



THE 1960's WILL BE A DECADE OF TIME COMPRESSION . . .

More people will travel further in a shorter time—men will move in geocentric orbits at 18,000 mph—space probes will shrink our celestial environment. To accomplish these things, the time between research and application engineering will shrink dramatically.

Convair believes that the full potential of Technology in the Sixties will be realized through ideas originating in the minds of creative scientists and engineers. To implement this conviction, Convair-Fort Worth is pursuing an active research program in the engineering and physical sciences.

A position on the staff of the newly formed Applied Research Section offers opportunity rarely found for physicists and engineers at the doctorate level. Research programs in the fields of astrophysics, relativity, gravitation, physics of materials, and geophysics are in the formative stages of planning and activation. Active and mature programs in electronics, space mechanics, and thermodynamics are underway.

If you can qualify, a position within this section will offer unlimited growth potential. For further information, forward your personal resume to Dr. E. L. Secrest, Chief of Applied Research, Convair-Fort Worth, P. O. Box 748 P, Fort Worth, Texas.



CONVAIR/FORT WORTH
CONVAIR DIVISION OF
GENERAL DYNAMICS

The US-EURATOM Joint Research and Development Board announced late in July that 45 proposals for research and development work amounting to approximately \$7.8 million have been accepted for contract negotiation in five European nations (Belgium, France, Germany, Italy, and The Netherlands) and in the United States. Much of the authorized work involves close collaboration between 28 European and 10 US industrial groups. The Board, which has its headquarters in Brussels, is concerned primarily with improving the performance of the reactors to be constructed under the Joint US-EURATOM Reactor Program, with the lowering of fuel cycle costs, and with plutonium recycling and other problems relevant to these reactors.

The Ford Motor Company Fund has announced a contribution of \$250,000 to The University of Michigan for continued research in the peaceful uses of atomic energy under the University's Phoenix Project. It will be allocated over a five-year period for (1) establishment of three Ford Motor Company Fund Fellowships in Nuclear Energy to be awarded annually to students beginning doctoral research, (2) creation of a research program in direct conversion of nuclear energy to electrical energy, and (3) exploratory work in unspecified areas of research.

Amherst College is introducing a new interdepartmental program which will make it possible for the first time for undergraduates to major in biophysics. The curriculum will include selected courses in physics, biology, and chemistry, as well as a special seminar in biophysics.

Laboratories

A new magnetic spectrometer has been installed in Stanford University's High Energy Physics Laboratory for use in the continuing program of electron-scattering experiments conducted by the research group working under the leadership of Robert Hofstadter. The million-watt spectrometer weighs 150 tons, towers more than thirty feet above the laboratory floor, and was built at a cost of \$500,000. The three-year project was made possible by support provided by the Office of Naval Research, the Atomic Energy Commission, and the Air Force. Consisting mainly of an immense electromagnet, the instrument is mounted on a heavy wheeled carriage riding on a circular track. It can thus be rotated in a full circle, enabling the magnet to pick up electrons scattered at any angle from a target under bombardment by Stanford's billion-volt Mark III linear electron accelerator.

The University of Michigan in Ann Arbor has awarded contracts for the construction of a Cyclotron Laboratory to house a new 40-Mev cyclotron, as well as the present 7.8-Mev cyclotron now located in the basement of the University's Randall Laboratory. The building will be financed by funds provided by the

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Positions are also available in the R & D Department for Physicists and Engineers experienced in Ultrahigh Vacuum, Pumping, Leak Detection, Evaporation and Mass Spectrometry equipment and techniques.

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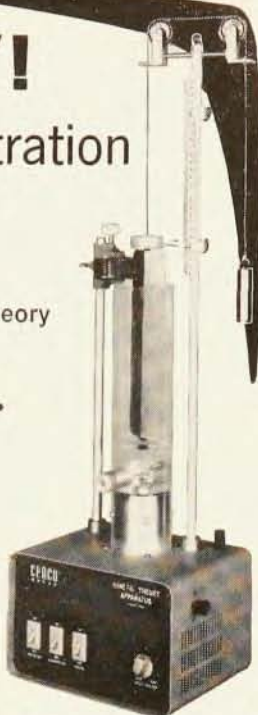
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Solid State Physics Research

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MARTIN

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State Legislature, and installation of the new accelerator will be made possible by a grant from the Atomic Energy Commission. Additional state funds have been authorized for the construction of facilities for the University's Institute of Science and Technology and Departments of Physics and Astronomy.

At the University's Willow Run Laboratories a Ballistic Missile Radiation Analysis Center has been established in the Infrared Laboratory for the purpose of collecting and analyzing data about radiation emitted by ICBM's and IRBM's. The work is being done for the Pentagon's Advanced Research Project Agency under a contract with the Air Force Geophysics Research Directorate. George Zissis is the principal investigator and Thomas P. Cordron is the project scientist at the Geophysics Research Directorate.

Radio Corporation of America has announced plans to establish a new solid-state research laboratory in Japan. The laboratory building, now under construction in Tokyo, will be known as Laboratories RCA, Inc., Tokyo, and will be under the direction of Martin C. Steele, a physicist from the RCA Laboratories in Princeton. Its purpose will be to conduct fundamental research in the physics and chemistry of solids, including basic studies of the electrical, magnetic, and optical properties of materials. It was emphasized in the announcement that the laboratory will not be concerned with engineering development for the manufacture of electronic equipment. "We look forward to the free interchange of basic research results between Laboratories RCA, Inc., Tokyo, and the entire Japanese scientific community," an RCA spokesman said. "The establishment of this new organization devoted to fundamental research will enable RCA to contribute to the fund of scientific knowledge in Japan, and at the same time to derive further long-range benefits from the basic work that will be performed." The Tokyo laboratory, which will be staffed initially by several Japanese scientists, is the second basic research facility to be established abroad by RCA. The first was opened five years ago in Zürich, Switzerland.

The University of Texas Physics Department has expanded its laboratory space for undergraduate teaching and research by constructing a \$1 million annex to the physics building. The new annex contains laboratories intended for work in optics, acoustics, atomic and nuclear physics, electronics, spectroscopy, and other areas of study. It also has two acoustically designed lecture halls, a study hall, a graduate seminar room, and conference and office space for faculty members.

Two new research facilities will be constructed at the Oak Ridge National Laboratory. The first, to be known as the High Radiation Level Examination Laboratory, will provide space for more extensive research on the development of economic fuels and materials for power and test reactors. It will consist essentially of thirteen hot cells and will be used for studying the radiation, mechanical, and thermal effects on materials,

such as the various alloys used in reactor fuel elements. The second, a Radioisotope Development Laboratory, will be for expanded research and development leading to production of isotopes now unavailable or to the possible increased production at lower unit cost of radioisotopes currently being produced and distributed by ORNL.

Sperry Rand Corporation has announced plans for a new research facility to be located in Sudbury, Mass. just west of Boston. The center will be used for "broad research in the basic sciences", as well as for the application of design and development advances to components and systems for the electronic firm's various product divisions.

Haloid Xerox Inc., Rochester, N. Y. will open a \$3 million laboratory early this fall for research in recording and display by xerographic and other electrostatic techniques. The research area includes facilities for the study of gaseous discharge phenomena, high-vacuum techniques and sensitometry, electrostatic properties of dielectrics, semiconductor properties, and resin and polymer chemistry.

The Olin Foundation of New York has granted nearly \$1.5 million to Colorado College in Colorado Springs for the construction of a new science building. The present science laboratories in Palmer Hall, dating from 1904, will be converted to other classroom use.

Fellowships

Applications are now being accepted for participation in two National Science Foundation graduate-level fellowship programs. Cooperative Graduate Fellowships for the 1961-62 academic year are being offered at one hundred and sixty-one institutions of higher education in the United States which confer doctoral-level degrees in mathematics, engineering, and the sciences; the deadline for applications for this program is November 4, 1960. All but five of the schools will also participate in the 1961 program of Summer Fellowships for Graduate Teaching Assistants, which has a December 9, 1960, application deadline. In both programs, individuals apply through the participating institutions for initial evaluation by local faculty committees. Applications are then forwarded to the Foundation for final evaluation and selection by panels of scientists appointed for the purpose by the National Academy of Sciences—National Research Council. Application materials can be obtained from the Graduate Dean of any participating institution or from the Fellowships Section, Division of Scientific Personnel and Education, National Science Foundation, Washington 25, D. C., from whom a list of the participating institutions is also available.

A competition for 1000 first-year graduate fellowships for the 1961-62 academic year has been announced by the Woodrow Wilson National Fellowship Foundation. The program is operated under a \$24.5 million Ford Foundation grant. The awards (\$1500

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