

nual, Cleveland, Ohio. (American Inst. of Mining, Metallurgical and Petroleum Engineers, 29 W. 39 St., New York 18, N.Y.)

8-12. Pan-American Federation of Engineering Societies, 4th convention, Mexico, D.F., Mexico. (S. E. Reimel, Engineers Joint Council, 29 W. 39 St., New York 18.)

8-13. International Cancer Cytology Cong., Chicago, Ill. (A. H. Dearing, College of American Pathologists, Prudential Plaza, Chicago 1.)

9-10. Air Research and Development Command Science Symposium (classified), 4th annual, Boston, Mass. (Headquarters, ARDC, U.S. Air Force, P.O. Box 1395, Baltimore 3, Md.)

9-12. American Dietetic Assoc., 39th annual, Milwaukee, Wis. (Mrs. T. Pollen, ADA, 620 N. Michigan Ave., Chicago 11, Ill.)

9-15. World Medical Assoc., 10th general assembly, Havana, Cuba. (L. H. Bauer, WMA, 345 E. 46 St., New York, N.Y.)

10-12. Indiana Acad. of Science, Bloomington. (W. A. Daily, Eli Lilly Research Laboratories, Indianapolis 6, Ind.)

10-18. Arid Zone Climatology with Special Reference to Microclimatology, international symposium, Melbourne and Canberra, Australia. (UNESCO, 19 Avenue Kléber, Paris 16^e, France.)

11-12. International Scientific Radio Union, U.S. National Committee, Berkeley, Calif. (J. P. Hagen, 2101 Constitution Ave., NW, Washington 25.)

14-17. Society of American Foresters, Memphis, Tenn. (H. Clepper, SAF, 17th and Pennsylvania Ave., NW, Washington 6.)

14-19. American Acad. of Ophthalmology and Otolaryngology, annual, Chicago, Ill. (W. L. Benedict, 100 First Ave. Bldg., Rochester, Minn.)

15-17. Assoc. of Official Agricultural Chemists, annual, Washington, D.C. (W. Horwitz, Box 540, Benjamin Franklin Station, Washington 4.)

15-17. Soil Conservation Soc. of America, Tulsa, Okla. (H. W. Pritchard, SCSA, 1016 Paramount Bldg., Des Moines, Iowa.)

15-18. American Veterinary Medical Assoc., annual, San Antonio, Tex. (J. G. Hardenbaugh, AVMA, 600 S. Michigan Ave., Chicago 5, Ill.)

15-19. American Soc. of Civil Engineers, annual, Pittsburgh, Pa. (W. H. Wisely, ASCE, 33 W. 39 St., New York 18.)

15-26. New York Acad. of Medicine, annual graduate fortnight, New York, N.Y. (Secretary, Graduate Fortnight, NYAM, 2 E. 103 St., New York 29.)

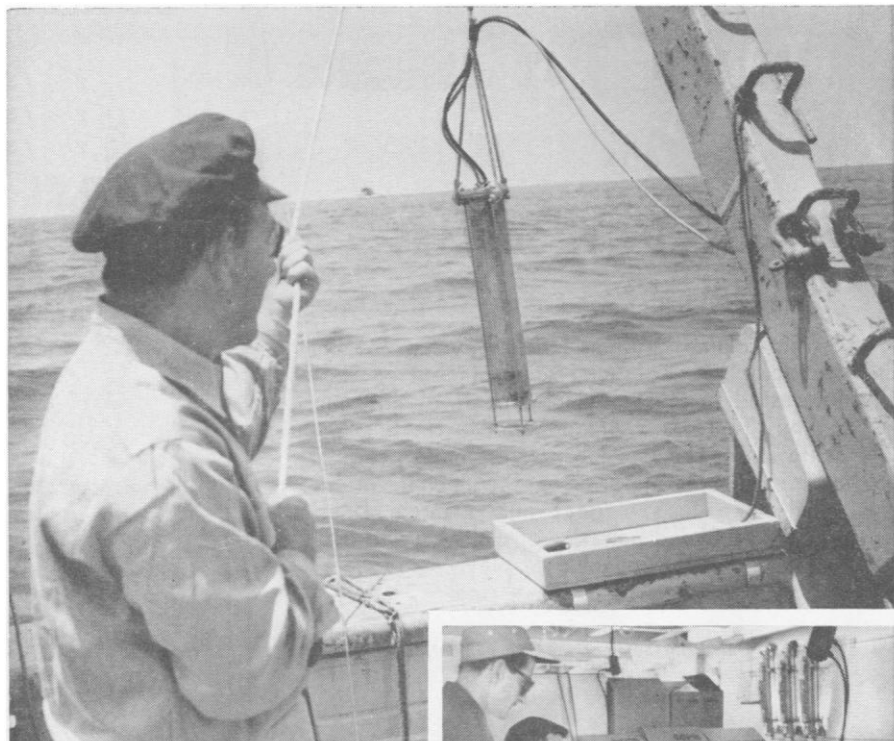
16-17. National Acad. of Economics and Political Science, Washington, D.C. (D. P. Ray, George Washington Univ., Washington 6.)

16-18. Conference on Magnetism and Magnetic Materials, Boston, Mass. (T. O. Paine, Measurements Laboratory, General Electric Co., West Lynn, Mass.)

17-18. International Union of Therapeutics, cong., Paris, France. (A. Lemaire, 54, rue de Saxe, Paris 7.)

(See issue of 17 August for comprehensive list)

31 AUGUST 1956



(above) Nuclear-Chicago scintillation detector is lowered into water for tracing the radioactive sewage effluent at varied depths over a 25 square mile area. (right) Gamma-ray spectrometer system, ratemeter and recorder on laboratory ship measure and chart traces of radioactive scandium during 36-hour period of experiment.



RADIOACTIVITY HELPS PREVENT BEACH POLLUTION FROM SEWAGE EFFLUENT

In a unique experiment just completed in Santa Monica Bay, California, radioactive isotopes were successfully used to trace the dispersion of sewage effluent in ocean waters. The results are helping to establish proper design procedures to insure against beach pollution in a current expansion of the Los Angeles sewage system.

The tracer experiment was a joint project of Hyperion Engineers, Nuclear Science and Engineering Corporation and the Hancock Foundation of the University of Southern California. Twenty curies of scandium-46 were mixed with sewage effluent and discharged into the sea. Scientists aboard a laboratory ship then took radioactive measurements over a wide area to determine dilution rate and direction of diffusion.

Since this was a "one-shot" experiment, the dependability and overall sensitivity of the equipment were extremely important. The instruments chosen, including the DS5-3 scintillation detector, 1810 gamma-ray spectrometer, 181 scaler and 1620 ratemeter were standard Nuclear-Chicago catalog items.

 **nuclear-chicago**

NUCLEAR INSTRUMENT AND CHEMICAL CORPORATION
 237 West Erie Street, Chicago 10, Illinois
 LEADERS IN MAKING RADIOACTIVITY COUNT

A JOSIAH MACY, JR. FOUNDATION PUBLICATION

GROUP PROCESSES

Transactions of the Second Conference

This volume contains much of value not only to biologists and social scientists but to those interested in metaphysical aspects of communication. There is a unique and fascinating presentation of the social structure among penguins; additional new material on the neonate-mother relationship in the goat and man; a kinesic analysis of filmed behavior of children; and lively discussion on the meaning of play.

Edited by
Bertram Schaffner
University Seminar on Communications
Columbia University

\$3.50

JOSIAH MACY, JR. FOUNDATION PUBLICATIONS
16 WEST 46th STREET, NEW YORK 36, NEW YORK

Please make checks payable to Josiah Macy, Jr. Foundation

Chemist, Physical Ph.D.

ADVANCED WORK IN HIGH TEMPERATURE AND RELATED FIELDS

As part of its work on advanced missile weapons systems, the Special Defense Projects Department of GE is doing advanced work on:

- Kinetics of the upper atmosphere
- Radiation and collision processes
- Emission and absorption characteristics of gases
- High temperature radiation
- Gas composition at high temperature
- Molecular characteristics of vaporized materials
- Transport properties of dilute gases at high temperature
- Equilibrium properties of gases
- Surface kinetics
- Gas kinetics at high temperature
- Hypersonic inviscid flow

If you have several years experience in the field and are interested in work in these areas, write in confidence to:

MR. W. BILLINGSLEY
SPECIAL DEFENSE PROJECTS DEPARTMENT

GENERAL  ELECTRIC

3198 Chestnut Street, Room 100-A
Philadelphia 4, Pa.

PERSONNEL PLACEMENT

CLASSIFIED: 18¢ per word, minimum charge \$3.60. Use of Box Number counts as 10 additional words.

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	\$22.00 per inch
13 times in 1 year	21.00 per inch
26 times in 1 year	20.00 per inch
52 times in 1 year	19.00 per inch

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

POSITIONS OPEN

Ph.D. for a Postdoctoral Fellowship in the area of avian embryology and histochemistry. For particulars write to Chairman, Department of Poultry Science, State College of Washington, Pullman, Washington. 8/31

PHARMACEUTICAL PRODUCT DEVELOPMENT

Excellent supervisory opportunity in rapidly expanding Pharmaceutical Product Development Laboratory. Degree in Pharmacy is desirable, also some industrial pharmaceutical development experience, preferably in antibiotics. Laboratory located 25 miles from Philadelphia. Send résumé and salary requirements to Box 212, SCIENCE. X

POSITIONS OPEN

(a) Faculty Members in Comparative Anatomy, Chemistry, Biology, Pharmaceutical Chemistry, Physiology, Physics, Mathematics, and Microbiology; ranks dependent upon qualifications; ample time for research. (B) Associate Medical Director; physician well trained in pediatrics, internal medicine, or surgery; advantageous if expert in marrow area; pharmaceutical company; Pacific Coast; \$15,000. (c) Biochemist, Ph.D. or M.D., experienced in enzyme chemistry, qualified to direct medicocochemical laboratory, 600-bed hospital affiliated medical school; salary sufficient to interest outstanding candidate; East, S8-5 Medical Bureau, Palmolive Building, Chicago. X

RESEARCH ASSOCIATE (Physicist)—Research on problems of radiation measurement involving use of complex electronic equipment; program emphasizes detailed study of spectrum of gamma rays from collimated sources through variety of absorbers using multichannel analyzers. Qualifications: B.S. in physics and 2 to 3 years work experience with special emphasis on nuclear instrumentation and electronics; or M.S. and some physics research.

RESEARCH ASSOCIATE (Physicist)—Responsibility for radioactive isotopes, dosage preparation and record control; operation of health-physics program; control and storage of radioactive material. Supervises chemist. Qualifications: B.S. in nuclear physics and 2 to 3 years related experience or M.S. in nuclear physics. Courses in analytical chemistry desirable.

Starting salary to \$6000 depending upon qualifications. Opportunity to further education and carry on thesis research for M.S. or Ph.D. For applications write: Management Services Department, Oak Ridge Institute of Nuclear Studies, P.O. Box 117, Oak Ridge, Tennessee. X

Research Microbiologist. Minimum of 6 years required in either an industrial or academic capacity. A good background in immunology and biochemistry required. Ph.D. preferred, but will consider M.S. Salary open. Inquire of Dr. Earl B. Gerheim, Sherman Laboratories, 5031 Grandy, Detroit 11, Michigan. 8/10, 17, 24, 31

POSITIONS OPEN

Chemist, Research Assistant, male or female; biochemical experience, \$4000. Box 208, SCIENCE. 8/31

Scientific Writer. Young M.D. or person with equivalent training in medical science with literary interest and talent to write technical material for the medical profession. Work involves interpretation of laboratory and clinical data on new drugs explaining composition, application, use, therapeutic action of new drug discoveries for F.D.A., scientific publications, and practicing physicians. Large mid-western ethical pharmaceutical research and manufacturing organization. Please send complete résumé to Box 213, SCIENCE. 9/7, 14, 21

POSITIONS WANTED

Bacteriologist—Lawyer; M.S., LL.B. (September); 8 years' experience in production and development administration in pharmaceutical and allied industry in United States and Latin America. Biochemistry minor. Sigma Xi. Fluent Spanish. Age 32. Foreign assignment considered. Box 211, SCIENCE. X

Certified Clinical Chemist; Ph.D.; 8 years, chief, university chemistry department; 5 years, chief, chemistry, 600-bed hospital. Medical Bureau, Palmolive Building, Chicago. X

Microbiologist, Ph.D. Competent investigator in medical bacteriology, mycology. Research experience with phages and animal viruses. Chemistry background. Publications. Desires position in research, teaching, or industry. Box 215, SCIENCE. 9/7

Nurse, Ed.D.; 13 years' experience nursing service and education. Desires deanship or directorship university school of nursing; prefers new or developing program. Box 193, SCIENCE.

Virologist, M.S. Tissue culture, academic and industrial research experience. Publications. Desires academic or industrial position. Box 209, SCIENCE. 8/31

It takes all 3...



Yes, NUTRITIONAL BIOCHEMICALS CORPORATION offers you all three — Service you can always rely upon . . . Quality you can put your confidence in . . . and Economy to assure you of lowest possible prices.

A COMPLETE SELECTION OF MORE THAN 165 NUCLEOPROTEINS and DERIVATIVES

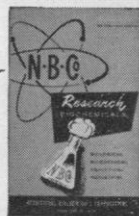
Typical Derivatives

Adenosine	6 Mercaptopurine
Triphosphate	Uridylic Acid
Cytidine	Uridine
Cozymase	2, 6 Diamino
Coenzyme I, II, A	Purine Sulfate
Cytosine	8 Aza Guanine



**NUTRITIONAL
BIOCHEMICALS
CORPORATION**

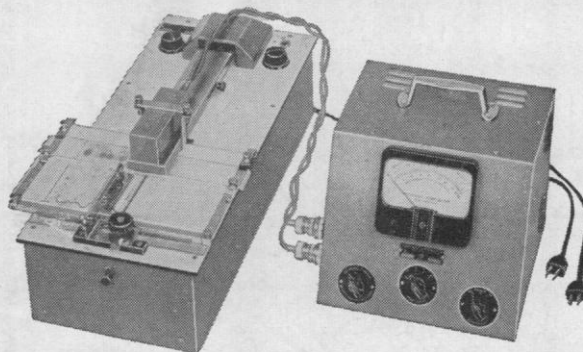
21010 Miles Avenue . . . Cleveland 28, Ohio



Write For
New Catalog
August 1956
Over 1700 Items
Write Dept. 102

PHOTOVOLT Densitometer

**for Partition Chromatography
and Paper Electrophoresis**



A photoelectric precision instrument for the rapid and convenient evaluation of strips and sheets of filter paper in partition chromatography and paper electrophoresis.

Write for Bulletin #800 to

PHOTOVOLT CORP.

95 Madison Avenue

New York 16, N. Y.

Also

Colorimeters

Fluorimeters

Nephelometers

pH meters

Reflection Meters

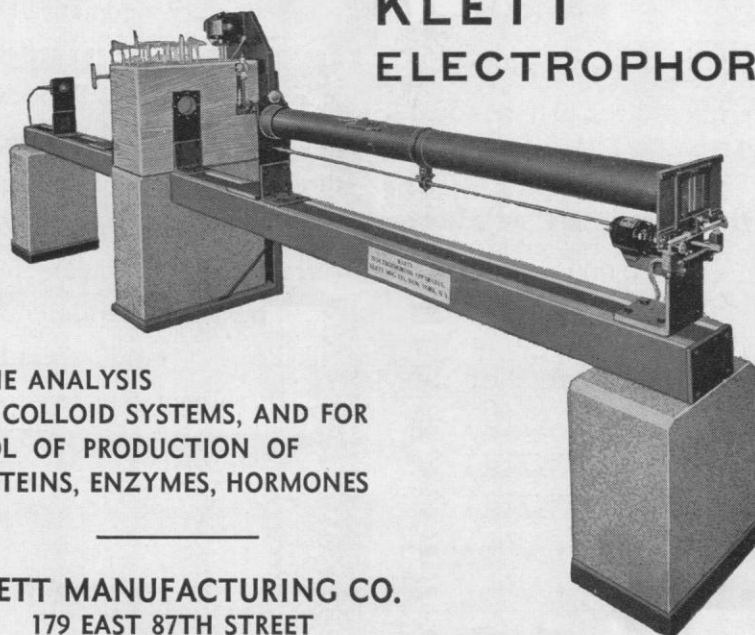
Glossmeters

Electronic Photometers

Multiplier Photometers

Interference Filters

KLETT ELECTROPHORESIS



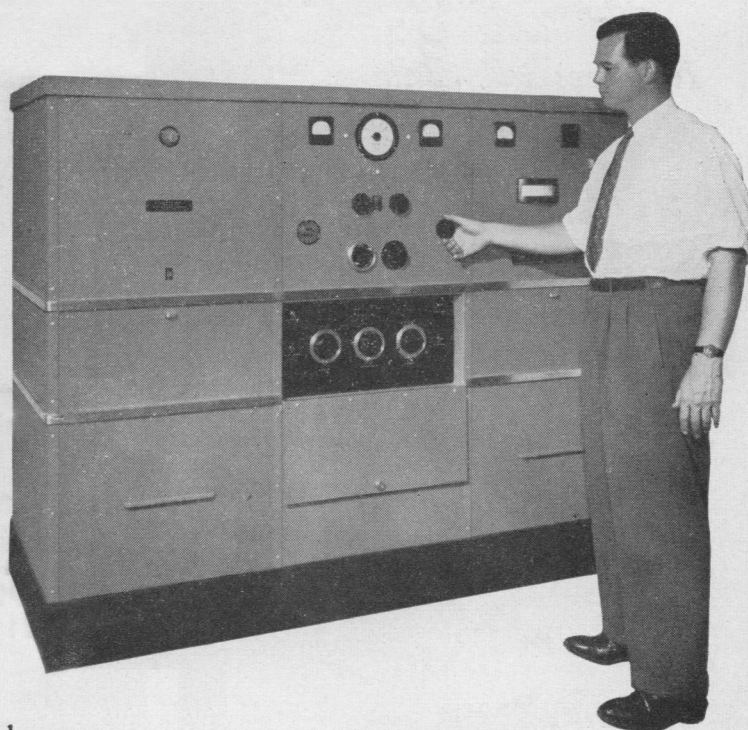
CUSTOM MADE

TOOL FOR THE ANALYSIS
OF COMPLEX COLLOID SYSTEMS, AND FOR
THE CONTROL OF PRODUCTION OF
PURIFIED PROTEINS, ENZYMES, HORMONES

KLETT MANUFACTURING CO.
179 EAST 87TH STREET
NEW YORK, N. Y.

Spinco Model E
**ANALYTICAL
ULTRACENTRIFUGE**

*standard
throughout
the world*



A RESEARCH TOOL for the centrifugal purification and molecular-weight determination of such macromolecules as proteins, viruses, polymers, enzymes, hormones, and chemical precipitates; the Spinco Model E Ultracentrifuge combines all operations in a single cabinet.

OPERATING FEATURES include a 70,000-rpm quiet electric drive designed for years of service and arranged for easy removal and exchange; a selection of analytical and preparative rotors which are interchangeable and provide forces up to 260,000 times gravity operating in a heavily-armored vacuum rotor chamber; an optical system of the Philpott-Svensson refractive-index type with viewing screen, automatic camera, and high-intensity light source for analytical work; a

refrigerating system for keeping rotors at controlled temperatures; and vacuum pumps which provide atmospheres down to 10^{-4} mm of mercury.

CONTROLS AND INSTRUMENTS

are included to maintain average drive-speed accuracy automatically within 0.1 per cent of setting; to set operation of automatic camera both for exposure and photo-interval; to read rotor temperatures; to select one of three graded braking rates; to read motor voltage and current; to read vacuum; and to actuate the camera manually. Interlocks are provided to insure safe operation by individuals without extensive training.

*Send for
complete details.*

Spinco *division*

BECKMAN INSTRUMENTS, INC.
BELMONT 5, CALIFORNIA



SEE Beckman AUTOMATION . . . FOR BUSINESS AND RESEARCH . . . FOR PRODUCTION CONTROL . . . AT THE I.S.A. SHOW, NEW YORK COLISEUM, SEPTEMBER 17-21.