



PHYSICIST

Technical Operations is a medium-sized research and development firm, operating in such fields as physics, electronics, chemistry, operations research, and applied mechanics. Our headquarters laboratory is at Burlington, Massachusetts and research facilities are maintained at Washington, D. C., Hampton, Virginia and Monterey, California. Our staff presently numbers about 200.

Continued development of the Company's research activities has created two staff positions for physicists at Burlington. Candidates should be on the PhD level or possess equivalent experience. The work will be on a variety of projects in both experimental and theoretical fields. Initial assignments will be in solid state physics, weapons effects, rarefied gas dynamics, and kilojoule discharge circuits.

Our interests are in scientists who can contribute unique solutions to non-routine problems in a variety of fields of physics and who like to work in an informal environment, with exposure to varied scientific disciplines. Our Company offers the usual benefit plan, including a profit-sharing program.

MR. ROBERT L. KOLLER

TECHNICAL OPERATIONS

INCORPORATED

South Ave., Burlington • Volunteer 2-8800

Education

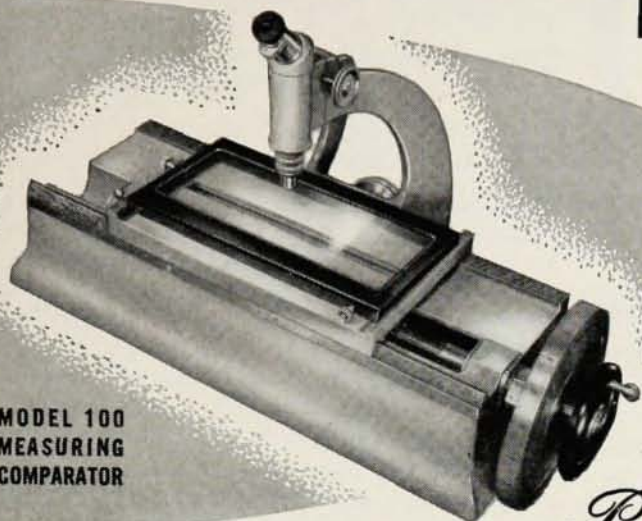
The National Science Foundation has announced the initiation, on an experimental basis, of a program to encourage appropriate groups to set up specially devised study opportunities in the fields of science and mathematics for secondary-school students of high ability. Proposals are invited from colleges, universities, and nonprofit research organizations for the summer of 1959. A wide variety of programs will be supported, including but not limited to one or more of the following features: classwork, laboratory visits, field trips, special orientation lectures, and research participation activities in which students work with experienced scientific investigators. Proposal for 1959 summer programs of this type must be received not later than January 5 by the Special Projects in Science Education Section, Division of Scientific Personnel and Education, National Science Foundation, Washington 25, D. C. Suggestions for the preparation of proposals are available from the same source.

Approximately 1100 predoctoral and postdoctoral fellowships for advanced study in the sciences will be awarded by the National Science Foundation in March 1959. Candidates must be US citizens who have demonstrated special aptitude in science and who will begin or continue their studies at the graduate or postdoctoral level. Predoctoral fellowships are available to those who are working toward the masters' or doctoral degrees in the first, intermediate, or terminal year of graduate study and to college seniors who expect to receive a baccalaureate degree during the 1958-59 academic year. All applicants for predoctoral awards will be required to take an examination designed to test scientific aptitude and achievement. This examination, administered by the Educational Testing Service, will be given on January 19, 1959, at designated centers throughout the US and certain foreign countries. Fellows will be selected on the basis of ability as evidenced by letters of recommendation, academic records, and other evidences of attainment. Their qualifications will be evaluated by selection panels and boards of the National Academy of Sciences—National Research Council. Final selection of fellows will be made by the National Science Foundation. Annual stipends for predoctoral fellowships range from \$1800 to \$2200; postdoctoral fellows will receive \$4500 per year. Dependency allowance of \$500 per annum for spouse and for each dependent child will normally be available. Tuition and laboratory fees and limited travel allowances will also be provided. Fellows may attend any accredited nonprofit institutions of higher education in the US or nonprofit institutions of higher education abroad. Applications for the NSF graduate and postdoctoral fellowship programs may be obtained from the Fellowship Office, National Academy of Science—National Research Council, 2101 Constitution Avenue, N. W., Washington 25, D. C. The closing dates for the receipt of applications are December 22, 1958, for postdoctoral applicants and January 5, 1959,

FOR MEASUREMENTS TO A

MICRON

**MODEL 100
MEASURING
COMPARATOR**



C O N S U L T

Paul M. McPherson
Precision Instruments



Call or write for descriptive brochure

ACTON • MASSACHUSETTS • TEL. COLONIAL 3-5324

MICROWAVE PHYSICS

... in which the microwave properties of plasmas and shock waves play a large part, is a central and growing activity at this Laboratory. Deeply involved in supporting research aspects of the anti-ICBM problem, our work in the radar "cross-section" field has opened new avenues of basic and applied research, both analytical and experimental.

We invite employment inquiries from Physicists, and others, with experience in microwaves and electromagnetic propagation.

*The Laboratory's professional prospectus,
"A Community of Science,"*

*is available upon request. Please address J. T. Ruch
and ask for booklet T-6.*

**CORNELL AERONAUTICAL
LABORATORY, INC.**

of Cornell University
BUFFALO 21, NEW YORK

CUSTOM MAGNETS

Whatever your needs—from laboratory magnets to beam extraction systems—let SPECTROMAGNETIC INDUSTRIES meet your precise requirements. Our engineers and physicists will design and build for you *any* magnetic system, including:

- Analyzing and deflecting magnets
- Spectrometers and spectrographs
- General purpose laboratory magnets where homogeneous fields are required
- Associated vacuum chambers and power supplies
- Multiple magnet systems which involve magneto-optical design
- Quadrupoles and quadrupole systems
- Air core solenoids and custom coils of all types and sizes

Write today for full information.

SPECTROMAGNETIC INDUSTRIES

932 American Street, San Carlos, Calif.
Phone LYtell 1-4524

FOR SIMPLE,
STURDY ASSEMBLY
CENCO®
**LATTICE ROD
CLAMPS**

Speedy assembly for all types of laboratory set-ups. Safe, dependable, exceptionally rigid. Easy to add or remove rods without dismantling structure. Made of tough alloy. Lock securely to rods by flush Allen screws.



No. 19092 Lattice Rod Clamps in package of 12 with wrench

\$5.85



CENCO the most complete line of scientific instruments and laboratory supplies in the world.

CENTRAL SCIENTIFIC CO.

1718-B Irving Park Road • Chicago 13, Illinois
Branches and Warehouses — Mountaineer, N. J.
Boston • Birmingham • Santa Clara • Los Angeles • Tulsa
Houston • Toronto • Montreal • Vancouver • Ottawa

**Career Opportunities for
IMAGE TUBE PHYSICISTS
at Westinghouse
ELECTRONIC TUBE DIVISION**

An accelerated growth in Image Tube activity at Westinghouse has created several outstanding opportunities for Physicists at Elmira, N. Y. and Baltimore, Md.

We are looking for Physicists with experience or demonstrated ability in the image tube field who desire challenging work in new uncharted areas: Pick-Up Devices, Image Orthicon, Vidicon, Storage Tubes, Radechon Tubes.

Our Research and Development laboratories in Elmira, N. Y. and Baltimore, Md., are situated near major universities where Westinghouse physicists are working toward advanced degrees. Professional and academic associations provide a fine environment for individual achievement.

Write or send resume to Mr. William Kacala, Technical Recruiting, P. O. Box 284, Dept. M-3H, Elmira, N. Y. or phone collect Elmira 9-3611.

Westinghouse
ELECTRONIC TUBE DIVISION • ELMIRA, NEW YORK



for graduate students working toward advanced degrees in science.

Lowell Technological Institute, Lowell, Mass., has instituted a four-year course in engineering physics leading to the BS degree. The course is under the direction of Charles R. Mingins, chairman of the Division of Engineering and head of the Institute's Department of Physics and Mathematics.

Publications

A series of articles concerning experiments in machine translation from one language to another has been translated from the Russian journal *Voprosy Yazykoznaniiya* (Problems in Linguistics) by the US Joint Publications Research Service—presumably employing old-fashioned human translators. The 72-page publication, containing articles which originally appeared in the period from September 1956 to the close of 1957, is now available in English under the title *Experiments in Machine Translation* (PB 141383T) and may be obtained from the Office of Technical Services, US Department of Commerce, Washington 25, D. C., for \$2.00.

The formal Proceedings have been published for three meetings that were described briefly in articles appearing earlier this year in *Physics Today*:

The Plasma in a Magnetic Field: A Symposium on Magnetohydrodynamics, edited by Rolf K. M. Landshoff (130 pp., Stanford University Press, Stanford, Calif., 1958, \$4.50).

Low Temperature Physics and Chemistry: Proceedings of the Fifth International Conference, edited by Joseph R. Dillinger (676 pp., University of Wisconsin Press, Madison, Wisc., 1958, \$6.00).

1958 Annual International Conference on High Energy Physics at CERN, edited by B. Ferretti and sponsored by IUPAP (358 pp., CERN, Geneva, Switzerland, 1958, 45 Sw. fr.).

The National Academy of Sciences has prepared and published the first of a series of bibliographies on the International Geophysical Year to be issued as a joint project of the Library of Congress, the Academy, and the National Science Foundation. It is expected that it will be followed by a second interim volume in the spring of 1959 and later by a final complete bibliography listing all references on the IGY of scientific interest collected by the Library prior to July 1959. The 64-page publication, *An Interim Bibliography on the International Geophysical Year*, lists more than 700 IGY references published between January 1951 and August 1958. The basis for selection of each entry has been its scientific value, extent of coverage, historical interest, and to a lesser extent its availability. Titles in Russian, East European languages, and Japanese have been translated into English. The existence of complete translations and English summaries is noted where available. The *Interim Bibliography* is priced at