Another Sigma "FIRST"
An In Vitro PYROGEN TEST using
E-TOXATE®
(Amebocyte Lysate)
A rapid and simple test

The presence of Gram-Negative Bacterial Endotoxin in drugs and fluids, when infused into man, can produce shock, fever, and death.1

E-TOXATE® offers a simple and rapid method for the detection of Gram-Negative Bacterial Endotoxin.1, 2, 3

E-TOXATE® is sensitive to as little as 0.001 microgram of E. coli Endotoxin per ml. It is approximately 10 times more sensitive than the official Pyrogen Test using Rabbits.3

E-TOXATE® may be used for the detection of Gram-Negative Bacterial Endotoxin in drugs, blood, infusates and other biological fluids.

Positive results using E-TOXATE® can often be obtained within a few minutes on "officially Pyrogenic" Samples. Cost is a fraction of the bio-assay.

The complete, simple test is performed in a single test-tube:
Add 0.1 of Sample to 0.1 ml E-TOXATE®.
Watch for Gelation.

That is all!

We believe that the use of E-TOXATE® will become indispensable for the detection of Gram-Negative Bacterial Endotoxin.

For complete instructions, ask for Sigma Technical Bulletin No. 210 or order:

No. E9877 E-TOXATE® 2.5 ml Vial Approx. 25 Tests $ 22.50

5 x 2.5 ml Vial Approx. 125 Tests 100.00
(Bulletin #210 Included with shipments)

C.I.F. Destination Via Air Anywhere in the World


It's a Pleasure Doing Business With Sigma

ORDER DIRECT TELEPHONE COLLECT
from ANYWHERE in the WORLD

Day, Station to Station, 314/771-5750

Night, Person to Person, 314/993-6418

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

TELEGRAM: SIGMACHEM, St. Louis, Missouri

The Research Laboratories of

SIGMA CHEMICAL COMPANY

MAILING ADDRESS: P.O. BOX 14508, ST. LOUIS, MO., 63178, U.S.A.

MANUFACTURERS OF THE FINEST BIOCHEMICALS AVAILABLE

Distributed through

SIGMA LONDON Chem. Co. Ltd., 12, Lettice St., London, S.W.6, Eng. Phone 01-736-8523 (Reverse Charges)

SIGMA ISRAEL Chem. Co. Ltd., 28 Kaf-Gimel St., Givataim, Israel Telephone: (03) 760654 (Reverse Charges)
AAAS SOCIO-PSYCHOLOGICAL PRIZE

Through the generosity of the late Arthur F. Bentley, the AAAS offers an annual prize of $1000 for a theoretical and experimental essay that furthers understanding of the psychological-social-cultural behavior of human beings. The prize is intended to encourage studies and analyses of social behavior based on explicitly stated assumptions or postulates leading to conclusions or deductions that are tested by systematic empirical research or, stated in other terms, to encourage in social inquiry the development and application of the kind of dependable methodology that has proved so fruitful in the natural sciences.

Entries should present a completed analysis of a problem, the relevant data, and an interpretation of the data in terms of the postulates with which the study began. Unpublished manuscripts and manuscripts published after 1 January 1971 are eligible. The deadline for receipt of entries in the 1972 contest is 1 September. For instructions on how to submit an entry, write to:

Socio-psychological Prize Contest, 1515 Massachusetts Avenue, NW, Washington, D.C. 20005.

APPLIED STATISTICIAN

BIOSTATISTICS DEPARTMENT

The Squibb Institute for Medical Research, known for its highly professional staff and ultra modern facilities, has an immediate opening for an individual with an M.S. or Ph.D. in Biostatistics or the equivalent training in biology and statistics. In addition, you should have experience in the application of statistical theory and tools to biological research.

The successful candidate will work closely with research and development personnel in the biological laboratories in the design and analysis of biological assays and response screening investigations.

This challenging and rewarding opening, located at our Research & Development facilities at our new Worldwide headquarters in Princeton (Lawrenceville), N.J., offers a salary fully commensurate with education and experience plus liberal paid benefits.

Qualified individuals are invited to submit a resume and salary history to: Mr. Walter Kipp, Personnel Administrator, Research & Development.

THE SQUIBB INSTITUTE
FOR MEDICAL RESEARCH
New Brunswick, New Jersey 08903

An equal opportunity employer m/f

SCIENCE FOR SOCIETY

A BIBLIOGRAPHY

This 96-page compendium is a comprehensive and up-to-date reference work on books, journals, articles, and other literature dealing with issues of science and society. Primarily designed for use in physical science and social studies courses in high schools and colleges, this publication is useful both to scientists and laymen increasingly concerned with the subject.

Almost 4,000 references, many annotated, are included. John A. Moore, University of California, Riverside, is the author.

The bibliography is available at the price of $1.00 per copy, or 75¢ each for ten or more copies.

Orders should be addressed to

AMERICAN ASSOCIATION for the ADVANCEMENT of SCIENCE
1515 Massachusetts Avenue, N.W.
Washington, D.C. 20005

Circle No. 108 on Readers' Service Card
**Positions Open**

Biology Department of a large private university in the New York area seeks to fill three positions: (1) Animal Cytogeneticist, Associate Professor, Teaching, research and graduate students. (2) Cellular Physiologist, Assistant or Associate Professor. Teaching undergraduate physiology with opportunity for research, (3) Vertebrate Ecologist, Assistant or Associate Professor. Teaching and research. Salaries commensurate with training and experience. Submit curriculum vitae to: Box 151, SCIENCE.

Professor of Clinical Nutrition at Colorado State University, D.V.M. and an advanced degree, preferably Ph.D. in nutrition or related field. Applicant must be an investigator of record with an abiding interest in the clinical application of nutrition. The University is an equal opportunity employer through an Affirmative Action Program. Applications must be received prior to 15 May. Respond to: Dr. R. W. Phillips, Department of Physiology, Colorado State University, Fort Collins, Colorado 80521.

FAKHAKHATCHEE ENVIRONMENTAL STUDIES CENTER
P.O. Box 188, Goodland, Florida 33933

DEVELOPMENT ASSISTANT: Responsible for developing both public and private funding for the Center. Should have good knowledge of both fund raising and ecology/environmental studies. Salary open.

ECOLOGIST: Responsible for teaching ecology to water and waste water trainees; supervising undergraduate research; participating in and helping other teaching in ecology courses. Preferences given to Ph.D. candidates or holders.

Ph.D. or M.D. wanted as a lecturer in HUMAN GENETICS for one year starting 1 September 1972. Applicant required to supervise a research lab (human enzymatic polymorphisms, some chromosome work) and to teach introductory genetics to undergraduates. Time available for independent research. Salary $9000. Reply to Dr. M. W. Partington, Department of Pathiatrics, Queen's University, Kingston, Ontario.

TWO POSITIONS: (1) Applications are invited for an Assistant Professorship in the general area of developmental and cell biology. The appointment to start 16 September 1972. (2) Applications are invited for a joint appointment as Assistant Professor in the Department of Zoology and Curator of Zoology at the Burke Museum. Responsibilities include teaching field course and museum curatorial duties. The appointment will be 12 months with the possibility of renewal. Salary $8000. Applications should be sent to: Dr. George J. Schroepfer, Chairman, Department of Zoology, University of Washington, Seattle 98195.

**Biochemist**

Nonprofit research organization requires B.S. or M.S. with experience in mammalian cell culture, including biochemical electrophoretic and isotope techniques. Have accurate assay for Hurler fibroblasts, sensitive electrophoretic assay for hyaluronidase. Thirteen years' experience in diagnostic disease. Salary, open. Reply to Box 140, SCIENCE. 3/24


**Positions Available**

**Analytical Chemist, Ph.D. 1969. Three years of research in Molecular Biology. Experience in DNA, protein chemistry, membrane phenomena. Good instrumental and knowledge of publications. Seeks position in research and/ or teaching in pharmaceutical or allied industries, clinical labs and universities. Small colleges also considered. Box 147, SCIENCE.**

**Biochemistry, Ph.D. 1965; physical chemistry, M.A. 1962. Extensive research experience with broad background. Teaching experience in general chemistry. Seeking research or teaching (undergraduate) position. Box 148, SCIENCE.**

**Biophysics, Recent Ph.D. desires academic position teaching molecular biology, virology, genetics. College teaching experience. Inter-disciplinary approach. Physics background. Box 149, SCIENCE.**

**Cell Biologist-Rheumatologist-Pediatrician, Eight years' micropolyacrylamide research, 5 years' cell culture including biochemical electrophoretic and isotope techniques. Have accurate assay for Hurler fibroblasts, sensitive electrophoretic assay for hyaluronidase. Thirteen years' experience in diagnostic disease. Salary, open. Reply to Box 140, SCIENCE.**

**Biologyst-Toxicologist, Ph.D. 1970. Research interests in pesticide mode of action, metabolism. Strong biochemistry background. Previous post-doctoral experience. Desires academic or postdoctoral position. Box 150, SCIENCE.**

**Biochemistry Faculty Positions Rice University**

The new department of Biochemistry at Rice University announces availability of several faculty positions at both senior and junior levels. Interested persons should send complete curriculum vitae and names of references to: Dr. H. E. Everett, Chairman, Department of Biochemistry, Rice University, Houston, Texas 77001.

An Equal Opportunity/Affirmative Action Employer

**McMaster University—Department of Entomology**

Applications are invited for the position of Professor of Entomology and Chairman of the Department. Applications including a curriculum vitae, proofs of publication and names of references should be directed to:

H. L. Everett
Chairman
New York State College of Agriculture and Life Sciences at Cornell University
Ithaca, New York 14850

Deadline for applications is 15th April 1972

**McMaster University HAMILTON ASSISTANT PROFESSOR IN PHYSICAL GEOGRAPHY**

Applicants must have training in hydrology or related subjects; Ph.D. required. The position provides excellent opportunities to contribute to other physical geography programmes in the department, specifically ones in geomorphology, climatology, and pedology. Some teaching in evening courses is required. Application to Professor Leslie J. King, Department of Geography, McMaster University, Hamilton, Ontario.

**Director of Toxicology**

Hazleton Laboratories, an exciting growth company specializing in the life and environmental sciences, is seeking an accomplished Toxicologist with administrative experience to direct our Department of Toxicology. Responsibilities will include the management of a large technical staff, including several doctoral-level scientists, and coordinating the activities of client-sponsored research in toxicology and other related fields.

We offer a stimulating work environment with excellent research facilities in a pleasant rural Northern Virginia location. Excellent salary, benefits, and opportunities for growth.

Please send your resume in confidence to Mr. James R. Larkin, Personnel Manager, Hazleton Laboratories, Inc., 9200 Leesburg Turnpike, Vienna, Virginia 22180. We are on equal opportunity employer.

**Hazleton Laboratories, Inc.**

The Harris LoTemp model WRC is two microtome-cryostats in one. A single unit that can do both routine diagnostic procedures and such sophisticated research procedures as thin section light microscopy, autoradiography, fluorescence microscopy and other histological procedures, at a cost comparable to presently available routine cryostats.

The Harris model WRC is compact... can be moved anywhere it's needed. The cold chamber has extra room for tissue handling, storage and freeze drying. Full opening top with special access ports combines the features of a totally closed system with the easy accessibility of open top models.

Available equipped with Jung or International Equipment Corp. micromotors, or cryostat only prepared for installation of your present I.E.C. microtome. Installed stereo zoom microscope also available.

For a full description of the Harris WRC and its wide range of additional features write or call...

**Harris Manufacturing Co., Inc.**

308 River St., Cambridge, MA 02139

(617) 864-4000

Circle No. 88 on Readers' Service Card

24 MARCH 1972

1405
With the ILLUMITRAN you can copy, crop, correct, enlarge or reduce; make film strips or internegatives from transparencies up to 4 x 5 faster than we can tell you about it.

The Illumitran, technically far ahead of anything in its field, is the quickest, simplest and most economical means of producing top quality duplicate transparencies.

Reason? The guesswork is taken out of the operation by an automatically controlled variable intensity electronic flash which provides a repeatable, constant color temperature light source. [No more guessing exposure or lens apertures.] A coupled, direct reading meter assures consistent exposure compensation for copying originals of varying density or for color balancing filters.

The Illumitran isn’t just for 1:1 copies on 35mm film. Using your own camera you can reduce or enlarge at will, copy originals up to 4 x 5 in size, make sectional blowups, internegatives or superpositions.

Maybe there’s a job the Illumitran can do for you. Ask your dealer about it or drop us a line, we’ll send you a brochure and magazine articles which may give you some useful ideas.

GROUP LEADER, TOXICOLOGY & NUTRITION
A group leader position responsible for directing a bacteriological testing and a nutrition lab. We also expect this position to assist in liaison with government regulatory agencies concerned with nutrition and food safety.

You have a Ph.D. 3-plus years of related experience in toxicology and nutrition and the energy and ambition to direct a work program in the above areas. Must have some supervisory experience but you want to manage your own operation and staff.

You’ll be working in a modern research facility for a diversified company with sales of 1/3 billion, and located in a pleasant, medium-sized city in the Midwest.

If the above sounds of interest, please send a completely CONFIDENTIAL resume and your salary history to:

Box 146, SCIENCE

AN EQUAL OPPORTUNITY EMPLOYER

D.V.M. VETERINARY PATHOLOGIST

ACVP board certification preferred. Position will involve responsibility for pathological aspects of current programs in cancer research, biomedical materials development and toxicology. Must be able to conceive and initiate research programs in the above fields. National Institutes of Health Grant or contract support desirable.

Ph. D. IMMUNOLOGIST

Position requires interest and experience in transplantation immunology. A background in immunohematology is desirable. Current or past National Institutes of Health Grant or contract support is desirable. Must be able to conceive and initiate research programs in the above fields. Send detailed resume to:

Mr. Leslie G. Hill
BATTLE L-columbus LABORATORIES
505 King Ave.
Columbus, Ohio 43201

An Equal Opportunity Employer

Ph.D.
Pharmacology
Reproductive Biology

Ortho Pharmaceutical has an excellent opportunity for a scientist interested in carrying out collaborative research in two areas of reproduction.

The ideal candidate should have 5 or more years of either industrial or academic research experience, passed the doctorate, in a field closely related to male or female fertility. Experience with drug evaluation & demonstrated publishing and/or patent record would be helpful.

Ortho has an excellent benefit program, modern research facilities, and is located in a pleasant central New Jersey suburban area.

If you meet the above qualifications, please send resume with salary requirements to Mr. Charles G. Wilkins, Employment Supervisor.

ORTHOPHARMACEUTICAL CORPORATION
Raritan, New Jersey 08869

(A Johnson & Johnson Company)
an equal opportunity employer

SUMMER SEMINAR

TWO-WEEK SUMMER SEMINAR "Introduction to Techniques in Electron Microscopy"
10 July to 22 July 1972

Two-week intensive training seminar. Techniques include osmium fixation, embedding, ultra thin sectioning, heavy metal staining, shadow casting, making support grids, electron microscope use, and associated photography techniques.

Instruments available are: Zeiss EM9 electron microscope, LKB, MT 1, MT 2 and Reichert Microtomes; Denton Evaporator & Freeze Etch Unit; fully equipped dark rooms.

Registration is limited to 16 students. Fee $37.50 for New York State residents and $41.50 for out-of-state residents. For applications write to:

Assistant Professor Gertrude Mokhoff
Orange County Community College
115 South Street
Middletown, New York 10940

ASSISTANTSHIPS

PREDOCTORAL ASSISTANTSHIPS

Excellent opportunities are available for graduate students to pursue a Ph.D. in contemporary areas of Biological Sciences. Stipends are available up to $2500 for 9 months. With up to $800, in addition, for the summer. For details write to: Dr. C. P. Sword, Chairman, Life Sciences Department, Indiana State University, Terre Haute, Indiana 47809.

FELLOWSHIPS

BIOClimATOLOGISTS
OR BOMeteOROLOGISTS

Applications are invited from atmospheric scientists with advanced degrees interested in working closely with biologists in a large multidisciplinary study of a grassland ecosystem. Send vitae to:

Dr. R. T. Coupland, Director
Matador Project (L.B.P.)
University of Saskatchewan
Saskatoon, Sask. S7N OW0 Canada

SCIENCE, VOL. 175
varian

techtron

introduces...
The series 635
A fresh concept in UV-VIS spectrophotometry.
Designed by VARIAN TECHTRON, a world leader in atomic absorption, the Series 635 sets new standards for low cost UV-VIS spectrophotometers.

Series 635 is a range of scanning, double-beam spectrophotometers with a wavelength range and operating flexibility not found in other low cost systems.

Starting off the Series is the basic Model 635 instrument which reads out photometric data on a big multi-range meter. Next comes the 635 D which presents its data on four easily read digits. BCD output too. Plug in a printer and sample changer to automate the system. Finally there is the 635 K — an advanced system for kinetic measurements.

All three of the Series provide linear readout of absorbance, concentration and %T. The unique double-chopper system conserves the energy from high intensity sources and provides a superior signal-to-noise ratio. Continuous dark current correction eliminates zero drift. Push button controls right out front where you need them. Complete flexibility with true ease of operation.

A complete line of accessories is available to extend the utility of the Series 635. These include fluorescence (both total and spectral), reflectance, thermostatable cell holders, automatic sample changer, digital printer.

Whatever your field of application — industrial, clinical, life sciences or education — the Series 635 has capabilities to match your needs. And the price is surprisingly low.

The 635 K
By adding modular accessories to the basic spectrophotometers you create the 635 K Kinetics System, one of the most advanced systems available for kinetics measurement.

These kinetics accessories complement the flexibility of the spectrophotometers and permit time dependent data to be presented on a recorder or digital printer.

1. Auto-5 Cell Programmer — Thermostated five-position cell turrets are provided in both the sample and reference beams. The control module allows dwell and cycle times to be individually pre-selected. Any number of the five cells to be included in the measurement program can be selected by push buttons. Each of the samples can be measured against its own separate reference or a common reference, again at the push of a button.

2. Multi-Zero Multi-Range — Used with the Auto-5 Cell Programmer the Multi-Zero module provides continuous zero offset of up to 0.6 Abs for each of the five samples. Full scale ranges of 0.1, 0.5, 1.0 and 2.0 Abs are selectable for each of the five samples with the Multi-Range module.

3. Temperature Readout — Provides continuous readout of sample temperature. The diode sensor is attachable to any of three thermostatable cell holders. Temperature is displayed on an inbuilt meter with a range of 0-100°C. Any 10° range can be expanded full scale. A voltage output enables continuous recording of temperature, as well as digital readout with the 635 D.

4. Wavelength Programmer — In the repeat scan mode, wavelength is scanned at any of four speeds between selected limits. In the quad wavelength mode, measurements can be made at up to four pre-selected wavelengths with rapid drive between programmed points. Observation time at each wavelength is adjustable up to 60 seconds. When used with the Auto-5, the programmed wavelength cycles can be extended to each of five samples, with cycle delay adjustable up to 60 minutes. Measurement wavelengths are selected by four precision potentiometers reading directly in nanometers.
...the series
635
uv visible
spectro-
photometers

varian
techtron
four dimensions of the series 635

SIMPLICITY
All controls are conveniently located on the front panels. Read-out mode, damping, zero offset and scan speeds are all push button selected. Very simple, yet very convenient.

VERSATILITY
The very large sample compartment (11.5 x 12.7 x 22 cm) is accessible through removable top, front and base panels and accommodates a wide range of standard and special sample equipment. Beam separation is 11 cm. High energy sources and a wide range photomultiplier tube provide a wavelength range of 180-850 nm. The 635 gives ranges of 2, 1, 0.5 and 0.1 absorbance, 0-100% T, and concentration on a large, easily read meter. The digital version, the 635D, presents abs., %T and concentration on a four digit readout. BCD output too. Coupled entrance and exit slits give spectral bandwidths of 2, 1, 0.5 and 0.2 nm. Great for routine work or research.

PERFORMANCE
Wavelength reproducibility is better than 0.25 nm, photometric reproducibility better than 0.25 % T. The unique energy conserving chopper system gives continuous correction of dark current changes — there is no need to adjust 0% T level. Zero drift is less than 0.002 abs/hour. Gives the highest performance ever in a low-cost double beam system.

RELIABILITY
All solid state electronics mounted on three replaceable circuit boards. Reliable? The Series 635 carries a full TWO YEAR warranty.

varian techtron
Walnut Creek, California, U.S.A.
Zug, Switzerland.
Malton, Ontario, Canada.
Springvale, Victoria, Australia.