New Products

The information reported here is obtained from manufacturers and from other sources considered to be reliable. Neither Science *nor the writer assumes responsibility for the accuracy of the information. All inquiries concerning items listed should be addressed to the manufacturer. Include the department number in your inquiry.*

■ INFRARED DETECTOR MEASUREMENT CONSOLE (Fig. 1), model ISL302, measures photoconductive, photovoltaic, photoelectromagnetic, and pyroelectric detector characteristics. Also measured are the characteristics of thermistor bolometers and a-c thermocouples. Black-body sensitivity is measured from 350°K to 1000°K as function of frequency, noise band width at a given frequency, and bias voltage. The black body radiates upward for convenient use with cooled cells and liquid refrigerants and can be cooled with water cooling. Black-body temperature is controlled by a platinum-wire thermometer built into the black body and connected to a bridge-type solid-state controller.

Spectral response is measured from 1.0 to 5.5 μ in 0.5 μ steps, with additional points available on request, also as a function of frequency, noise band width at a given frequency, and bias voltage.

Response is measured as a function of intensity by changing black-body apertures or by varying the black-body temperatures for monochromatic measurements. Resistance of photoconductors and bolometers is continuously monitored.

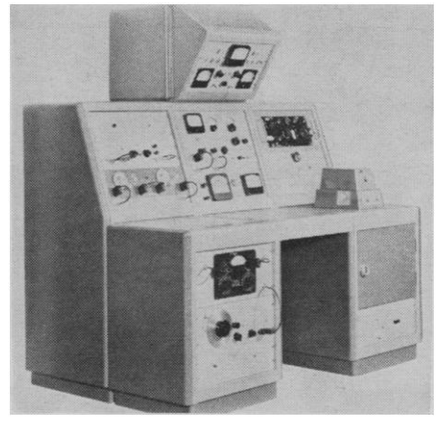


Fig. 1. Infrared detector measurement console.

Noise may be read simultaneously on a wave analyzer and on a meter of adjustable band width. A built-in noise intergrator may be used with either instrument to provide a single-valued, nonambiguous measurement.

Two cell fixtures are provided. One is designed primarily for testing uncooled plate-type cells (up to six at a time); the other will handle most Dewar cooled-cell sizes. Connections are provided for using dry nitrogen to keep the windows of the cooled cells dry.

The console may be preset to given test conditions for use as a production test set. (Infrared Industries Inc., Dept. Sci59, P.O. Box 42, Waltham 54, Mass.)

■ WAVEGUIDE COMPONENTS AND MEASURING EQUIPMENT for D9 double-ridged waveguides, capable of handling a broader band than rectangular waveguide, include adapters, tunable detectors, variable attenuators, directional couplers, impedance meters, slide screw tuners, sliding terminals, high-power terminals, 90-deg axial twists, and waveguide tubings. Components are designed for the 4.75-to-11.0-kMcy/sec band. (Narda Microwave Corp., Dept. Sci28, 118-160 Herricks Rd., Mineola, N.Y.)

■ RADIOMETER for measuring the difference between incoming and outgoing solar radiation consists of a windshielded sensitive element, a gas supply, and an optional heating ring. The sensitive element consists of 250 thermojunctions bounded by two blackened plates. The windshield, formed of two extremely thin plastic hemispheres, is transparent over the full range of wavelengths. Dry nitrogen gas serves to keep the hemispheres inflated and free of internal condensation. The gas container holds enough gas for a year of operation. The heating ring prevents dew formation on the hemispheres. Sensitivity is about 30 mv/g-cal cm^2 min. Internal resistance is about 80 ohms. A calibration certificate is furnished. (Middleton & Co., Dept. Sci29, Tasmania House, 317 Flinders Lane, Melbourne C, Australia)

■ DATA TRANSMISSION SYSTEM is used in conjunction with telephone company service to transmit both fixed data from prepunched cards and variable data manually entered on a keyboard. The data received at a central point in the form of punched cards can be fed directly into the manufacturer's automatic data-processing system. At the sending station, the cards are inserted one at a time into a combined reader and keyboard, and the operator moves the card carriage until it strikes a stop. As the carriage returns, data are transmitted at approximately 12 digits per second, up to a maximum of 22 digits, from a single card. A maximum of 79 columns of information can be punched into one output card at the receiving station. (International Business Machines Corp., Dept. Sci24, 112 E. Post Rd., White Plains, N.Y.)

JOSHUA STERN

National Bureau of Standards, Washington, D.C.

PERSONNEL PLACEMENT

CLASSIFIED: Positions Wanted. 25c per word, minimum charge $4. Use of Box Number counts as 10 additional words. Payment in advance is required.

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

DISPLAY: Positions Open. Rates listed below—no charge for Box Number. Rates net. No agency commission. No cash discount. **Minimum ad**: 1 inch. Ads over 1 inch will be billed to the nearest quarter inch. Frequency rate will apply to only repeat of same ad. No copy changes. Payment in advance is required except where satisfactory credit has been established.

Single insertion	**$40.00 per inch**
4 times in 1 year	**38.00 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

Physical Chemist, Ph.D. Excellent publication, patent record. Stimulating teacher, productive researcher, administrative experience as academic department head, industrial research director. Seeking challenging department chairmanship or scientific leadership position. Age 38, family. Box 13, SCIENCE. X

Virologist, Ph.D. Tissue culture, genetics, transduction. Desires tumor research with strong biochemical orientation. Box 15, SCIENCE. X

Zoologist, Ph.D., desires teaching-research position. Midwest or Northeast. Box 14, SCIENCE. 2/3

POSITIONS WANTED

(a) **Botany (Mycology) Ph.D.**, bacteriology minor; university biology teaching, 1 year; aeromedical research on cosmic radiation, 3 years; research mycologist for fermentation firm, 2 years; prefers academic or research position. (b) **D.V.M.**; Ph.D. pathology major; histology-cytology minor; university teaching of pathology-parasitology in veterinary schools, 7 years; medical college, 1 year; radioactive pathology research, 3 years; interested in academic, basic, or pharmaceutical research. (Please write for information regarding these and other scientists in all fields; nationwide service.) S1-4 Medical Bureau, Inc., Science Division, Burneice Larson, Chairman, 900 North Michigan Avenue, Chicago. X

Scientist-Translator will translate Japanese technical documents. $30 per 1000 words. Hiroshi Oyama, 307 Decatur, Monterey, Calif. 1/27; 2/3, 10

POSITIONS OPEN

ANATOMIST, HISTOLOGIST, CYTOLOGIST, HISTOCHEMIST

Ph.D. or equivalent. Research institute, New York. Modern, well-equipped, and staffed laboratory. Opportunity for training in electron microscopy.

Box 12, SCIENCE

POSITIONS OPEN

(a) **Pharmacologist**; M.D., Ph.D. to direct cardiovascular screening program; requires experienced, able scientist; to $13,000; western pharmaceutical company. (b) **Biochemist**; B.S., M.S. to supervise busy department, 250-bed general hospital; to $7500 for M.S.; Chicago area. (c) **Virologist**; Ph.D. to direct state public health virus laboratory in scenic northern location; minimum $9000; city 20,000. (d) **Bacteriologist**; M.S., Ph.D. to aid in reorganizing laboratory, 300-bed general hospital; $9000; lovely southeastern location. (e) **Neurochemist or Biochemist**; research in degeneration, regeneration central nervous system; faculty appointment possible; outstanding midwestern university medical school. (f) **Bacteriologist**; M.S., Ph.D. experienced clinical bacteriology to head busy section, new 350-bed general hospital; to $8400 for M.S., to $9600 for Ph.D.; West Coast. (g) **Organic Chemist**; young Ph.D. to establish, develop basic research program in polyamino acids; superior facilities, ample funds; faculty appointment if desired in nearby medical school; midcentral government laboratory. (h) **Bacteriologist**; M.S., equivalent in clinical experience to aid board pathologist in laboratory supervision, 250-bed hospital; $7500; Chicago suburb. (i) **Pharmacologist**; Ph.D. experienced investigation autonamic drugs, able do independent research, training, supervise technical help; to $12,000; expanding West Coast company. (j) **Biochemist**; Ph.D. to head department, approved general hospital 250 beds; city 50,000; South; to $12,000. Science Division, **Woodward Medical Bureau**, Ann Woodward, Director, 185 North Wabash, Chicago. X

Research Assistantships in Biochemistry and Physiology at B.A. or M.S. level. Research applicable toward Ph.D.

Heart disease research institute associated with large midwestern university. Initial stipend up to $4800 for 12 months' service. Send complete résumé.

Box 1, SCIENCE

POSITIONS OPEN

BACTERIOLOGISTS

RESEARCH

Creative Bacteriologists will find challenging research projects in medical bacteriology available at ARMOUR RESEARCH FOUNDATION. B.S. or M.S. in Bacteriology and some experience in this field preferred. This is a long established research organization located in a metropolitan area offering cultural and educational advantages.

Excellent employee benefits and liberal vacation policy. Please send resume to E. B. Beck.

ARMOUR RESEARCH FOUNDATION

OF ILLINOIS INSTITUTE OF TECHNOLOGY
10 W. 35th ST. • CHICAGO 16, ILLINOIS

Clinical Chemist—Excellent opportunity for Ph.D. to take charge of small group which develops analytical precedures for measurement of new drugs in biological fluids. Also to supervise assay of body components. *Send resume to Personnel Department,* **Wallace Laboratories,** Cranbury, New Jersey.

(a) **Coccidiosis Research Manager** with parasitology and some biochemistry background to supervise drug testing, product creation, and promotion of active research program for manufacturing firm; around $10,000; Midwest. (b) **Plant Physiologist** for research with plant growth regulator group of large chemical firm; radiotracer techniques helpful; Midwest. (c) **Biochemist** for active department of hospital recently increased to 350 beds in suburban area; $9000–$10,500; East. (d) **Physiologist** for radiation injury, space, and aviation medicine studies; important radiological research program; Pacific Coast. (e) **Editor,** Ph.D. or M.D., to direct group of writers; also **Medical Writers** with B.S. or M.S. degrees; leading pharmaceutical firm; East. (f) **Neuroanatomist** for CNS research and possibly teaching at university medical center; Midwest. (g) **Physiology-Endocrinology Teacher** at graduate level in university; East. (h) **Biologists, Botanists, Zoologists** for field collection and laboratory preparation of specimens for scientific firm; $7000–$8400; also **Department Manager** able to supervise and direct activities, $8000–$9600; Midwest. (i) **Plant Physiologist-Biochemist** for plant growth regulators and germination studies for commercial firm; Midwest. (j) **Head of Virus Laboratory** qualified to assume responsibility for state health department; $8000–$10,680; Northwest. (k) **Psychologist,** Ph.D. or M.A., with extensive rehabilitation experience for university-affiliated hospital; $10,000; East. (l) **Microbiologist/Biochemist** for independent research on chemical and agricultural product development; leading manufacturer offering outstanding opportunities; Midwest. (m) **Medical Director,** Ph.D. in biochemistry or physiology or M.D. to supervise clinical laboratories and conduct research at university hospital; teaching opportunities; Southwest. (Please write for details; also many other positions available through our nationwide service.) S1-4 Medical Bureau, Inc., Science Division, Burneice Larson, Chairman, 900 North Michigan Avenue, Chicago. THE BEST SOURCE FOR THE BEST MEDICAL–SCIENTIFIC POSITIONS. X

POSITIONS OPEN

ORGANIC CHEMIST

(Antibiotic Research)

M.S. in organic chemistry plus experience in natural product isolation, purification & classification.

BIOCHEMIST

M.S. in biochemistry plus industrial experience in natural products area

Send detail resume & salary requirements to PERSONNEL DEPT.

SCHERING CORP.

60 Orange St. Bloomfield, N.J.

RESEARCH ASSISTANT WANTED, for research in physical chemistry of proteins. B.S. or M.S. or equivalent. Salary depends on qualifications. Apply Dr. Arnold Wishnia, Department of Biochemistry, **Dartmouth Medical School,** Hanover, New Hampshire.

UNIQUE CHALLENGE. Openings for physicist, chemist, astronomer, and geologist with graduate degrees, Ph.D. preferred. To instruct at Summer Science Camp. Educational experiment where science is taught in the relaxed surroundings of the outdoors. Small selected enrollment of boys with high aptitude and interest in science. Modern facilities and equipment. Salary open. Director, Adirondack Science Camp, State University College of Education, Plattsburgh, N.Y. 2/10

FELLOWSHIPS

ANNOUNCING UNIVERSITY OF LOUISVILLE PREDOCTORAL FELLOWSHIPS IN BIOCHEMISTRY for 1961–1962. Stipends begin at $1800, tax-free, tuition paid. Dependent and travel allowances. Applications should be submitted *by 1 March.* Write Chairman, Department of Biochemistry, University of Louisville School of Medicine, 101 West Chestnut Street, Louisville 2, Kentucky, for application. 1/27

UNIVERSITY OF FLORIDA

Research Assistantships in Anatomy, Biochemistry, Microbiology, or Physiology Leading to M.S. and Ph.D. Degrees:

FIELDS OF RESEARCH ACTIVITY include experimental embryology, teratology, electron microscopy, venom toxicology, neuroanatomy, neurophysiology, endocrinology, respiration, hemodynamics, immunology, virology, parasitology, bacterial physiology, protein structure and metabolism, nucleic acids, lipids, vitamin synthesis, enzyme mechanisms, biophysical chemistry.

LIBERAL STIPENDS ($255 a month), tuition reduction; high faculty-graduate student ratio; modern new air-conditioned medical school with excellent research facilities; new graduate student housing; pleasant Florida climate.

ADMISSION REQUIREMENTS: Bachelor's degree with high academic achievement, and Graduate Record Examination scores.

For detailed information, write to the chairman of the department of your major interest, UNIVERSITY OF FLORIDA COLLEGE OF MEDICINE, GAINESVILLE, FLORIDA.

The Market Place

BOOKS • SERVICES • SUPPLIES • EQUIPMENT

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

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.**

SUPPLIES AND EQUIPMENT

CAESAREAN-DERIVED
mice
CHARLES RIVER CD-1
Hypophysectomies

THE CHARLES RIVER MOUSE FARMS
Affiliate, The Charles River Breeding Labs
1018 Beacon St., Brookline 46, Mass. RE 4-2000

Now taking orders for:

C3H • AKR • STRONG A • C57BL
(C3H x 101) F1

TEXAS INBRED MICE CO.
305 Almeda-Genoa Rd.; R.F.D. 7, Box 1232-C
Houston 21, Texas

YOU NEED THIS **FREE**
CATALOG FOR YOUR FILES

Serums, antiserums 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.

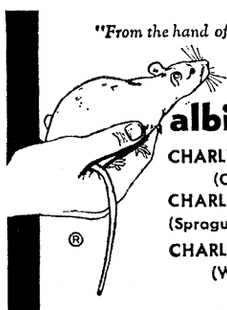
SWISS MICE

BACTERIOLOGICAL AND GROSS TISSUE STUDY TECHNIQUES USED IN OUR QUALITY CONTROL

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

1919 - 1961
LaMotte Chemical
Chestertown, Maryland, U.S.A.
Specialists in
Colorimetric Techniques
Reagents-Standards-Comparators
Send for Illustrated
Controls Handbook **Dept. H**

"From the hand of the veterinarian to research"®



albino rats

CHARLES RIVER CD
(Caesarean derived)
CHARLES RIVER SD
(Sprague-Dawley descendants)
CHARLES RIVER W
(Wistar descendants)

HYPOPHYSECTOMIZED RATS

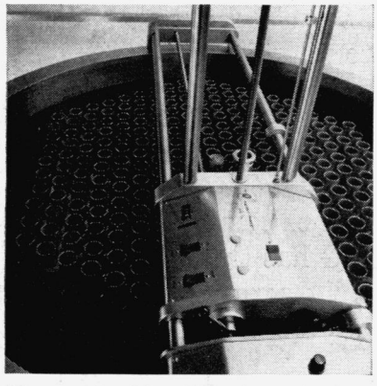
- Only Charles River CD animals used
- Rigidly controlled environment (same bldg.) birth to surgery.
- High speed surgery by graduate biologists.
- 10 years experience animal surgery.
- Overnight air service from Boston

THE CHARLES RIVER BREEDING LABS
1018 Beacon St., Brookline 46, Mass. RE. 4-2000
Henry L. Foster, D.V.M., President

NUCLEAR REVIEWS

from

NUCLEAR-CHICAGO



You are looking into the lattice of the Nuclear-Chicago Model 9000 Subcritical Student Training Reactor. Each tube projecting out of the water contains 5 natural uranium slugs 1″ in diameter by 8″ long. The center tube holds a neutron source to initiate and maintain a chain reaction.

The Subcritical Assembly is designed so students themselves can change the lattice shape or the source position and study the effect of these changes on neutron distribution, multiplication, and scattering. The parts of the 9000 cannot be arranged in any way to make the device critical. The number of neutrons in the assembly never exceeds 6 to 7 times the neutron source strength. No special shielding is required, no operator licensing, no involved safety program.

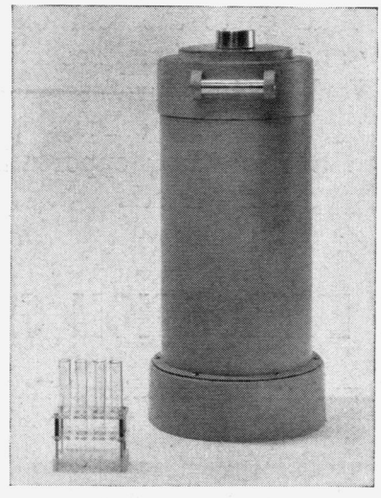
The water moderator allows placement of foils, detectors, and absorbers at any point in the lattice.

An automatic traversing mechanism, like the one shown over the tank, is available to move a detector through the lattice to permit continuous automatic recording of the flux distribution.

The 9000 is in use today in more than 20 colleges and universities. Its low initial cost, simple upkeep, and the fact that its fundamental characteristics are nearly identical with those in a full scale power or research reactor make it an ideal training device. We would be pleased to send you full details.

NEW SCINTILLATION WELL DETECTOR TAKES 20ml SAMPLES

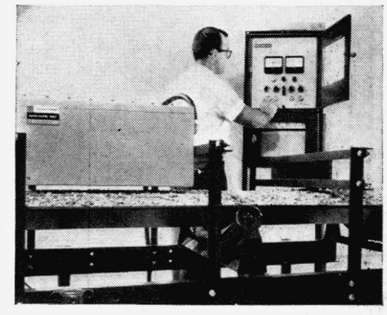
The $^{21}/_{32}$″ diameter well in conventional scintillation well detectors can be frustratingly small. Suppose you have a large volume sample (blood, for instance) that contains a very small amount of radioactivity. You naturally want to count the largest volume possible to increase the accuracy and speed up the measurement. But, that little well puts an end to efficient thoughts like that. The maximum volume you can insert into the well is about 5 ml.



Be frustrated no more! Nuclear-Chicago has designed a new scintillation well detector with a great big 3″ diameter crystal with a great big $1^{1}/_{8}$″ diameter well. Our new DS-303 accepts samples with volumes up to 20 ml. Now you can cut the amount of labelled material used in your experiment by a factor of four, analyze samples with lower specific activities, speed up counting of routine samples, etc., etc.

We have a new 4-page specification sheet describing the DS-303. Write today for your copy.

MOISTURE-DENSITY MEASUREMENTS ON THE PROCESS LINE



Here is a photograph of the first nuclear gauge ever developed to measure moisture content of bulk materials right on a conveyor belt. It is one of four new process control instruments developed in the past year at Nuclear-Chicago.

The four gauges are designed for measurement and control of *moisture* and *density* of materials on conveyor belts, in bins and hoppers, and in tanks, mixers, and blenders.

Each instrument series consists of three basic parts: a measuring head, an electronic read-out, and a recorder/controller which displays the desired information and controls the measured variable. Density measurements make use of gamma reflection and transmission; moisture measurements are accomplished by neutron reflection methods.

We have an 8-page brochure describing these four new gauges. Ask for the "Qualicon" brochure.

nuclear-chicago
CORPORATION
349 HOWARD AVENUE • DES PLAINES, ILLINOIS