

Compelling Opportunities

For original BASIC thought!

Which is tailored

to your career goals?

1. PULSE DOPPLER RADAR ENGINEER

THE CHALLENGE: generation of system specifications, initial design, and development of all facets of radio frequency circuitry for pulse doppler radars.

BS/EE degree + graduate work in math and electrical networks; + minimum 3 years' experience in design of radio frequency "front ends" for pulse doppler radars. Specific development experience necessary in at least 2 of these: highly stable, high frequency oscillators; high power, fast recovery duplexers; master oscillator-power amplifier (MOPA) tube chains at microwave frequencies. Desirable: familiarity with high power travelling wave tubes, backward wave amplifiers and backward wave oscillators.

2. ANTENNA ENGINEER

THE CHALLENGE: leading initial antenna research and design + conceiving satisfactory theoretical solutions to radiation and scanning problems with only fragmentary information.

Advanced degree in physics or communications engineering, with emphasis on electromagnetic theory and advanced math. Also 2 years' or more experience beyond school in fundamental design and formal math analysis of microwave antennas. Major importance: design exp. with flush mounted antennas, two dimensional arrays, electronically scanned antennas, and dielectric lenses. Experience in monopulse antennas and microwave phase shifting techniques desirable.

3. IR SYSTEM ENGINEER

THE CHALLENGE: working with top-level staff associates in the solution of a variety of intriguing IR problems involving detection, tracking and guidance systems.

Your background includes substantial formal training + experience in the application of fundamental infrared theory and technique to these systems. This opening offers unusual professional freedom + wide diversification.

For more information about these and/or other challenging openings—and about the unusual advantages at Emerson, write A. L. Depke, giving a complete resume of education and experience. All correspondence held in strict confidence.

Research, design, development and manufacturing in...
avionics, electronics, consumer and industrial products.



**EMERSON
ELECTRIC**

8100 W. Florissant—Dept. 497B—St. Louis 36, Mo.

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-

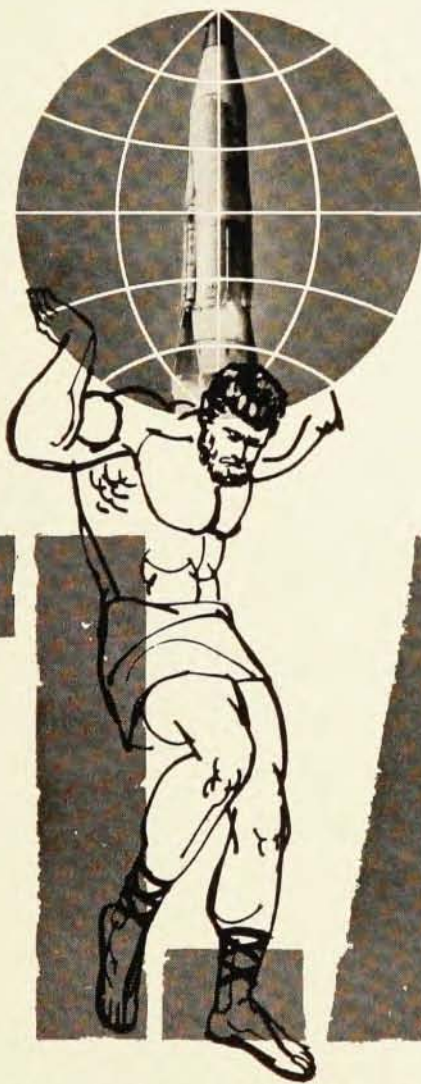
When crews of SAC's 1st Missile Division successfully launched the USAF ICBM Atlas from Vandenberg Air Force Base, September 9, 1959, the world became aware that the United States had brought into being a formidable retaliatory power for peace. Within four months after the first operational launch, the Air Force doubly underlined this missile's capability. On a single day, January 26, 1960, the 16th and 17th consecutive successful Atlases were fired intercontinental ranges to predetermined targets from both Atlantic and Pacific bases.

After only five years of intensive development, including concurrent research, testing and fabrication under this nation's top military priority, Atlas is extremely versatile as well as powerful. It was the Project Score satellite vehicle and is scheduled for use in Project Mercury, the Man in Space Program, and in other space exploration missions. Thus, used as a booster for space projects, Atlas provides the nation with a key capability in scientific as well as military applications.

Space Technology Laboratories provides the systems engineering and technical direction for the Atlas as well as other portions of the Air Force Ballistic Missile Program. Much of what was learned in building Atlas has helped cut the lead-time in the development of such other Air Force Ballistic Missiles as Thor, Titan and Minuteman.

Among the industrial organizations which have worked in concert in developing Atlas are such major contractors as: Convair, Division of General Dynamics Corp. for airframe, assembly and test; General Electric Co. and Burroughs Corp. for radio guidance; Arma, Division of American Bosch and Arma Corp. for inertial guidance; Rocketdyne Division of North American Aviation, Inc., for propulsion; General Electric Co. for re-entry vehicle; Acoustica Associates for propellant utilization.

**America's first
intercontinental ballistic
missile...is helping to
bear the burden of today's
power for peace**



ATLAS

The continuing development of Atlas as well as other USAF missiles and related space probes, has created important positions on STL's technical staff for scientists and engineers with outstanding capabilities in: thermodynamics, aerodynamics, electronics, propulsion systems, structures, physics, computer technology, telemetry, and instrumentation. If you believe you can contribute in these or related fields and disciplines, you are invited to send your resume to:

SPACE TECHNOLOGY LABORATORIES, INC.



P. O. Box 95004, Los Angeles 45, California, Attention: Richard A. Holliday

Los Angeles • San Diego

Santa Maria • Sacramento • Denver • Cheyenne • Cape Canaveral • Washington, D.C. • Manchester, England • Singapore • Hawaii

NEW SCINTILLATION DETECTORS

- NE810 Alpha Particle Detector, Consisting of .0005" sheet of plastic phosphor NE102 on a clear plastic base. This detector provides fast decay time, low gamma sensitivity and modest resolution.
- NE812 Hollow Plastic Scintillator for Beta Ray Spectroscopy and for multiple tracer studies of Beta emitters.
- NE813 Gamma Flow Detector for continuous monitoring of gamma effluents in aqueous or organic solutions.
- NE219 Liquid Scintillator for Beta counting of filter paper chromatograms and direct counting on filter paper.

Other products include Plastic Phosphor NE102 fast and slow neutron detectors, and loaded liquid scintillators.

N
NUCLEAR
ENTERPRISES LTD.
1750 Pembina Highway
WINNIPEG 9, CANADA
Associate Co.: Nuclear Enterprises
(G.B.) Ltd.
Sighthill, Edinburgh 11, Scotland

WANTED

A Physicist to set up demonstrations and to appear on camera in a series of fifteen science films to be made for fifth and sixth grade children. Starting date August 1, 1960. Salary Open. Contact box number 760B. Physics Today, 335 East 45th St., New York 17, N. Y.

can Chemical Society, held in Cleveland last April. Dr. Brode, who was honored for "his distinguished services to chemistry as a teacher, in research, in administration, as a contributor to the development of chemistry by his many activities in many professional societies, and as a public servant", is editor of the *Journal of the Optical Society of America*, president-elect of the Optical Society, and a member of the Governing Board of the American Institute of Physics. A member of the Chemical Society for 37 years, he has been a member of the ACS Board of Directors since 1951.

The British journal, *Research*, is again offering its Waverley Gold Medal and a prize of £100 for the best 3000-word essay describing a new scientific project or practical development, including an outline of the scientific background, experimental results, and potential industrial applications. A second prize of £50 will also be awarded, and a special £50 prize will be given for the best entry from a competitor who, on July 31, 1960, is not yet 30 years of age. The contest is open to persons who have been actively engaged in scientific work in the period January 1 to July 31 of this year. The journal is also introducing a new "Application in Industry Essay Competition" (with a first prize of £50 and a second prize of £30) which is open to practicing scientists under the age of 30. They may choose any new idea, concept, or experimental result put forward in the recognized scientific literature in the last two years and discuss in approximately 5000 words its potential commercial exploitation in the next decade. Entries to both competitions should be typewritten (double spaced) and must be submitted in English. Names should not be written on the essays. The title of the paper and the author's name, present occupation, technical qualifications, and age (if under thirty) should be written on a separate sheet and attached to the essay. Entries must reach The Editor, *Research*, 4/5 Bell Yard, London, W. C. 2, England, not later than July 31.

Grants and Fellowships

The National Science Foundation has announced that applications are now being accepted under two of its fellowship programs. Some 75 senior postdoctoral fellowships are available to US citizens with special aptitude for advanced training who have held the doctoral degree for at least 5 years or have equivalent training and experience. Awards will be made on the basis of ability as indicated by letters of recommendation and other evidences of scientific attainment. Applications will be evaluated by panels of scientists appointed by the National Academy of Sciences—National Research Council. The second group of awards, the science faculty fellowships, are intended for college teachers of science, mathematics, or engineering who wish to improve their competence as teachers. The fellowships are open to US citizens holding the baccalaureate degree who have demonstrated aptitude for sci-