

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Physical Scientists

THE M.I.T. OPERATIONS EVALUATION GROUP grew from an operations research effort initiated by the Navy in 1942 and continued (and expanded) since the close of World War II under the auspices of the Massachusetts Institute of Technology. This civilian nongovernment scientific organization, located in Washington, D. C., advises the Chief of Naval Operations and certain Fleet and Force commands on a variety of operational problems susceptible to quantitative analysis.

Most of our 65 scientific staff members hold a Ph.D. in mathematics or one of the physical sciences. Their task is to apply the basic analytical techniques of scientific research to the study of Naval operations with the object of shedding light upon the complex decisions which must be made to assure the continued effectiveness of the Navy in present as well as future roles. In recent years much of this advice, based upon analysis of the impact of modern science and technology on modern warfare, has been concerned with the broadest problems of national policy support through Naval instrumentalities.

To furnish the Chief of Naval Operations with a more complete and enduring spectrum of operations research support, OEG has recently established the *Applied Science Division* in Cambridge, Massachusetts. This division is engaged in the exploration of certain technological areas including nuclear propulsion, missilery, aerodynamics, space technology, electronics, and advanced navigational techniques, which are expected to contribute significantly to the solution of many Naval problems.

OEG scientists receive appointment as M.I.T. professional staff members and are accorded professional status within the Group and by the Naval commands where they may be assigned. For further details please direct your inquiry in confidence to

Operations Evaluation Group
Office of the Chief of Naval Operations
Navy Department, Washington 25, D.C.

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OPERATIONS EVALUATION GROUP

larly in the low-dose and dose-rate range, remain of interest to the Committee and would be appreciated. Scientists in the United States who feel that they have useful information to contribute have been requested to send four copies of their data or reports to Mr. Edward R. Gardner, Director, Office of Special Projects, US Atomic Energy Commission, Washington 25, D. C.

Programs and Facilities

A 600-foot flight path for the neutrons produced by the 385-Mev cyclotron at Columbia University's Nevis Laboratory, Irvington-on-Hudson, N. Y., has been under construction for the past several months and is expected to be in operation in July. Upon completion, the new neutron velocity spectrometer tunnel is expected to permit considerably greater accuracy in the carrying out of neutron experiments than has been possible in the 100-foot flight path which has been used with the Nevis cyclotron since 1955. Funds for the \$180 000 project have been provided by the Atomic Energy Commission. Arrangements for construction of the underground concrete tunnel have been under the direction of R. W. Siegel, assistant director of Columbia's Pegram Laboratories, and Warren F. Goodell, Jr., assistant director of the Nevis Laboratory. James Rainwater, director of the Laboratory, and William W. Havens, Jr., professor of physics at the University, will supervise the research program.

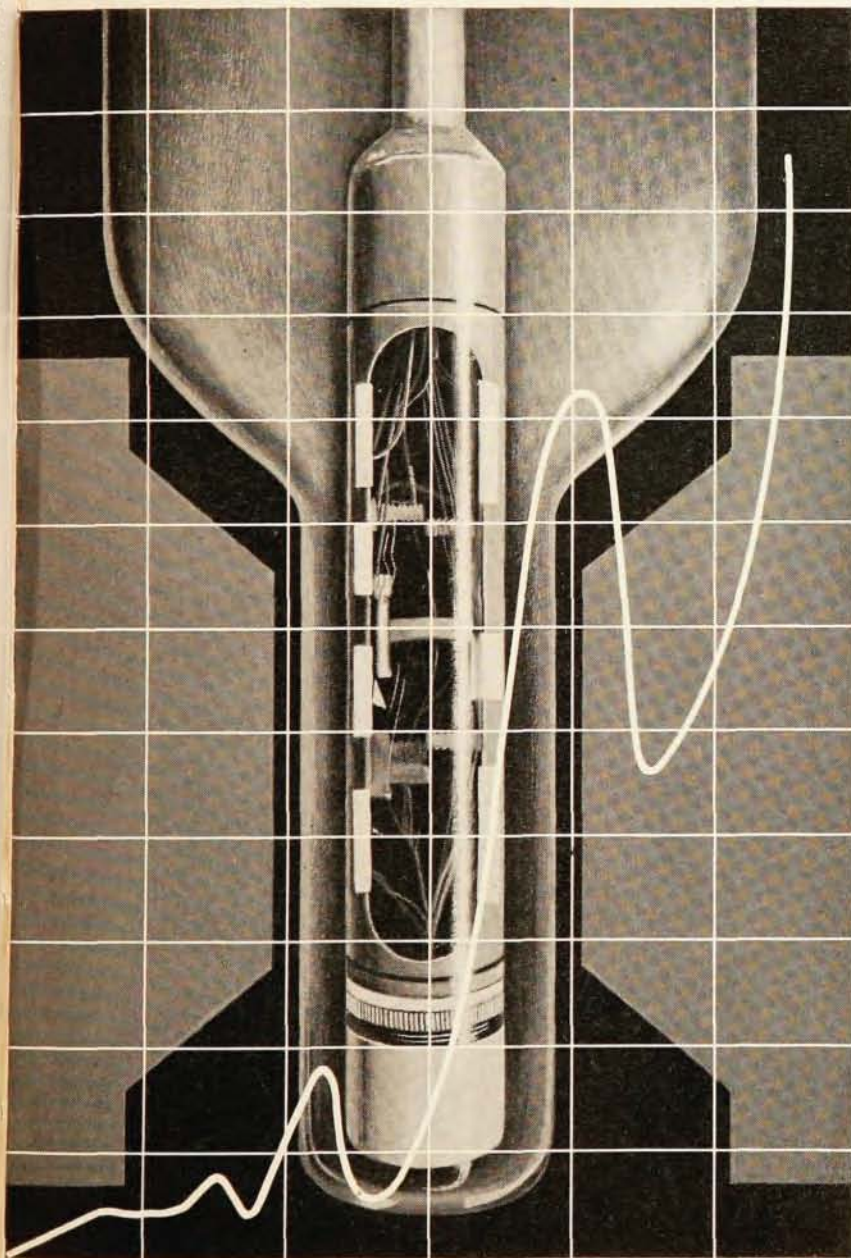
North Carolina State College in Raleigh has established a new School of Physical Sciences and Applied Mathematics, which will embrace the Departments of Physics, Mathematics, Chemistry, and Experimental Statistics, and will be responsible for both instruction and research in these four areas. Arthur C. Menius, Jr., a member of the faculty at Raleigh since 1949 and head of the Physics Department since 1957, has been named as the first dean of the new School.

A merger of the Division of Engineering Sciences and the School of Aeronautical Engineering at Purdue University, Lafayette, Ind., became effective on July 1. The resulting "School of Aeronautical and Engineering Sciences" will be headed by Harold M. DeGroff, who has also been named director of Purdue's new Aero-Space Sciences Laboratory which has been established for graduate research.

Facilities at the Cornell University Computing Center have been augmented by the addition of a Burroughs 220 computer, one of the first two systems of this kind to be installed at a university. Funds for the purchase were provided by the National Science Foundation.

The Biophysical Society has announced the establishment of a Placement Service which is available to applicants at no charge. The membership of the Society is drawn from the fields of mathematics, physics, chemistry, engineering, and biology. Requests for further information and forms for registration by prospec-

SOLID STATE ELECTRONICS



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Observation of oscillatory behavior of magneto-resistance in semiconductors at low temperatures. This study of Landau levels in conduction or valence bands provides band structure information necessary to an understanding of transport properties.

At Lockheed Missiles and Space Division, solid state electronics encompasses a wide range of activities. Solid state physics concerns itself with theoretical and experimental work in the areas of paramagnetic resonance studies in solids; ferromagnetics and ferroelectrics; transport processes in solids; infrared spectroscopy; microwave properties of solids; radiation effects in semiconductors; crystal growth; and other related topics.

In solid state devices, the basic work applies to thermoelectric and radiant energy conversion; evaluation of environmental effects; and the study of new components based on ferrites, ferroelectrics, thin films, semiconductors, intermetallic compounds and other solid state materials.

Research in solid state circuits relates to circuit aspects of novel solid state components and systems, such as in microsystem electronics and in lumistor circuitry; and to unconventional uses of existing solid state devices.

Engineers and Scientists: Programs at Lockheed Missiles and Space Division reach far into the future and deal with unknown and challenging environments. If you are experienced in one of the above areas, or in related work, you are invited to join a company with an outstanding record of achievement and make an important individual contribution to your country's scientific progress. Write: Research and Development Staff, Dept. G-42, 962 W. El Camino Real, Sunnyvale, California. U.S. citizenship or existing Department of Defense industrial security clearance required.

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tive employers and candidates should be addressed to: Placement Service, The Biophysical Society, 3504 Preston Court, Chevy Chase, Maryland.

Temple University is again conducting its visiting foreign staff project for National Science Foundation Physics Institutes. Among the scientists from abroad who will take part in the program this summer are the following: Harold Behrens (Chile), Leah Bloch-Frankenthal (Israel), Ernest A. Braun (England), Mateo R. Casaverde (Peru), Roger Cayrel (France), Josef S. Gratzl (Austria), Avraham Huss (Israel), M. Laffineur (France), Joyce C. Lockhart (England), Graham P. McCauley (England), Juan A. McMillan (Argentina), A. Piekara (Poland), Muhammad Qudrat-i-Khuda (East Pakistan), Arne E. Sandstrom (Sweden), Samir Thabet (Lebanon), and Arthur Myers (England). Further information concerning the program can be obtained from its director, Dr. Elmer L. Offenbacher, Temple University, Philadelphia 22, Pa.

Prizes

Atoms for Peace Awards for both 1959 and 1960 were presented on May 18 to four American scientists who have played crucial roles in the development of nuclear reactor science and technology. The 1959 award was shared by Leo Szilard, professor of biophysics at the University of Chicago, and Eugene P. Wigner, professor of mathematical physics at Princeton University. The award for 1960 went to Alvin M. Weinberg, director of the Oak Ridge National Laboratory, and Walter H. Zinn, now vice president of Combustion Engineering, Inc., who was formerly director of the Argonne National Laboratory. The four scientists (each of whom received an honorarium of \$37 500 as his share of the award) all worked as physicists on the staff of the wartime Metallurgical Laboratory at the University of Chicago, which served as the main research center for the Manhattan District's reactor development and plutonium production programs. The prize, created by the Ford Motor Co. as a memorial to Henry and Edsel Ford, is administered by Atoms for Peace Awards, Inc., Cambridge, Mass. The initial award was made to Niels Bohr of Copenhagen in 1957; the second presentation was made in 1958 to George C. de Hevesy of Sweden.

Leo Szilard, in addition to sharing the 1959 Atoms for Peace Award, has also received the \$5000 Albert Einstein Gold Medal and Award for 1960. Established in 1949 by Lewis L. Strauss, the Einstein Medal is conferred annually for outstanding contributions to knowledge in the mathematical and physical sciences. Originally presented every third year, the award is administered by the trustees of the Lewis and Rosa Strauss Memorial Fund.

The 1960 Priestley Medal was presented to Wallace R. Brode, Science Adviser to the Secretary of State, during the 137th national meeting of the Ameri-