

■ **PULSE-SAMPLING SYSTEM** for use with the manufacturer's oscilloscopes permits observation of recurrent signals with rise times to approximately 0.6 μ sec. Displays with apparent sweep times as short as one μ sec can be provided. Sampling rate is 50 cy to 100 key/sec with 50, 100, 200, and 500 samples per display. Input impedance is 50 ohms, and sensitivity is 10 mv/cm. An external trigger signal of 0.5 volt and at least 1 μ sec duration, 45 μ sec in advance of the signal, is required. (Tektronix, Inc., Dept. Sci621, P.O. Box 831, Portland 7, Ore.)

■ **TELEMETRY SIGNAL SIMULATOR** provides a pulse-amplitude modulated pulse train for calibration and check-out. Pulse and frame rates range from 6 to 3600 per second. Linearity and stability are said to be within ± 0.2 percent and noise and cross talk less than 0.1 percent. Negative and positive variable output signals are available with provision for introducing missing pulses. (Telemetrics, Inc., Dept. Sci612, Box 234, Northridge, Calif.)

■ **PHASE-ANGLE METER** consists of an 8-watt power oscillator and a variable phase shifter having a range of 90 deg ± 10 deg. Resolution and incremental accuracy are said to be ± 0.05 deg and absolute accuracy better than ± 0.25 deg throughout the range and better than ± 0.1 deg at the 90-deg point. Standard frequency is 400 cy/sec, but other frequencies can be supplied. (Industrial Test Equipment Co., Dept. Sci622, 55 E. 11 St., New York, N.Y.)

■ **CORROSION MEASUREMENT PROBE** is a vacuum-deposited film of metal, 2 to 50 μ in. thick, the metal varying with the application. As the metal exposed to the medium under test corrodes away, the resistance of the deposited metal increases. The change is observed by observing the ratio of resistance of exposed to protected sections of the film. As little as 5 μ in. of metal loss is said to be detectable. (Thompson Ramo Wooldridge, Inc., Dept. Sci613, Canoga Park, Calif.)

■ **SEMI-MICRO ZONE-MELTING APPARATUS** contains the sample in a glass tube of internal diameter 3 to 10 mm and effective length 100 to 150 mm. A lifting device raises the filled tube through a concentrated-heat zone at 1 in./hr. Three interchangeable heater coils provide a maximum temperature of 310°C. Operating voltage is 200 to 250 volts a-c, and current is less than 1 amp. (Baird & Tatlock Ltd., Dept. Sci624, Chadwell Heath, Essex, England)

JOSHUA STERN

National Bureau of Standards,
Washington, D.C.

8 JULY 1960

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.

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Replies to blind ads should be addressed as follows:

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

POSITIONS WANTED

Biochemist, Ph.D. Experience includes proteins, enzymes, chromatography, medical research. Desires academic, clinical, or industrial research position with responsibilities. Box 143, SCIENCE. X

Biochemist, Ph.D., 33-year-old-male, with plenty of teaching and theory, wishes to expand background in basic techniques through work with independent investigator or research team. Available 1 September. Box 149, SCIENCE. X

Cytogeneticist, Ph.D. Experienced in electron microscopy, cytochemistry. Desires teaching and research position. Box 148, SCIENCE. X

Physiologist-Pharmacologist; 13 years of experience teaching and pharmaceutical industry. Desires teaching position only anywhere except South. Married, 4 children. Available almost immediately. Box 146, SCIENCE 7/15, 22

(a) **Parasitology-Mycology Ph.D.,** 10 years' hospital laboratory experience; 8 years of basic research on immunology-pathogenesis studies; available for teaching or research appointment; (b) **Biochemist-Organic Chemistry, M.S.,** 2 years of Ph.D. training with physiology-pharmacology majors; 2 years of resin coating production experience and fractionation research studies; desires commercial production and research employment. S7-2 Medical Bureau, Inc., Science Division, Burneice Larson, President, 900 North Michigan Avenue Chicago. X

Virologist, August Ph.D. Desires research or teaching position. Box 145, SCIENCE. 7/15

POSITIONS OPEN

SPECIAL LIBRARIAN

M.L.S. or equivalent, to head industrial library devoted to medical, chemical, biological literature. Previous special library experience desirable. Salary commensurate.

National Scientific Personnel Bureau Inc.
Box 2707
Washington 5, D.C.

Biochemist or Physiologist for endocrine research laboratory, M.S. or B.S. plus several years' experience in hospital and/or medical research laboratory preferred. Responsible position, excellent salary, and opportunity to work toward higher degree. Apply Personnel Office, Indiana University Medical Center, 1100 West Michigan, Indianapolis. 6/24; 7/1, 8

Biologist. Opening for man with several years of applied agricultural experience. Practical experience with problems involving some combination of agronomy, fertilizers, growth regulators, fungicides necessary. Requirement to be able to conduct field plot test work related to theory and own laboratory and greenhouse data. Initial salary \$7000 per annum plus excellent fringe benefit program. Write W. H. O'Shaughnessy, Personnel Department, S. C. Johnson & Son, Inc., Racine, Wis. X

POSITIONS OPEN

BACTERIOLOGIST. \$9138 annually. Ph.D., U.S. citizenship required. Principal functions: control of methods, teaching and consultation to staff, clinical research. New 500-bed hospital and large laboratory nearing completion, near University of Michigan and Wayne State University. Pension, life insurance and hospitalization plans, social security, liberal vacation, sick leave. For application write Wayne County Civil Service Commission, 628 City-County Building, Detroit 26, Mich. 7/15, 22

(a) **Bacteriologist; B.S.,** 2 years' clinical experience, 5-year old 250-bed general hospital; to \$5400; college city 150,000; Southwest. (b) **Biochemist; M.S.,** to direct busy section, voluntary general hospital 300 beds; to \$8000; cosmopolitan midwestern city 75,000. (c) **Organic Chemist; Ph.D.,** for work in synthesizing compounds with pharmacological activity, responsible to research director; large southern pharmaceutical manufacturer; to \$10,000, excellent potential. (d) **Virologist; M.S.** preferred for research project in isolation, identification new viral agents; pediatric hospital and affiliated research foundation; to \$6000; Southeast. (e) **Biochemist; Ph.D.,** to supervise several hospital sections, private laboratories under direction group of three pathologists; to \$12,000; southern California. (f) **Serology-Virology Technologist; B.S.,** experience to supervise technical activities; duties tissue culture isolation, serological identification of viral agents; \$5400; outstanding southeastern university. (Please write for an analysis form. Our 64th year: Founders of the counseling 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

BLOOD GROUP IMMUNOLOGIST

M.S. in field of immunology with good knowledge of protein chemistry & immunohematology to work in manufacturing, performing a liaison function with research. Broad knowledge of antigen-antibody reactions with reference to blood group serology required.

Send Resume To:
ORTHO PHARMACEUTICAL
CORPORATION

Route 202 Raritan, N. J.

Chemist. \$9138, Ph.D., U.S. citizenship, training and/or experience in pharmacology, physiological or toxicological chemistry. Position available in modern well-equipped toxicology laboratory in County Medical Examiner's Department, downtown Detroit. Liberal fringe benefits. Close to Wayne State University College of Medicine. For application write Wayne County Civil Service Commission, 628 City-County Building, Detroit 26, Mich. 7/15, 22

(a) **Endocrinologist** trained in physiology and biochemistry to organize screening program and supervise for large drug manufacturer; East. (b) **Radiation Biology-Physiologist Assistant or Associate Professor;** liberal arts college; East. (c) **Research Biochemist,** for carbohydrate metabolism studies with leading pharmaceutical firm; young Ph.D. preferred; Midwest. (d) **Assistant Professor of Veterinary Science;** teach and conduct infectious disease research at agricultural college; \$6000-\$7200 year; Midwest. (e) **Microbiology instructor** to teach, supervise diagnostic laboratory, and conduct research at medical college; \$6000-\$8000 year; East. (f) **Biochemist** for newly created position in 500-bed hospital; \$7000-\$8300 year; Chicago. (g) **Pharmacology-Physiology Ph.D.** with biochemistry background for experimental toxicology research with leading food product manufacturer; fine facilities in new research center; East. (h) **Bacteriologist** to supervise product development of bacterial and viral vaccines; established biological manufacturer; Midwest. (i) **Abstractors, Ph.D. or M.S.,** with medical or biological training and knowledge of foreign languages; around \$10,000 year; East. (j) **Assistant Professor of Zoology** for state liberal arts college; South. (k) **Animal Behavior Research Associate** for university research institute; Midwest. (Please write for details; also many other positions available through our nationwide service.) S7-2 Medical Bureau, Inc., Science Division, Burneice Larson, President, 900 North Michigan Avenue, Chicago. X

Histologist-Histochemist, Ph.D. or equivalent. Research institute, New York. Modern well-equipped and staffed air-conditioned laboratory. Opportunity for training in electron microscopy. Address replies to Box 137, SCIENCE. 6/24; 7/1, 8

Paleontologist, Ph.D., with research interests in geochemistry or paleoecology; for appointment as Assistant Professor. Apply to Chairman, Department of Geology, McMaster University, Hamilton, Ontario, Canada. X

POSITIONS OPEN

LITERATURE CHEMIST

Permanent opening for person with degree in chemistry (organic background). Must be able to prepare translations from German, Russian, and French. Knowledge of Italian and Swedish desirable, but not essential. Under the guidance of the editor of the *Merck Index* selects material; collects data on new drugs and chemicals; assists in writing new monographs; handles correspondence with users of the *Index*; studies the literature of chemical nomenclature, reports changes and advances to the editor; and makes comprehensive literature searches. Salary commensurate with qualifications and experience. Send detailed résumé to

Personnel Manager
Merck Sharp & Dohme Research
Laboratories
Rahway, New Jersey

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.

Pharmacologist. B.S. or M.S. with 2 to 6 years' experience in drug evaluation, or recent Ph.D., for research department of rapidly expanding upstate New York pharmaceutical company. Box 144, SCIENCE. 7/15

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

PH.D. BACTERIOLOGISTS BIOCHEMISTS PHARMACOLOGISTS PHYSIOLOGISTS

Excellent opportunity for alert individuals to do research work with plastics and eye tissue. Opportunity to do editing, educational, and liaison work. Send complete résumé, including earnings record and recent snapshot.

Box 147, SCIENCE.

Research Associate. Zoologist or anatomist, Ph.D. with training in histochemistry and embryology, for research in growth and development of teeth and face. Salary and academic rank open to negotiation, dependent on education, research experience, and publications. Appointment at dental school for a long-term project in collaboration with medical school staff on same campus. Apply to Dr. B. S. Savara, Head of Department, Child Study Clinic, 611 S.W. Campus Drive, Portland 1, Ore.

Applications are invited for the position of **Senior Lecturer in Physics**. The salary for the position is A2160/A2510 p.a., but salaries are at present under review. Applicants should possess a Doctorate of Philosophy or Science conferred for research in some branch of physics. Some lecturing experience is desirable but not essential. Further particulars are obtainable from the Registrar, University of Queensland, Brisbane, Australia, with whom applications close on 15 August 1960.

Science Teachers, Librarians, Administrators urgently needed for positions in many states and foreign lands. Monthly non-fee placement journal since 1952 gives complete job data, salaries. Members' qualifications and vacancies listed free. 1 issue, \$1. Yearly (11 issues) membership, \$5 individual; \$10 institutional. CRUSADE, SCI., Box 99, Station G, Brooklyn 22, N.Y.

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RADIOCHEMIST

for organization Radiochemistry Department associated with 3 megawatt Reactor for research and limited production of radioactive isotopes. Research experience and previous publications indispensable. Knowledge of Spanish desirable or willingness to learn the language.

Send detailed curriculum vitae and reprints to

Dr. Marcel Roche, Director
Instituto Venezolano
de Investigaciones

Cientificas
Apartado 1827
Caracas, Venezuela

ACADEMIC INSTITUTIONS

Our client, a mature Ed.D., wants to head a physics department in a relatively small college. Excellent teacher and researcher with grant potential. Salary \$11,000. Write

National Scientific Personnel Bureau, Inc.
Box 2707 Washington 5, D.C.

The Market Place

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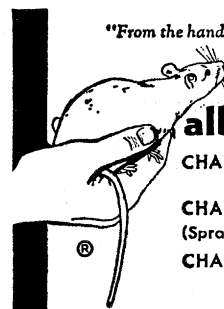
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NAS-NRC Committee on Photobiology

PHOTOPERIODISM AND RELATED PHENOMENA IN PLANTS AND ANIMALS

922 pp., 256 illus., 1959 \$14.75
\$12.50 cash orders from AAAS members

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466 pp., 161 illus., 1955 \$7.00
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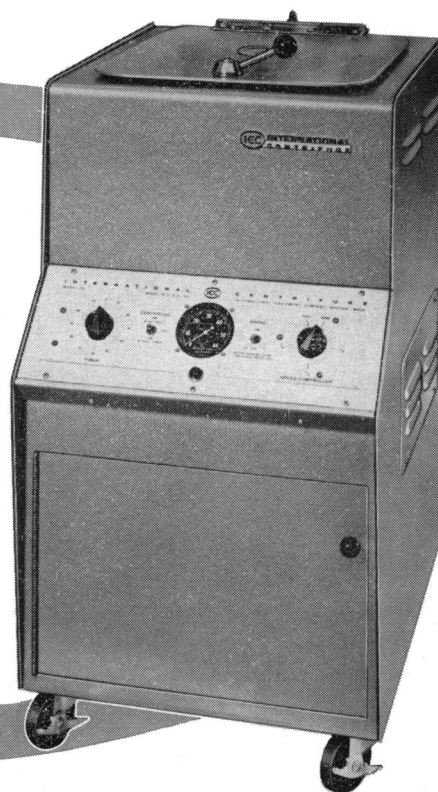
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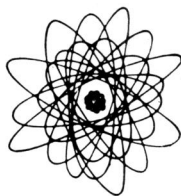
Because of the productive skills and experience of the world's largest manufacturer of laboratory centrifuges, you pay no more for this advanced design than you would for a time-tested Model CM with its separate cabinet stand. Get all the facts about the great new Model CS from your nearby authorized International Dealer or write:

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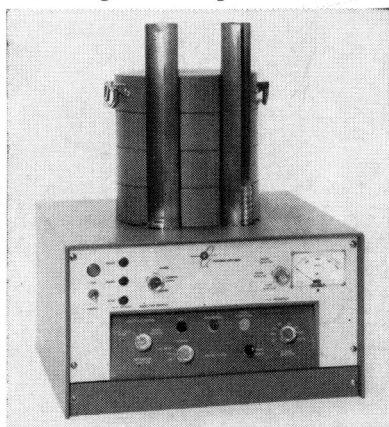
NUCLEAR REVIEWS

from
NUCLEAR-CHICAGO



HOW TO BRUSH OFF COSMIC RAYS

When you're trying to count very low level radioactive samples, cosmic rays can really mess up your data. They'll pass through hundreds of pounds of lead and cause "background" counts in your detector. A background of 10-30 counts per minute can be ignored if your sample is highly active, but such a background makes it impossible to measure a sample emitting only a few disintegrations per minute.



To solve this problem we are pleased to announce a new product which eliminates cosmic ray background and permits *auto-matic* analysis of as many as 35 low level C-14, P-32, S-35 or Sr-90 solid samples.

Our new Low Background Automatic Sample Changer rejects

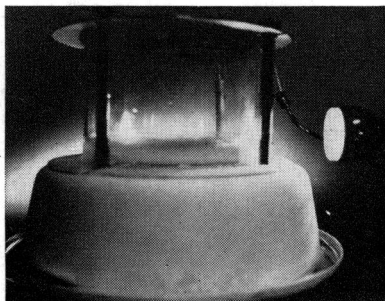
cosmic rays ingeniously and effectively. The sensitive gas flow sample detector is surrounded by a "guard" detector. When a cosmic ray comes down fully intent on masking your data, it must first pass through the "guard." Ah-ha! It's foiled! The guard activates an anticoincidence circuit and the cosmic ray never reaches the scaler. Result? Cosmic ray background is zero. Total background, caused primarily by stray gamma rays, is *only 2 cpm*.

Now researchers can cut substantially the amount of labelled reagent previously required. Low level samples can be analyzed accurately and automatically for the first time. Measurement time is reduced significantly.

Full information is available in our new Bulletin C115. Please ask for your copy.

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Step right up folks! Want to have a lot of fun with radioactivity? Wake up the class? Bulge the eyes of your students? It's easy! Buy a Cloudmaster® cloud chamber and see radioactivity! See penetrating cosmic rays! See powerful gamma rays collide with electrons! See beta particles curve through magnetic fields! See heavy alpha particles ionize millions of tiny water droplets! See the mysterious world of the atom!



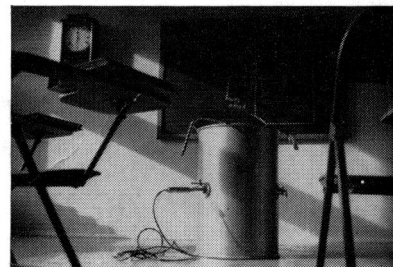
For the sum of \$99.00 (f.o.b. Des Plaines, Ill.) we'll be honored to send you a complete Cloudmaster with power supply, flood lamp, chamber, radiation source, and instructions. All you need is dry ice and alcohol to create a supersaturated vapor layer. In the vapor

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ALCHEMY IN YOUR OWN CLASSROOM

Almost everyone with an interest in science knows that chemical elements can be changed into radioactive isotopes in a nuclear reactor. Probably less well known is the fact that radioisotopes can be produced (and *were produced* long before the first reactor was built) by simply exposing stable elements to slow neutron bombardment.



The NH3 Neutron Howitzer is a new device for holding up to 5 curie neutron sources. It has ports for foils or for the introduction of materials into the slow neutron flux. It can be used for simple activation analysis studies, for the production of low level, short-lived radioisotope tracers, and for experimentation and study of neutron sources. It costs about 1/100th the price of even the smallest reactor, and can be moved easily from the classroom to the laboratory. A new 6-page brochure tells you all about it. Ask for Bulletin NH3.


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