

formally dedicated a new \$750 000 research laboratory in Boston. The building contains some 74 000 square feet of space for experimental work in physics and chemistry and for the development of new products and production methods.

The American Instrument Company, Silver Spring, Maryland, producers of high-precision instruments and laboratory apparatus, has erected a 40 000 square-foot plant at Savage, Maryland. The new plant will be engaged in electronics, mechanical and optical production, and in moisture engineering. Initially the company plans call for 300 to 400 employees.

All Navy Department studies of methods for protecting exposed surfaces of airplanes against corrosion, erosion, and ice coating are now centered at the University of Cincinnati Applied Science Research Laboratory. The problem of rain, a direct result of high speeds at which jets fly, is described as one of the most urgent matters to be investigated. Hostile planes are a jet's first enemy, but rain is a close second, according to Walter Soller, director of the laboratory. Rain erosion measuring equipment has been developed by the laboratory on the Cincinnati university campus. Part of the equipment, buried 12 feet below ground, is a propeller-like structure simulating a plane's leading edge which is run at velocities of 500 to 700 miles an hour under pelting artificial rain. The unit is controlled by an operator at ground level, protected by 18 inches of reinforced concrete. Besides the tests of experimental coatings, laboratory scientists are making fundamental studies of the physical and chemical conditions of adhesions.

A new water boiler research reactor has been designed and built by North American Aviation, Inc., for the Atomic Energy Commission and has been installed at the AEC's Livermore, California, installation which is operated for the Commission by the California Research and Development Company. Nuclear research scheduled for the new reactor, which is fueled with enriched uranyl sulphate in a water solution, will include fundamental studies as well as test work with various materials and components being studied for possible application to atomic energy equipment and processes. At its present operating level of 100 watts of power the unit will produce a concentrated field of neutrons to bombard and irradiate test materials. If required, the reactor can be converted to operate at 2000 watts of power to produce greater neutron flux.

Gadgetry

A 35-ton stratosphere chamber, designed to simulate altitudes to 80 000 feet, temperatures from -100° to 100° F, and relative humidity from 20 to 95 percent, has been completed by Tenney Engineering, Inc., Newark, N. J., for the laboratories of the National Bureau of Standards at Corona, California.

UDEC ("Unitized Digital Electronic Computer") is, as its full name is intended to suggest, a high-speed

CHEMISTS & PHYSICISTS

MS or PhD PREFERRED

CHEMIST or CHEMICAL ENGINEER (R-91)

Experienced in high pressure hydrogenation and alkylation reactions.

ORGANIC-INORGANIC CHEMISTS (R-98)

Experienced in high vacuum technique, inorganic synthesis or organo-metallic research.

PHYSICAL-ORGANIC CHEMISTS (R-103)

Assist in studies of relationship between chemical structure and physical and chemical properties of organic compounds.

PHYSICISTS (R-105)

Experienced in Heat Engines and Thermodynamics, High Pressure experience also valuable or with knowledge of: Fluid Flow . . . High Speed Photography . . . High Temperature Measurement . . . Physics Lab Administration.

PHYSICAL-ORGANIC CHEMISTS (R-100)

To study physical properties such as interfacial tension, rate of temperature rise, flame speeds, etc., of organic compounds.

LET'S TALK FACTS ABOUT ROCKET POWER

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computer built "primarily of unit-packaged electronic circuits assembled one on top of the other in a steel framework". Designed and constructed by the Burroughs Corporation, UDEC has been installed at the Wayne University Computation Laboratory as part of a \$500 000 community industrial education project instituted by the University and paid for by more than a score of Detroit's major industries. Primary purpose of UDEC in Wayne's educational program is to help train urgently needed personnel for the operation of the country's growing number of electronic computers and to seek new developments in the field of automatic data-processing equipment. In addition, the laboratory will be at the disposal of industry for the solving of practical problems in engineering, research, production, inventory control, and certain other business operations. The only computer similar to UDEC is the original experimental model in Burroughs' Philadelphia Research Center.

A transistor capable of dissipating 20 watts has been announced by the Minneapolis-Honeywell Regulator Company. By contrast, present commercial transistors are said to be capable of handling only about 0.2 watt. The improved unit was made possible by a new method of removing heat from the germanium-alloy junction and is at present in pilot plant production.

Publications

Transistors and diodes and other solid state devices are the subject of a new research bulletin now being issued by National Scientific Laboratories, Inc., Washington, D. C., a research and development concern specializing in electronics and related fields. The *Transistor Research Bulletin*, which made its initial appearance in December, is edited by Michael C. Ellison, director of the Company's solid state physics department, and is being published every second month on a subscription basis. The first issue, in addition to some generally descriptive literature, contains a three-page international bibliography of recent semiconductor literature. Information concerning the bulletin can be obtained from the editor at 2010 Massachusetts Avenue, N.W., Washington 6, D. C.

Technical data on acoustical materials manufactured by members of the Acoustical Materials Association are contained in a new AMA bulletin now ready for distribution. Copies (50 cents each) can be obtained from the Association at 59 East 55 Street, New York 22, N. Y.

A report entitled "The Relations of Hearing Loss to Noise Exposure" has been prepared by Exploratory Subcommittee Z24-X-2 of the American Standards Association Z24 Sectional Committee on Acoustics, Vibration, and Mechanical Shock, of which the Acoustical Society of America is sponsor. Subcommittee Z24-X-2 was assigned the task of exploring the possibility of establishing bio- and psycho-acoustic criteria for noise control, particularly in the area of industrial noise ex-

posure. This report summarizes the fact-finding mission undertaken by the Subcommittee; it suggests no standards and proposes no criteria. It has not been submitted for review or approval to the Z24 Sectional Committee. Copies of the report are available from the American Standards Association, 70 East 45th Street, New York 17, New York at \$1.50 per copy.

Acta Metallurgica, the international journal for the science of metals, started its second year of publication with the January 1954 issue. As the American Institute of Physics is one of the Cooperating Societies, members of the Institute may subscribe to the journal at the special rate of \$9 per year. The regular rate to nonmembers is \$12 per year. Copies of all six 1953 issues are still available and new 1954 subscribers may obtain the first volume for a limited time for \$9. To enter your subscription or for further information about the journal write to the Secretary, American Institute of Physics, 57 East 55th Street, New York 22, New York.

Francis E. Fox, professor of physics and acting dean of the School of Engineering and Architecture at the Catholic University of America, Washington, D. C., died on December 29th at the age of forty-four. He received his PhD from Catholic University in 1937. Active in research in ultrasonics, he was a member of the Ultrasonics Committee of the Acoustical Society of America and a consultant on acoustics for the Office of Naval Research. He belonged both to the Acoustical Society and to the American Physical Society.

Howard M. Fry, chairman for 11 years of the department of physics and electricity at Franklin and Marshall College in Lancaster, Pennsylvania, died on November 3rd. He was sixty-four years old. Professor Fry had taught physics at Lehigh University for 15 years, and for 28 years at Franklin and Marshall. He was a member of the American Physical Society, the American Association of Physics Teachers, and Sigma Pi Sigma.

Frederick A. Maxfield, head of the Given Manufacturing Company Research Laboratory in Washington, D. C., died on November 6th at the age of forty-five. After receiving his PhD at the University of Wisconsin, Dr. Maxfield worked from 1929 to 1934 with the Westinghouse Research Laboratory and then returned to Wisconsin where he taught until 1941. With the outbreak of World War II he joined the Naval Ordnance Laboratory and in 1943 transferred to the Navy Bureau of Ordnance where he took part in the acoustical torpedo development project and served until his resignation in 1952 as chief civilian scientist in the Bureau's underwater ordnance section. He received the Distinguished Service Award for his work. He belonged to the American Physical Society.

Robert A. Millikan, Nobel Laureate in physics and former chief administrative officer of the California