

chief of space physics

FOR REPUBLIC AVIATION'S
SCIENTIFIC RESEARCH STAFF

Here is a rare opportunity for a creatively endowed space scientist to direct and enlarge the activities of a major section in Republic's expanding Scientific Research Staff.

The man selected must be a capable leader; and, having a comprehensive knowledge of the present state-of-the-art, be able to define areas for future research which show promise of leading to an eventual product technology. Responsibilities encompass space and astronautics research in its many diversities, including:

SPACE DYNAMICS • IONIZATION • RELATIVITY •
VACUUM PHYSICS • METEOROLOGY • SPACE
PROPULSION • RADIATION • COSMOLOGY •
SPACE ENVIRONMENTS

High credentials of scientific accomplishment and leadership in posts of comparable stature are required. Ph. D. preferred.

The Scientific Research Staff is now located in Republic's new \$14,000,000 Research Center. Its modern offices and seven fully equipped laboratories afford experimental facilities to enhance theoretical determinations. Combined with the pleasure of Long Island living, this opportunity is, indeed, unusual.

Please forward your resume in complete confidence to
Dr. Theodore Theodorsen, Director of Scientific Research



REPUBLIC AVIATION

Farmingdale, Long Island, New York

PERSONNEL PLACEMENT

CLASSIFIED: Positions Wanted, 25¢ per word, minimum charge \$4. Use of Box Number counts as 10 additional words. Payment in advance is required. Positions Open, \$40 per inch or fraction thereof. No charge for box number.

COPY for classified ads must reach SCIENCE 2 weeks before date of issue (Friday of every week).

DISPLAY: Rates listed below—no charge for Box Number. Monthly invoices will be sent on a charge account basis—provided that satisfactory credit is established.

Single insertion	\$40.00 per inch
4 times in 1 year	38.00 per inch
7 times in 1 year	36.00 per inch
13 times in 1 year	34.00 per inch
26 times in 1 year	34.00 per inch
52 times in 1 year	32.00 per inch

For PROOFS on display ads, copy must reach SCIENCE 4 weeks before date of issue (Friday of every week).

Replies to blind ads should be addressed as follows:

Box (give number)
Science
1515 Massachusetts Ave., NW
Washington 5, D.C.

POSITIONS WANTED

Basic Medical Science appointment at medical school, research institute wanted by 36-year-old M.D. Experience: Teaching histology, research; trace metals and cellular physiology. Neurochemistry project ready to start. Pharmacology, anatomy, or biochemistry department. Northeast Coast preferred; will consider elsewhere. Reply Box 97, SCIENCE. X

Broad-Spectrum Knowledge Biochemistry. Experienced in chemical literature and research journal publication. Ph.D. biochemistry. Male. Desire nonindustry position associated research and administration. Box 103, SCIENCE. X

POSITIONS WANTED

Biochemist, 38. Teaching and/or research. Lipid, nucleic acids, isotopes in growth and viruses in cell cultures, animals. Teaching and broad methods experience. Publications. Box 106, SCIENCE. X

Botanist, Ph.D. Morphology-anatomy major desires college teaching position. Experienced. Box 105, SCIENCE. 5/20

Clinical Biochemist, Ph.D. Has organized and directed large units; expert in most "special" tests. Married, family, present salary over \$11,000. Box 99, SCIENCE. X

Clinical Biochemist, Ph.D., trained at large general hospital; commercial laboratory experience; 3 years of teaching (biochemistry) and research at medical college. Desires hospital position permitting research. Box 104, SCIENCE. X

French-Speaking British M.D.; 10 years as clinician, 10 years in international health (WHO), postgraduate medical training France and experience French pharmaceutical industry, possessing French work-permit, offers services American company expanding European operations. Box 96, SCIENCE. X

POSITIONS OPEN

Biochemists. For pioneering study in the area of biochemical individuality, which is basic to all disease susceptibility. Holders of master's degree or doctorate will be considered if genuinely interested in this field. Generous stipends individually adjusted. Also part-time assistantships. Roger J. Williams, Director, Clayton Foundation Biochemical Institute, University of Texas, Austin. X

Chemist, Experienced, for Production of Blood Plasma Fractions. Good salary, permanent. Write or phone JUdson 6-2324, Dr. Cahan, Knickerbocker Biologicals Inc., 300 West 43 Street, New York 36. X

POSITIONS OPEN

Faculty of Agriculture. The University of Alberta invites applications for a position in the Department of Animal Science as Assistant Professor, starting salary \$6000-\$7000 depending on experience and qualifications, excellent prospects for advancement. Candidates should have a Ph.D. or equivalent in animal physiology with a minor in biochemistry and be qualified to conduct research involving the use of isotopes. Duties, to commence 1 September 1960, include fundamental and applied research with farm and laboratory animals, teaching and limited extension work.

Applications, accompanied by a recent photograph, and giving age, nationality, and other personal information, transcripts of academic record, list of publications and experience, and names and addresses of three references, should be addressed to the Head, Department of Animal Science, University of Alberta, Edmonton, Alberta. Closing date: 30 June 1960. 5/6

Anatomy Department, Dalhousie University, Halifax, Nova Scotia. Applications are invited for two positions at the rank of Assistant Professor in the Department of Anatomy. Experience in the teaching of gross anatomy is essential and a willingness to undertake some teaching in neuroanatomy, histology, or embryology desirable. The successful candidates will be expected to participate in the active research program of the department, for which good facilities are available. Applicants with a medical degree will be preferred although those with an honors degree in medical science or biology will receive special consideration. The salary for a medical graduate with minimum qualifications will be \$6500. The salary will depend upon qualifications and experience. Applications should be made to Professor R. L. deC. H. Saunders at the above address. 3/4; 4/1; 5/6; 6/3

Histologist, Histochemist, Ph.D. or equivalent. Research institute, New York. Modern, well equipped and staffed, air-conditioned laboratory. Opportunity for training in electron microscopy. Box 107, SCIENCE. 5/13, 20

POSITIONS OPEN

(a) **Biochemist, Ph.D.**, to supervise medical school research, diagnostic cardiology laboratory; supervise technologists, train new employees, devise new techniques for chemical analysis; must be experienced in latest procedures, equipment; midwestern university medical center; to \$9000.
(b) **Bacteriologist**. Prefer also qualified immunology to work principally in joint research project in university school of dentistry, affiliated teaching hospital; some teaching, laboratory work required; Midwest. (c) **Virologist M.S., Ph.D.**, for research, teaching, possibly diagnostic work and (d) **Microbiologist-Immunologist Ph.D.** to participate teaching microbiology to sophomore medical students, some research; eastern university medical school. (e) **Biochemist, B.S., M.S.**, to head laboratory section, 300-bed voluntary general hospital; to \$8000; midwestern college city 75,000. (f) **Pharmacologist, Ph.D.** trained, experienced cardiovascular field to supervise acute, chronic screening programs, study potential cardiovascular compounds; eastern company; about \$10,000. (Please write for an analysis form. Our 64th year: Founders of the counselling service to the medical profession. Serving medicine with distinction over half a century.) Science Division, Woodward Medical Bureau, Ann Woodward, Director, 185 North Wabash, Chicago. X

ENDOCRINOLOGIST OR PHYSIOLOGIST

An expanding midwestern pharmaceutical company has an opportunity for a Ph.D. endocrinologist or physiologist with interest and experience in physiology of reproduction. Prefer 1 to 2 years postdoctoral industrial or academic experience. Position would involve basic and preclinical studies with sex hormones and related drugs.

Please send résumé to

Technical Employment Coordinator
THE UPJOHN COMPANY
Kalamazoo, Mich.

HEAD OF PHARMACOLOGY

Midwestern pharmaceutical firm seeks qualified man to head its Pharmacology Department. Age 35-45. Prefer M.D. and Ph.D. degrees. Should have 5 to 7 years of teaching experience as Assistant or Associate Professor and/or research experience with pharmaceutical firm. Broad knowledge of field is necessary. Duties consist of supervising other Ph.D.'s, supervision of pharmacology screening and broad decisions on various programs. Salary commensurate with experience.

All replies confidential. Send résumé of education and experience to

Box 101, SCIENCE

Medical Technologist, blood banking background desirable. Interest in research required. Excellent opportunity to participate in blood group research. Salary open. Mail replies to R. F. Ambelang, Milwaukee Blood Center, Inc., Milwaukee, Wis. ew

Microbiology of Coal and Petroleum. The Research Council of Alberta has an opening for a microbiologist to participate in research dealing with the origin, constitution, and utilization of fossil fuels. Existing projects involving microbiology deal with the development of porphyrin pigments in crude oil and with microbiological oxidation of aromatic hydrocarbons. Investigations of the sulfur compounds in both oil and coal and of humification processes are planned. There will be opportunity to participate in the choice and planning of research programs and ample scope for individual scientific development. Salary dependent on qualifications. Make application to The Secretary, Research Council of Alberta, 87th Avenue and 114th Street, Edmonton, Alberta. 5/6

POSITIONS OPEN

Botanist. Experienced in microtechnique and general botanical preparation. For work with well-known biological supply house. Preparation of slides and other demonstrations for botany and general biology. Male or female, prefer Ph.D.; M.S. and experience acceptable. Good salary, benefits, paid vacation, and sick leave. Opportunity for advancement. Reply to Box 95, SCIENCE. 5/6

PHARMACOLOGIST

Midwestern pharmaceutical firm seeks recent Ph.D. or M.D. graduate. Will specialize in pharmacology studies. Salary open. All replies confidential. Send résumé to

Box 102, SCIENCE

Physiologist or Biophysicist. To direct research laboratory concerned with effects of very strong electromagnetic fields on normal and neoplastic tissues in animals and man. Appropriate faculty rank and staff status in large midwestern hospital and medical school. Salary, \$10,000 to \$15,000, depending on qualification. Box 80, SCIENCE. 5/6; 6/3; 7/8

Research and Teaching Assistantships available for graduate students. Programs in metabolism, mechanism of biological reactions, muscle physiology, and enzyme chemistry. Stipends \$3000 per year. Applications invited for immediate consideration or for next academic year. Personal interviews arranged for promising candidates. Write to Chairman, Department of Pharmacology, St. Louis University School of Medicine, St. Louis 4, Mo. 5/13

SENIOR RESEARCH OFFICERS

\$8,340-\$9,420

required by
Canadian

Department of Agriculture
for research in

**NUTRITION, PHYSIOLOGY,
BIOCHEMISTRY, APICULTURE,
INSECT PATHOLOGY and
ANIMAL GENETICS.**

For details, write to
**CIVIL SERVICE COMMISSION,
OTTAWA**

Ask for Circular 60-551.

Virologist (IVa) Ph.D., to head public health virus laboratory engaged in diagnostic and research activities. State civil service with retirement plan, plus social security. Starting salary \$8435 to \$10,774 maximum. Write Michigan Civil Service, Recruitment and Placement, Lansing 13, Mich., for further information. 5/6, 13, 20

The Market Place

BOOKS • SERVICES • SUPPLIES • EQUIPMENT

DISPLAY: Insertions must be at least 1 inch in depth. Monthly invoices will be sent on a charge account basis—provided that satisfactory credit is established.

Single insertion	\$40.00 per inch
4 times in 1 year	38.00 per inch
7 times in 1 year	36.00 per inch
13 times in 1 year	34.00 per inch
26 times in 1 year	34.00 per inch
52 times in 1 year	32.00 per inch

For PROOFS on display ads, copy must reach SCIENCE 4 weeks before date of issue (Friday of every week).

BOOKS AND MAGAZINES

SCIENTIFIC JOURNALS WANTED

Sets, Runs and Volumes bought at top prices. Your wants supplied from our Back Files of over 3,000,000 periodicals. Abrahams Magazine Service, N. Y. 3, N. Y.

BOOKS AND MAGAZINES

Your sets and files of scientific journals

are needed by our library and institutional customers. Please send us lists and description of periodical files you are willing to sell at high market prices. Write Dept. A3S, CANNER'S, Inc. Boston 20; Massachusetts

MAMMARY TUMORS IN MICE

AAAS Publication No. 22. By the staff of the National Cancer Institute, National Institutes of Health. F. R. Moulton, Ed.

7 1/4" x 11 1/2", cloth, 20 tables, 52 illus. Published 1945—Now offered at reduced price: \$3.00 prepaid orders by AAAS members, \$3.50 retail.

AAAS

1515 Massachusetts Avenue, NW,
Washington 5, D.C.

PROFESSIONAL SERVICES

BIOLOGICAL SERVICES

Foods, Drugs, Cosmetics, Chemicals, Feeds, Packaging—Toxicological, Mycological and Bacteriological Investigations



United States Testing Co., Inc.

1415 Park Ave., Hoboken, N. J.

HISTOLOGY

for

Industry and Research
GEORGE L. ROZSA, M.D.

143 Linwood Ave. Buffalo 9, New York
GRant 7165

LABORATORY SERVICES

for the **FOOD, FEED, DRUG** and **CHEMICAL INDUSTRIES**

Analyses, Biological Evaluation, Toxicity Studies, Insecticide Testing and Screening, Flavor Evaluation.

Project Research and Consultation

Write for Price Schedule
P. O. Box 2217 • Madison 1, Wis.

SUPPLIES AND EQUIPMENT

Miniature, All-Purpose CALCULATOR

A precision instrument that will do all the calculations of larger expensive desk models. Weighs only 8 oz. Fits Hand. Fast, accurate, sturdy... completely portable. Ideal for all on-the-spot calculating. Fully guaranteed. Write for Free literature, prices, name of nearest dealer. **THE CURTA COMPANY** Dept. 55 14435 Cohasset St. Van Nuys, Calif.



SWISS MICE

**BACTERIOLOGICAL AND GROSS
TISSUE STUDY TECHNIQUES USED
IN OUR QUALITY CONTROL**

HUNTINGDON FARMS, INC.
2548 NORTH 27th ST. PHILA. 32, PA.

YOU NEED THIS FREE CATALOG FOR YOUR FILES

Serums, antisera and bloods of all kinds for technicians and tissue culture laboratories. No salesman will call.

COLORADO SERUM CO.

4950 York St. • MAin 3-5373 • Denver 16, Colo.

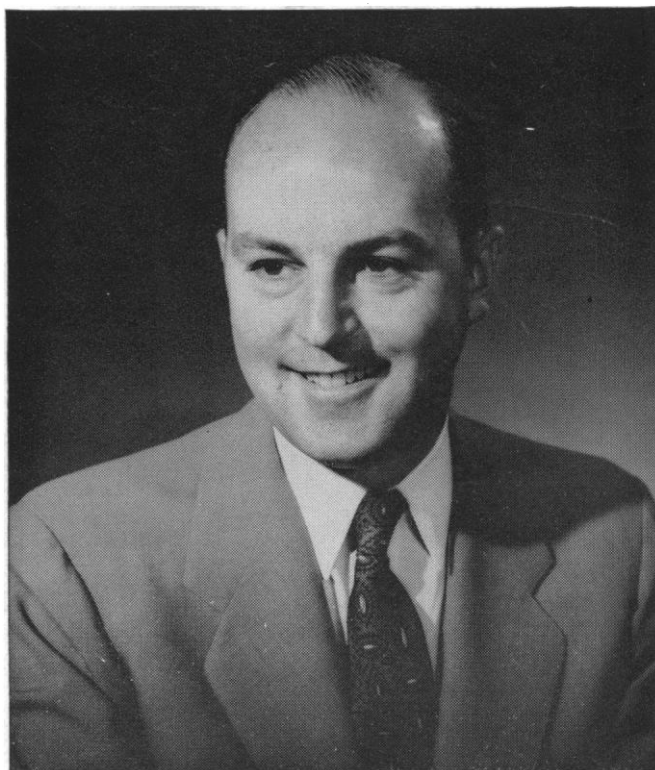


...NEWS IS HAPPENING AT NORTHROP 

Growing Importance of Weapon Systems Support Puts New and Vital Emphasis on Specialized Engineering

by Charles A. Kerner

*Chief Engineer, Systems Support,
Nortronics Division of Northrop Corporation*



Some of today's most vital and challenging engineering research and development work is in the area of weapon systems support. Our defense planning calls for vastly more sophisticated weapons — weapons such as the Navy's Polaris missile, the Air Force's Sky Bolt air-launched ballistic missile, and the Army's new family of high-performance tactical weapons. Creating support systems for such weapons places new emphasis on specialized engineering talent.

Nortronics Division of Northrop Corporation, recognizing this essential relationship of weapon and support equipment, has already achieved outstanding advances in vital areas that include the following:

ELECTRONICS. Nortronics anticipated the need for rapid, automatic readiness evaluation of complex weapon systems and produced DATICO (Digital Automatic Tape Intelligence Check-out). Now operational, it is already adapted and performing for all three branches of our Armed Forces. For the Navy, DATICO serves on the Polaris project. Nortronics is developing units for missile-system check-out aboard the Polaris-firing submarine, the submarine tender, and at the Naval Weapons Annex. The Air Force employs DATICO

for depot checkout of advanced airborne electronic components. A Nortronics-developed Universal Field Maintenance Shop Set based on DATICO is now in the Army inventory.

MECHANICAL GROUND HANDLING SYSTEMS. One example: The Army's Hawk. Nortronics produced the first integrated design of mobile launcher and tracked self-propelled loading vehicle. On other projects, Nortronics relates its experience to develop special handling vehicles for forthcoming weapon systems.

OPTICAL SYSTEMS. Nortronics physicists, optical designers, mechanical and electronic engineers pioneer advanced techniques to solve the missile industry's and the Armed Forces' highly complex optical problems. These include special image-producing systems and converting infrared into visual images; optical sights; range finders and fire control systems for ground vehicles, shipboard and aircraft weapons; and reconnaissance systems.

COUNTERMEASURES AND EXPLOSIVE ORDNANCE. On classified projects and in modifying and applying known penetration aids, Nortronics meets the demands of future weapon systems. Areas of emphasis: weapon systems integration and tactical analysis, dynamics, design and test, and

ballistics. Current contributions include chaff-dispensing technology and infrared decoys.

Nortronics organizes its Systems Support engineering staff on a project basis which permits a complete spectrum of specialists to concentrate their efforts in each primary area of development. Aiding these scientists and engineers in technological depth is the Systems Engineering group which provides comprehensive systems analysis and synthesis studies. With facilities and resources of the entire Northrop Corporation at his disposal, each specialist at Nortronics is encouraged to create the most advanced contributions in his field.

Current papers by Nortronics scientists and engineers include: "Integration of Missile Ground Support Equipment" by Irvin Trowbridge and William B. Van Horne. "Toward Universal Test Systems" by Robert Gray. "Radial Distortion: Its Calibration, Computation in Non-Gaussian Image Planes, and Compensation" by Dr. Konstantin Pestrecov.

For copies of these papers and additional information about Northrop Corporation, write:

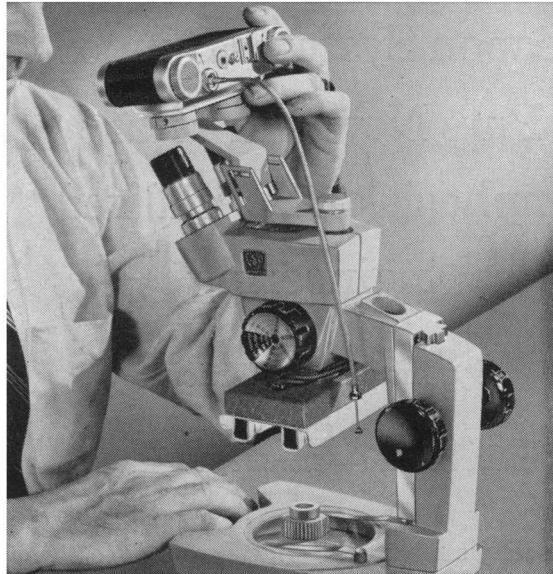
NORTHROP 
CORPORATION

Department T7-1300-32, P.O. Box 1525
Beverly Hills, California

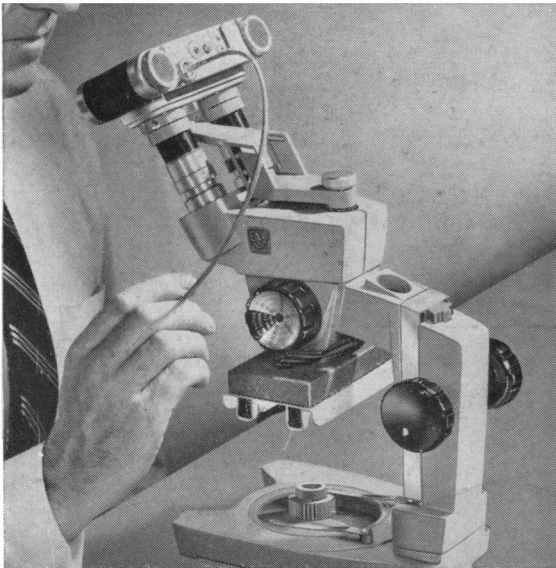
AO Offers Low-Cost Stereophotomicrography ... in just three easy steps



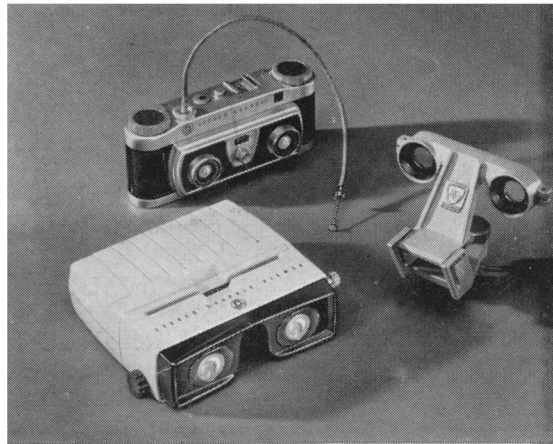
1 SET the focusing adjustment on your AO Spencer Cycloptic Stereoscopic Microscope, to bring specimen into sharp focus. Camera is mounted directly to Cycloptic... out of the way... ready for instant use.



2 SWING the mounted 35mm Graflex Stereocamera into position over eyepieces. Designed exclusively for Cycloptic, special compensating prisms in adapter unit render camera parfocal with microscopes' optical system. Set camera for bulb exposure. No further adjustment is necessary.



3 SNAP shutter with cable release. You photograph the sharp three-dimensional image exactly as you saw it. Your film processor will supply stereo mounted photographs. Now you have permanent, three-dimensional photomicrographs, in black-and-white or color, for future reference.



The full-size Graflex Stereoviewer, with built-in light source, completes this easy-to-use 3-D photo package. You can review your findings over and over again... anytime... anywhere. Here is everything you need for three-dimensional photomicrography... unique... easy-to-use. Available only from American Optical.

Ask your AO Sales Representative or write:



American Optical Company

INSTRUMENT DIVISION, BUFFALO 15, NEW YORK

Dept. E-1

☐ Please send full information on AO Spencer 637 Stereo-camera attachment.

☐ Also include information on AO Spencer Cycloptic Stereoscopic Microscopes.

Name

Address

City Zone State