

New ultraviolet laser spurs studies in fluorescence, scattering and luminescence

Availability of the first practical ultraviolet laser, Spectra-Physics Helium-Cadmium Model 185, has opened many new possibilities in chemical research.

For example:

- The laser's 15 mW output at 3250 Å significantly increases scattering and fluorescence effects in almost all organic matter and in many inorganic materials and solutions. For scattering the 185 is up to 14 times more efficient than other lasers.

- The focused UV beam can be used to irradiate cells or parts of cells... perhaps even individual chromosomes.

- Also, new studies are made possible based on the 3.81 eV photon energy of the 3250 Å line, which is greater than the covalent bond energy of NH (3.8 eV) and CH (3.47 eV).

Spectra-Physics Model 185 Helium-Cadmium Laser makes many other applications possible and practical. It's available now. For complete information, send the coupon below.

I am interested in the ultraviolet laser.

Please: ☐ Send descriptive literature.

☐ Have local field engineer contact me.

Name.....

Title.....Dept.....

Company.....

Address.....

City.....State.....Zip.....

Telephone.....Ext.....



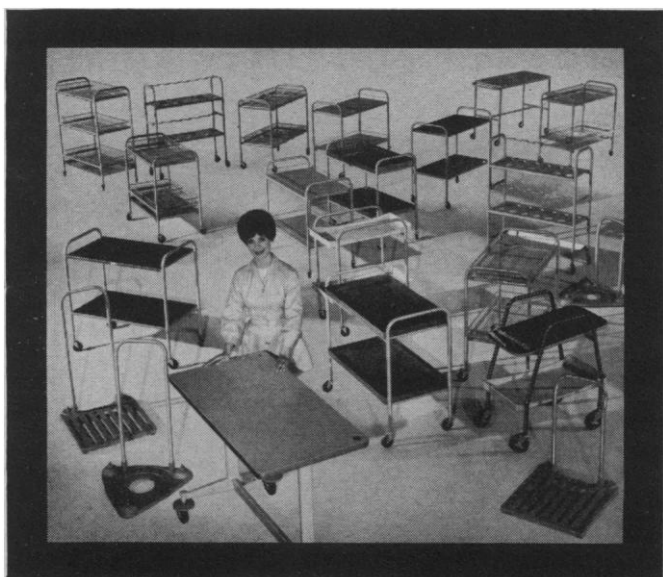
Spectra-Physics

Spectra-Physics, 1250 West Middlefield Road, Mountain View, California 94040.
Phone: (415) 961-2550

Circle No. 80 on Readers' Service Card

Index of Advertisers—20 February 1970

Academic Press	1178	Klett Manufacturing Co., Inc.	1163
Airco Industrial Gases	1164, 1170	Labconco Corp.	1185
American Instrument Co., Inc.	1048	Labindustries	1064
American Medical Assoc.	1046	Laboratory Instrument Exchange ..	1185
American Optical Corp.	1049, 1190	Labtron Scientific Co.	1177
Amersham/Searle Corp.	1058	Lakeview Hamster Colony	1163
Amicon Corp., Scientific Systems Div.	1174	Leitz, E., Inc.	1080
Barnstead Co., Div. of Sybron Corp.	1082	Maryland Plastics, Inc.	1042
Bausch & Lomb	1037, 1181	Melabs, Inc.	1061
Bel-Art Products	1162	Mettler Instrument Corp.	1040
Bell Telephone	1036, 1186	Nalgene Labware Div., Nalge Co., Div. of Sybron Corp.	1078
Biomation Corp.	1053	Neslab Instruments, Inc.	1166
Bio-Rad Laboratories	1171	New Brunswick Scientific Co., Inc.	1177
Brinkmann Instruments	1057, 1176	New England Nuclear	1077
Bronwill Scientific, Inc.	1175	Nikon, Inc.	1189
Brush Instruments Div., Gould Inc.	1067	Ohaus Scale Corp.	1076
Buchler Instruments, Inc.	1062	Olympus Corporation of America	1060
Cary Instruments	1029	Omnivector Instruments	1167
Charles River Breeding Laboratories, Inc.	1172	Oxford University Press ..	1182, 1183
Chromatronix, Inc.	1178	Phipps & Bird, Inc.	1173
Cintra Inc., a subsidiary of Physics International Co.	1059	Photovolt Corp.	1068
Coleman Instruments Div., Perkin-Elmer Corp.	1038, 1039	Plenum Press	1180
Corning Laboratory Products ..	1165	Polaroid Corp.	1028
Digital Equipment Corp., Biomedical Dept.	1045	Precision Scientific Co.	1034
Don B Lab Animals	1172B	Professional Tape Co., Inc.	1163
E-C Apparatus Corp.	1041	REVCO, Inc.	1186
Electro-Nucleonics, Inc.	1056	Sargent-Welch Scientific Co.	1044
E & M Instrument Co., Inc.	1043	Sage Instruments, Inc.	1044A
Electronic Associates, Inc.	1071	Savant Instruments, Inc.	1072
Fisher/Victoreen	1054	Scientific Glass Apparatus Co., Inc.	1079
Forma Scientific, Inc.	1065	Sherer-Gillett Co., Environmental Div.	1177
Geigy Chemical Corp.	1186	Sigma Chemical Co.	1185
Gencor Div., Varian/EMI	1168	Sobotka, Eric, Co., Inc.	1164
General Electric, Space Technology Products ..	1050, 1051	Spectra Physics	1184
Gilford Instrument Laboratories Inc.	1069	Synvar Associates	1052
Hacker Instruments	1166	Technical Forum Associates, Inc.	1167
Hadron Inc.	1179	Thermolyne, Div. of Sybron Corp.	1055
Harvard Apparatus	1180	Tri-R Instruments, Inc.	1173w
Heat Systems-Ultrasonics, Inc.	1176	Union Carbide Corp., Linde Div.	1035
Heath Co.	1073	Vacuum Atmospheres Co.	1174
Hellma Cells, Inc.	1167	Wang Laboratories, Inc.	1074
Hewlett-Packard, Avondale Div.	1047	Wild Heerbrugg Instruments, Inc.	1169
Hewlett-Packard, Colorado Springs Div.	1063	Winthrop Laboratories, Special Chemicals Dept.	1167
Instrumentation Laboratory Inc.	1170	Yellow Springs Instruments Co.	1168
ISCO	1183	Zeiss, Carl, Inc.	1032, 1033, 1066
Jeolco U.S.A., Inc., Electron Optics Div.	1070		



Only from Labconco 21 different laboratory carts

- All 21 designed expressly for laboratory functions.
- Made of heavy-gauge steel.
- Electrostatic coating of non-corrosive, pale green epoxy.
- Epoxy proved to outwear chrome, stainless, nickel, etc.
- All joints hand welded. No bolts or rivets to work loose.
- Shelves and trays of tough fiberglass, compressed asbestos and polyvinyl.
- Priced as low as \$52.50.

For a fully illustrated catalog, contact your laboratory supply dealer or write Labconco Corporation, 8805 Prospect, Kansas City, Mo. 64132.

LAB CON CO. ...where new ideas become better products.

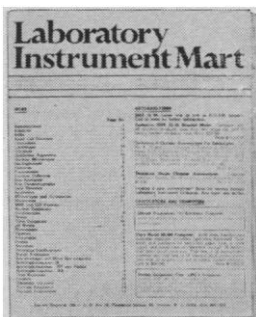
Circle No. 109 on Readers' Service Card

Free gold mine

This valuable publication provides you, your staff, and your organization with immediate and continuing access to the impressive secondary market for fine new and used scientific and medical instruments.

It is a truly indispensable guide to the best values-per-dollar in the entire field.

To obtain a free copy, without cost or obligation of any kind, simply write us at the address below.

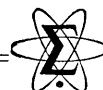


Laboratory Instrument Exchange, Inc.

Dept. L-69, 301 E. Erie St., Chicago, Ill. 60611 • (312) 787-0800

Circle No. 111 on Readers' Service Card

20 FEBRUARY 1970



Do You Have BUFFER PROBLEMS?

Sigma may have the answer

Here are three interesting Buffers available for your evaluation. These Buffers are similar to the "Good" Buffers* which have found acceptance in biological systems. So far these compounds have not been widely examined. We would appreciate your reaction to them.

CAPS (Cyclohexylaminopropane Sulfonic Acid) pKa = 10.4, pH range 9.7-11.1	C 2632		
MOPS (Morpholinopropane Sulfonic Acid) pKa = 7.2, pH range 6.5-7.9	M 1254	25 g	\$ 5.40
		100 g	14.50
		250 g	30.00
		1 kg	98.00
TAPS (tris[Hydroxymethyl] Methylamino- propane Sulfonic Acid) pKa = 8.4, pH range 7.7-9.1	T 5130		

Sigma also offers the following "Good" Buffers:

BICINE (N,N'-bis[2-Hydroxyethyl] Glycine) pKa = 8.4, pH range 7.7-9.1	B 3876	25 g	\$ 5.40
		100 g	14.50
		250 g	30.00
		1 kg	98.00
TRICINE (N-tris[Hydroxymethyl] Methyl Glycine) pKa = 8.8, pH range 7.4-8.8	T 0377		
HEPES (N-2-Hydroxyethylpiperazine- N'-2-Ethane Sulfonic Acid) pKa = 7.5, pH range 6.8-8.2	H 3375		
MES (2-[N-Morpholino] Ethane Sulfonic Acid) pKa = 6.2, pH range 5.5-7.0	M 8250	10 g	\$ 5.75
		25 g	11.50
		100 g	34.00
		1 kg	240.00
PIPES (Piperazine-N, N'-bis[2-Ethane Sulfonic Acid]) pKa = 6.8, pH range 6.1-7.5	P 6757		
TES (N-tris[Hydroxymethyl] Methyl-2-Amino- ethane Sulfonic Acid) pKa = 7.5, pH range 6.8-8.2	T 1375		

We also expect to offer the following new Buffers soon. Please inquire.

BIS-TRIS (bis[2-Hydroxyethyl] Imino-tris[Hydroxymethyl] Methane)
MONO-TRIS (2-Hydroxyethylimino-tris[Hydroxymethyl] Methane)
BES (N,N'-bis[2-Hydroxyethyl]-2-Aminoethane Sulfonic Acid)
CHOLAMINE CHLORIDE **N-(2-ACETAMIDO) GLYCINE**

SIGMA is the manufacturer of TRIZMA®,
the best Tris available anywhere.

* Ref.: Good, N.E., et al., Biochem., 5, 467, 1966.

ORDER DIRECT

TELEPHONE COLLECT

from ANYWHERE in the WORLD

Day, Station to Station, 314/771-5750

Night, Person to Person,

Dan Broida, 314/993-6418

TWX (Teletype) Day or Night: COLLECT-910-761-0593

TELEGRAM: SIGMACHEM, St. Louis, Missouri

SIGMA CHEMICAL COMPANY
The Research Laboratories of

3500 DE KALB ST. • ST. LOUIS, MO. 63118 • U.S.A.

MANUFACTURERS OF THE FINEST BIOCHEMICALS AVAILABLE

Distributed in the United Kingdom through
SIGMA LONDON Chem. Co. Ltd., 12, Lettice St., London, S.W.6, Eng.
Phone 01-736-5823 (Reverse Charges)



Circle No. 58 on Readers' Service Card



REVCO ULTRA-LOW TEMPERATURE CABINETS
FOR RESEARCH, STORAGE, SEASONING, TESTING

REVCO ULT cabinets are in use in all leading medical schools and universities, research centers and industrial complexes. Precision accuracy control. Low amperage draw. Chest models from 1½ cu. ft. to 24 cu. ft. — Uprights 10 cu. ft. Compact 24" refrigerators and freezers also available. Let us recommend specific ULT equipment for you. Write for FREE Fact File to:

REVCO, INC.
Scientific & Industrial Division
1100 Memorial Dr.
West Columbia, South Carolina 29169

REVCO
LEADER IN ULTRA-LOW TEMPERATURE SINCE 1938

Circle No. 101 on Readers' Service Card

SCIENCE WRITERS

- We have positions available in our Publications Area requiring a college degree, preferably in science or engineering, and strong writing ability and experience. We need writers and editors to explain Bell Telephone Laboratories science and technology to scientists, engineers, and the general public. The work will be in the areas of Press Relations and Internal and External Company Publications.
- If you are interested, please send your resume and salary requirements, to: Mr. C. B. Connell, Jr., Room 3D-246, Bell Telephone Laboratories, Murray Hill, New Jersey 07974.



An Equal Opportunity Employer

Biostatistician

Geigy has an opportunity for a skilled biostatistician to join our Pharmaceutical Division.

As a member of a group actively engaged in Drug Research your responsibilities will include:

- Participation in a program for automation of recording and evaluation of laboratory data.
- Design of Experiments.
- Analysis of biological data.
- Preparation of technical reports, presenting statistical analysis.

Educational requirement: Masters degree in Biostatistics with at least 2 or 3 years of industrial pharmaceutical experience or a Ph.D. in biostatistics.

Opportunity to organize biostatistical operations in the Pharmaceutical Research Division of Geigy.

LOCATION: We are located in beautiful, suburban Westchester County just 40 minutes from New York City.

If interested please send qualifications and salary requirements to: **Personnel Director, Geigy Chemical Corporation, Saw Mill River Road, Ardsley, New York 10502**

Geigy

An Equal Opportunity Employer (M/F)

Personnel Placement

POSITIONS WANTED

Botanist: Ph.D. Desires 1-year teaching position from fall 1970. Plant anatomy, morphology, systematics. C. Devadas, Botany Department, University of Michigan, Ann Arbor, Michigan 48104. X

Cell Biologist-Radiation Biologist: Ph.D., 31; teaching and research experience. Desires academic position. Available June 1970. Box 56, SCIENCE. X

Comparative Morphologist desires senior appointment in United States or Canada to teach human or comparative histology, and/or pathology of laboratory animals. Own research established. Part-time administrative functions welcome. Box 31, SCIENCE. 2/20

Electron Microscopist/Plant Physiologist Ph.D., agronomist-breeder M.Sc., experience human tissue culture, age 42 (4 years of teaching botany, 18 years of successful research), seeks position. Publications. Box 57, SCIENCE. X

Geneticist. Ph.D. spring 1970. Experience with cereal grains; biochemical and physiological techniques; 2 years of teaching; well read and rigorous. Teaching/research or industry. Box 58, SCIENCE. X

Electron Microscopist-Zoologist, Ph. D. Experienced histology (medical, comparative), E.M. training, cell ultrastructure, biophotography (RBP). Teaching or teaching/research; United States, Canada. Box 59, SCIENCE. X

Immuno-biochemist. Ph.D. biochemistry 1968. Two years postdoctoral. Desires senior industrial position in basic research or teaching/research position. Experience in physicochemical and immunochemical techniques in antibody-antigen reactions, phytohemagglutinins, blood group substances and glycoprotein biosynthesis. Publications and teaching experience. Box 60, SCIENCE. X

Immunochemist, Ph.D., 12 years of research experience; all immunochemical procedures, ion exchange and gel filtration chromatography, ultracentrifugation; desires industrial or academic research with teaching; interested in immediate and delayed hypersensitivity. Box 61, SCIENCE. X

Marine Biologist (fishery biology, ecology) Ph.D. Research, teaching and postdoctoral experience. Seeks teaching/research position. Box 62, SCIENCE. 2/27

Parasitologist-Nutritionist, 31, Ph.D. Postdoctoral, on malaria biochemistry. Publications. Teaching and/or research position desired. Box 63, SCIENCE. X

Pharmacologist-Toxicologist, D.V.M., Ph.D. due in summer of 1970. Experience in teaching pharmacology. Desires teaching or research position. Box 64, SCIENCE. X

Plant Physiologist, Ph.D. (June 1970), seeking teaching/research position at college or university. Experience in plant pathology, microbiology and plant biochemistry. Box 65, SCIENCE. X

Physiologist, Ph.D. Thirteen years of teaching (graduate, undergraduate, and medical) and research (cardiovascular) experience seeks position in university or medical school. Box 66, SCIENCE. X

Poultry Nutritionist, Ph.D., 1967, postdoctoral research experience in nutrition and biochemistry, publications. Needs an immediate position. Box 67, SCIENCE. X

Summer Teaching—Ph.D. Entomologist-Zoologist. Eleven years' teaching-research experience. Courses: General zoology, invertebrate zoology, entomology, evolution. Available 1 June. Box 68, SCIENCE. X

Virologist-Microbiologist, Ph.D. Postdoctoral experience in immunology. Five years of industrial research experience in antiviral and microbiology; several publications, desires industrial research and development/administrative or teaching position. Box 69, SCIENCE. X

POSITIONS WANTED

Zoologist-Biologist, Ph.D. Experienced teaching-research: histology (medical, comparative, ultrastructure), hematology, cell biology, electron microscopy. Teaching and/or research; United States, Canada. Box 70, SCIENCE. X

POSITIONS OPEN

CAREER OPPORTUNITIES BIOCHEMISTS

Two important positions are available in our long-range research programs.

- A Ph.D. to conduct basic research in the control of carbohydrate metabolism as related to diabetes. Postdoctoral experience in carbohydrate metabolism is desirable.
- A Ph.D. to conduct basic neuro-biochemical research in the central neuro-control of food intake as related to obesity. Postdoctoral experience in central neurobiochemistry is desirable.

These positions offer the opportunity to work in a multi-disciplinary team oriented basic research effort. Publications encouraged.

Excellent salary and benefits. Reply in confidence to John A. Paro, Employment Manager

**SK & F SMITH KLINE & FRENCH
LABORATORIES**

1524 Spring Garden St.
Philadelphia, Pa. 19101

An Equal Opportunity Employer
Member of Plans for Progress

The University of Saskatchewan, Regina Campus, invites applications for an academic appointment in Physics as of 1 July 1970. Field of specialization:

BIOPHYSICS

Ph.D. required and postdoctoral experience an asset. Duties to consist of teaching at undergraduate and graduate levels, and research.

1969-70 Salary Range:

Professor	\$18,050
Associate Professor	14,000-18,025
Assistant Professor	10,600-13,900

Rank and salary dependent on training and experience.

Send complete curriculum vitae, small photograph, and names of three or four references, or requests for further information, to:

Dr. G. Papini, Chairman
Physics Department
University of Saskatchewan
Regina Campus, Regina, Sask., Canada

UNIVERSITY OF MANITOBA WINNIPEG, MANITOBA, CANADA DEPARTMENT OF BOTANY

Applications are invited for a post which the Department expects to fill in 1970 at the level of Assistant Professor. Applicants should have research interests in either: (1) Plant Physiology and Biochemistry, or, (2) Physiological Ecology. The successful candidate will be expected to participate in introductory courses.

The appointment will commence on 1 July 1970 and the current minimum salary for an Assistant Professor is \$10,000 per annum.

Replies should be addressed to **Professor E. R. Waygood, Head, Department of Botany**, by 15 March 1970 and should include the names of two referees and a curriculum vitae.

Position for Experienced

SENIOR SCIENTIST OR ENGINEER

With an Education,

Interest and Background of

Research and Administration in

Aquatic Environmental Problems

The position requires a leader to organize and head a newly authorized, well-supported study of the marine environment of the Southern California coast.

The principal objectives of the program are to collate and increase the scientific knowledge, understanding and insight into the physical—chemical—biological systems of the coastal waters and bottom sediments of Southern California. The ultimate aim of the program is to understand the interrelationships between these systems and water quality characteristics, with emphasis on the influence of man's activities, particularly his wastewater discharges.

The study is sponsored by the Southern California Coastal Water Research Project Authority, an independent agency established by the City of Los Angeles, Orange County Sanitation District, the City of San Diego, Ventura-County and the Los Angeles County Sanitation District.

The Project Manager will be broadly guided by over-all policies established in consultation with an independent group of scientific consultants.

Firm commitments to the program have been made for a minimum of three years, for which \$1,133,000 has been obligated. Salary will be dependent upon qualifications, up to a maximum of \$30,000 per annum.

Persons wishing to apply for this position may submit a resume to J. R. Foster, Secretary of the Southern California Coastal Water Research Project Authority, 2020 Beverly Boulevard, Los Angeles, California 90057, before February 28, 1970.

Fertility Research

Conduct original and independent research aimed at development of effective methods for the control of human fertility. Knowledge of reproduction with competence in molecular and cell biology, hormone regulation mechanisms and host cell interactions. Ph.D., M.D. or D.V.M.; post graduate experience desired but not essential. We require an individual who is capable of independent thinking. He will be required to set up and implement his own program. Since we are involved in many aspects of fertility research, the exact nature of his program will depend on his training and interest.

If interested in exploring this further, please send your curriculum vitae to Mr. Paul D. Ryszena

Upjohn

THE UPJOHN COMPANY

7171 Portage Rd.

Kalamazoo, Michigan 49001

An equal opportunity employer

CLINICAL PRODUCT DEVELOPMENT

Ph.D. or equivalent, clinical chemist or biochemist with clinical orientation, 0-5 years' experience; to develop independent program in clinical biochemical methodologies for isolation and analysis of the metabolites of biological fluids. Experience in chromatography highly desirable. Should be product oriented and motivated toward evolution of products from the lab through final stage of completion.

Salary dependent upon experience. Excellent benefits. Located in western New Jersey. Send résumé outlining work history, accomplishments and your salary requirements.

Box 76, SCIENCE

An equal opportunity employer

NATURAL SCIENCE DEPARTMENT of large midwestern university announces vacancies for Fall 1970. These are teaching positions in natural science in undergraduate general education courses encompassing both biological and physical sciences. Emphasis is placed on philosophy and methodology of science and interaction of science and society. Scholarly activity in its broadest sense is encouraged and supported. Vacancies are at Assistant Professor level, with salary range \$10,000-\$11,000. Applicants should have completed Ph.D. Interested parties should write for further information enclosing complete summaries of their professional background. All inquiries will be treated with the utmost confidence. An equal opportunity employer. **Box 49, SCIENCE.**

PATHOLOGIST

HAZLETON LABORATORIES, specializing in the life and environmental sciences, is seeking an additional Pathologist to evaluate, interpret, and report pathologic changes in laboratory animals from a variety of toxicologic, oncologic and related research projects. Concentration in areas such as histochemistry, teratology, electron microscopy and clinical pathology is encouraged. Opportunity to consult and collaborate with multidisciplinary technical staff and with associated industries and government agencies. Our laboratories, located in suburban Washington, D.C., offer well-equipped research facilities with excellent potential for publications and scientific meeting attendance. Outstanding benefits program includes stock savings and dental care plans. If you are a DVM, with or without an advanced degree, and ACVP eligible or certified, please send your résumé to Mr. Michael J. Mackert.

**HAZLETON
LABORATORIES, INC.**

A Subsidiary of TRW Inc.

P.O. BOX 30
FALLS CHURCH, VIRGINIA 22046

An Equal Opportunity Employer

COLLEGE TEACHERS WANTED M.S. OR PH.D. NATIONWIDE

SEPT. POSITIONS
BIOLOGY MATHEMATICS
CHEMISTRY PHYSICS
ENGINEERING PSYCHOLOGY
GEOLOGY OTHER DISCIPLINES

WRITE NOW FOR APPLICATION
CITY & SUBURBAN TEACHERS AGENCY
500 FIFTH AVENUE, N.Y., N.Y. 10036
OR PHONE 212-546-8370

The Department of Geology MEMORIAL UNIVERSITY OF NEWFOUNDLAND St. Johns, Newfoundland, Canada

invites applications for two positions which involve teaching at the undergraduate and postgraduate levels and initiation of research programs pertinent to the geology and natural resources of Newfoundland and Labrador. One of the positions will involve teaching introductory geology to large classes, preferably using new approaches and techniques. This candidate's research interests should be in either geological oceanography or geochemistry but other fields will be considered. The other position will involve teaching paleontology and paleoecology and establishing and supervising research in Paleozoic biostratigraphy. Appointments will be at the Assistant Professor level. Interested applicants should apply before 1 March 1970 to The Head, Department of Geology.

MEDICAL MICROBIOLOGIST

Ph.D., recent postdoctoral experience, publications, must have references supporting teaching ability. Modern department of Biological Sciences in small, rural university in Northern Michigan. For information write:

Dr. John V. Slater, Head
Department of Biological Sciences
Michigan Technological University
Houghton, Michigan 49931

Have you had it with the big city? The biology department of a medium-sized, state supported, mid-western university located in a small town is developing a Ph.D. program. Ph.D.'s who have directed doctoral programs are desired for teaching and research positions in plant physiology, physiological zoology, environmental biology, and palynology. Rank and salary are open. Good fringe benefits are provided. Write to **Box 71, SCIENCE.**

VIROLOGIST

Ph.D.

Position immediately available in expanding department of life science laboratory in Maryland suburb of Washington, D.C. Experience in cell biology or virology desirable. Recent graduates will be considered. Salary commensurate with excellence of training and experience. Excellent employee benefits program. Reply with résumé to Personnel.

**BIONETICS RESEARCH
LABORATORIES, INC.**
DIV. OF LITTON INDUSTRIES
7300 Pearl Street
Bethesda, Md. 20014

RESEARCH TRAINEESHIP IN INVESTIGATIVE ENDOCRINOLOGY. Two-year program with special emphasis on development and application of radioimmunoassay procedures; current areas of research include physiology and immunology of insulin, growth hormone, oxytocin, vasopressin and calcitonin; funded by National Institutes of Health; one position available 1 July 1970 to M.D. or Ph.D., American citizen or foreign national with permanent residency status. Write Seymour M. Glick, M.D., Maimonides Medical Center, Coney Island Hospital, Ocean and Shore Parkways, Brooklyn, New York 11235.

Application for **ADVANCED STUDIES IN A DIVERSIFIED, CREATIVE BIOCHEMISTRY PROGRAM**, including clinical biochemistry, leading to a Ph.D. are now being considered for September 1970. Tuition-free predoctoral fellowships are available.

Chairman, Admissions Committee
Biochemistry Department
State University of New York at Buffalo
Buffalo, New York 14214

UNIVERSITY OF GUELPH DEPARTMENT OF CHEMISTRY

Applications are invited for graduate studies in chemistry leading to the M.Sc. and Ph.D. degrees. Areas of research include: Organic Chemistry, Biochemistry, Physical Chemistry, and Inorganic Chemistry.

Financial assistance is available to Canadian citizens and landed immigrants.

For further information send a brief curriculum vitae to the **Chairman, Graduate Admissions Committee, Department of Chemistry, University of Guelph, Guelph, Ontario, Canada.**

Predocutorial Traineeships in Biochemistry are available at the University of Kentucky to qualified U.S. Citizens. First-year stipends are \$2400 plus tuition, plus a \$500 allowance for each dependent. Department is well equipped and faculty has varied research interests. Address inquiries to **Dr. George W. Schwert, Chairman, Department of Biochemistry, Medical Center, University of Kentucky, Lexington, Kentucky 40506.**

Predocutorial Assistantships and Traineeships in Physiology

Excellent opportunities for graduate students (U.S. citizens) leading to the Ph.D. Stipends and free tuition. Research training: endocrinology, cardiac, renal, hepatic (reticuloendothelial), respiratory, sensory, cellular and gastrointestinal physiology, energy and water metabolism, bioengineering. Write for details to

Head, Department of Physiology
University of Illinois at the Medical Center
P.O. Box 6998
Chicago, Illinois 60680

RADIOLOGICAL HEALTH TRAINEESHIPS

Graduate program leading to M.S. and Ph.D. Financial support includes full tuition, fees, tax-free stipend \$3000-\$3600 per year, and dependency allowance to U.S. citizens or permanent residents. For further information, write to:

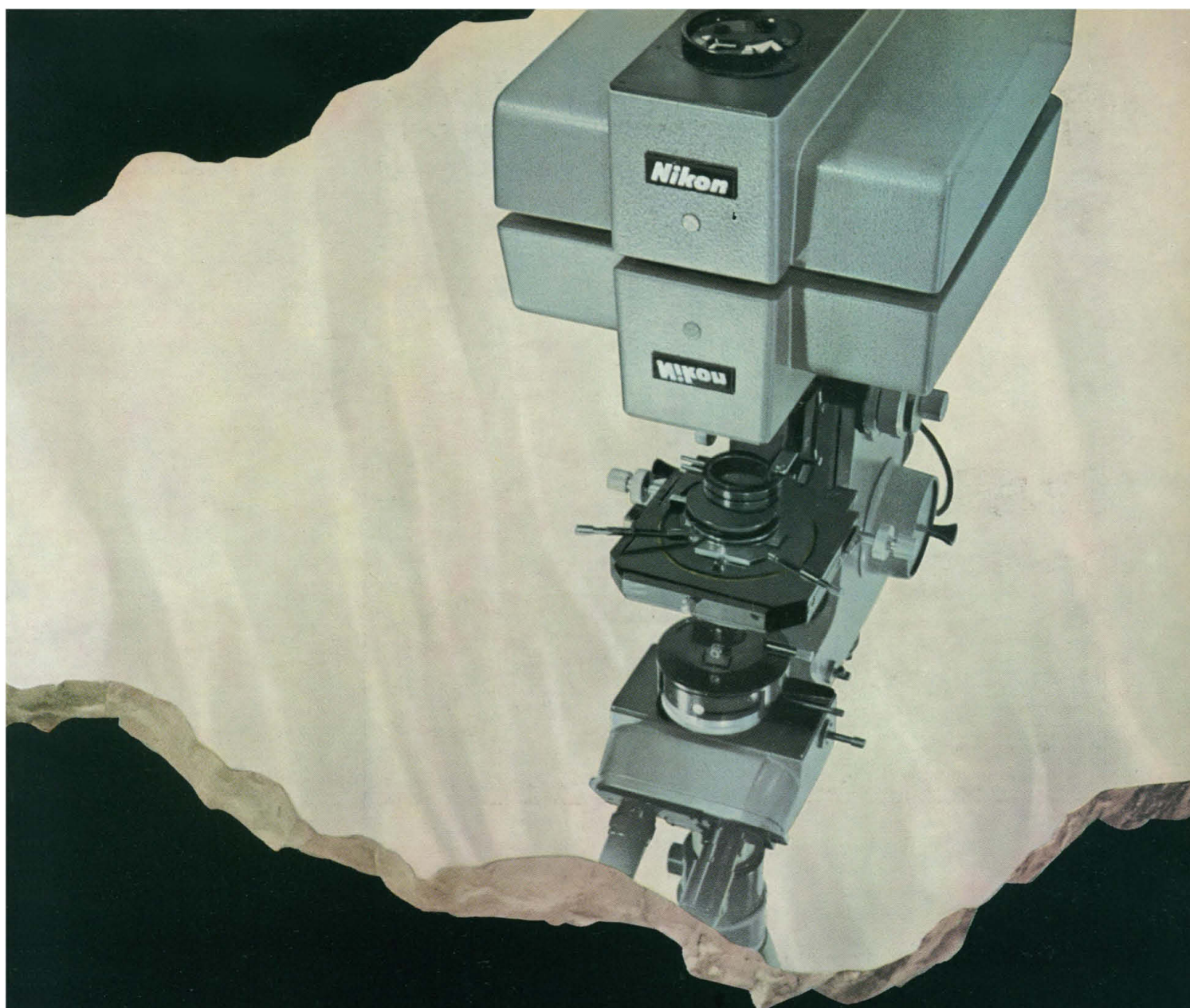
Dr. H. Cember
Technological Institute
Northwestern University
Evanston, Ill. 60201

The Market Place

BOOKS • SERVICES • SUPPLIES • EQUIPMENT

JUNIOR ECOLOGY SUMMER

EXPLORE natural history and Indian arts in the Sierra and Great Basin. Environment classes in mountain, desert, Antelope Refuge, Tahoe, Yosemite, and Forest Research Reserve. Strong riding, swimming, crafts. Challenge to alert boys and girls 9 to 14. Five-week session, 15 July to 19 August. Multiracial. **Dr. and Mrs. Richard G. Miller, Box 620, Rt. 1, Carson City, Nevada. Code 702-882-1728. WASHOE PINES RANCH.**



Think of it as a vertical optical bench

The research microscopist who uses the new Nikon Apophot has a very steady job indeed. Every part of this superb new instrument is designed for rock-solid, vibration-free performance with great convenience.

The massive base and vertical column hold dual light sources and their optics in precise alignment. You can equip Apophot with tungsten, high pressure mercury arc, xenon arc, quartz halogen and/or CSI and use reflected and transmitted light simultaneously when you need to. Zoom-Koehler systems for both diascope and episcopic illumination have pancratic collectors which automatically adjust the image of the light source to the numerical aperture of the objective in use.

The objective turret can be fitted with an optional 1x, 1.25x and 1.5x magnification changer. A focusable Bertrand lens is standard equipment with the Apophot.

The built-in trinocular eyepiece tube permits simultaneous observation and photography. The vertical photo tube is coupled to the interpupillary adjustment to provide automatic tube length compensation. The standard stage measures 76x25mm and has coaxial controls on both sides. The condensers are quickly and securely positioned on the stage with centerable dovetail sliders.

As you might expect, the Apophot accepts a full range of Nikon accessories; phase contrast, interference phase, differential interference, polarizing, fluorescence and others. If you'd like more information on the new Nikon Apophot, write for a free brochure. It's the easiest research you'll ever have to do.



Nikon Inc., Instrument Division, Subsidiary of Ehrenreich Photo-Optical Industries, Inc.
Garden City, New York 11530. (In Canada: Anglophoto Ltd., Ont.) Or phone (516) 248-5200.

New Nikon Apophot Research Microscope

Circle No. 11 on Readers' Service Card

It took us years to develop the best stereo microscope. Now give us a few minutes to prove it.

Let us compare our StereoStar/ZOOM to any stereoscopic microscope in your lab.

Our microscope offers high resolution, larger fields of view, greater working distance. We have as wide a magnification range as you're likely to need: a full 6 to 1 zoom range with magnifications from 3.5 X through 210 X. The zoom control knob is coupled—so that it's conveniently located on both sides, for either left or right-hand operation. And the entire head is easily rotatable through 360°.

135 years of optical excellence went into the AO StereoStar/ZOOM. Let us compare it to any stereo microscope in your lab. After all, if it's worth your money, it's worth your time.

Call your AO Representative. Or write for our convincing 24-page brochure.



**AMERICAN OPTICAL
CORPORATION**

SCIENTIFIC INSTRUMENT DIVISION • BUFFALO, N.Y. 14215

