and of guiding and supporting that student while he or she accomplishes the necessary redirection of plans and effort...

There may be those who would argue that this position runs counter to our objective of improving retention. I disagree intensely. Is it not much better for a student to move positively and affirmatively to a different course of study, perhaps even to a less demanding career path in a technical field? Is it not preferable to "climb out" of a program with one's dignity and self-respect intact, than it is to persevere against impossible odds until, inevitably, that student either drops out in anger and aimless frustration or flunks out with a searing sense of failure that may cripple a lifetime?