

of the anatomical and cerebellar blood flow findings in senile dementia. This section would have been significantly strengthened by the inclusion of a discussion of the neurotransmitter changes in dementia, a subject that has stimulated an investigative frenzy over the past several years. Discussions of theoretical gerontology by Sacher, Hayflick, and Singer are thoughtful and stimulating. A section dealing with the impact of environmental factors and life patterns is timely, given current interest in health enhancement, and is particularly notable for the stimulating and innovative analysis by Andres of the apparently beneficial influence of obesity on human longevity. Walford's now-familiar discussion of the relation of immunosenescence and aging is a classic.

The book has some weaknesses. Though most of the papers have been revised, some have not been updated since their original presentation four years ago. The organization of the book is such that the most basic and introductory material, dealing with cell biology and theoretical gerontology, is sandwiched between sections dealing with physiology or pathophysiology.

Despite the minor flaws, this volume is chock full of good information. Though not encyclopedic in scope, it certainly can serve as a useful resource and limited "handbook" of gerontology for both students and experienced investigators.

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Politicization Examined

The Dynamics of Technical Controversy. ALAN MAZUR. Communications Press, Washington, D.C., 1981. x, 150 pp., illus. Cloth, \$11.95; paper, \$5.95.

The first question to which this interesting book is addressed is why certain public issues in which scientific and technological considerations are of crucial importance become controversial to the extent that normal scientific procedures for validating one conclusion or another are ineffective and "politics" takes over. Mazur uses four cases to explore his concerns and illustrate his arguments: the ABM, fluoridation of water, the building of nuclear power plants, and the siting of high-voltage transmission lines. All involve technical issues, but none was settled on "merely technical" grounds. In each case scientists

could be found on each side, confounding facts with values, arguing past one another, often moving toward polarized positions with passion that admitted of no compromise.

Mazur does not try to define what constitutes a scientific or technical controversy except when he indicates that the "products of science and technology have increasingly become objects of controversy, and political debates about them have grown so complex that few people understand what is going on" (p. ix). All of his cases involve "products of science and technology," but nowadays a set so defined would surely embrace an enormous share of the policy agenda (especially if one includes economic analysis as one such product!). All of his cases involve some sort of protest movement. The debates escaped the confines of laboratory, war room, or court to engage a wider public. In the process they became associated with other issues, drew on a more encompassing rhetoric, and, in turn, became dependent on the momentum of the larger coalition of which their advocates had become a part. Pursuant to this analysis, Mazur makes some interesting predictions, for example, tying the future course of public worry about nuclear power not to the issue of technical safety but to the more general issue of energy supply. If concern about the latter wanes, he suggests, concern about the former will also fade.

Mazur includes protests emanating from both the left and the right sides of the political spectrum. He suggests that the political complexion of each movement was set early on and that adherents who joined up later did so more as a function of their political orientations and social network connections than because of anything inherent in the technical substance of the issues. Fluoridation, he suggests, involved technical questions not very different in their policy implications from those raised by nuclear power plants. But anti-fluoridation was a right-wing cause and nuclear power is opposed by the left.

Mazur is suitably modest about his data base, but his arguments are sufficiently cogent to overcome many reservations regarding their empirical underpinnings. One wishes that he had tied his analysis more closely to the work of those who have investigated the dynamics of protest movements generally and of those who, like the late E. E. Schattschneider, have addressed themselves to the processes of public agenda growth and change. This is to say, in part, that since his cases are so much a

part of the generic political process Mazur has written a book of much broader public relevance than, perhaps, he intended. His more prescriptive conclusions suggest that he may have recognized this himself. In the early part of the book he defends the notion of a "science court" or referee to help separate disputes over matters of fact from those over values. In his conclusion, however, he emphasizes the usefulness of adversarial roles and contentious advocates throwing up arguments and disputing in whatever ways are politically effective. In this way, Mazur suggests, the risks and benefits of technology may be more fully identified and explicated than they otherwise would be. In the end he takes substantial comfort from "normal political processes" and sees no better (or, perhaps, worse?) reason for enlarging citizen participation to determine science policy than to determine the money supply or decide how to extricate hostages from Iran. In this, as in much of the book, Mazur's views will not win unanimous approval but are eminently worth careful attention.

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(Continued on page 1266)

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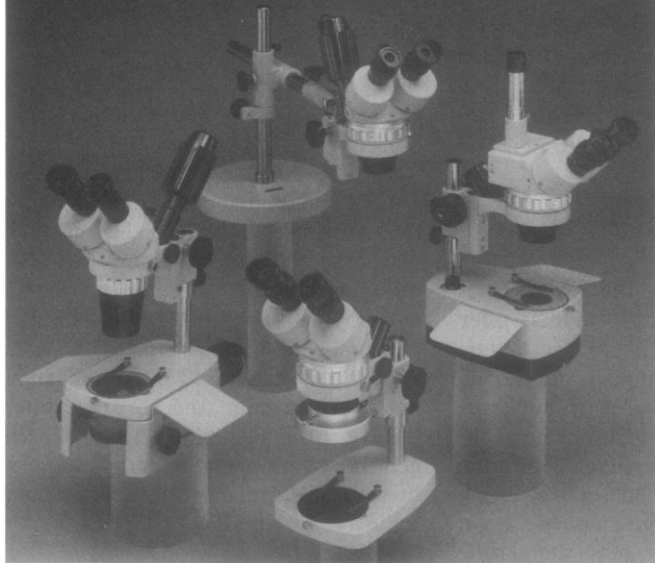
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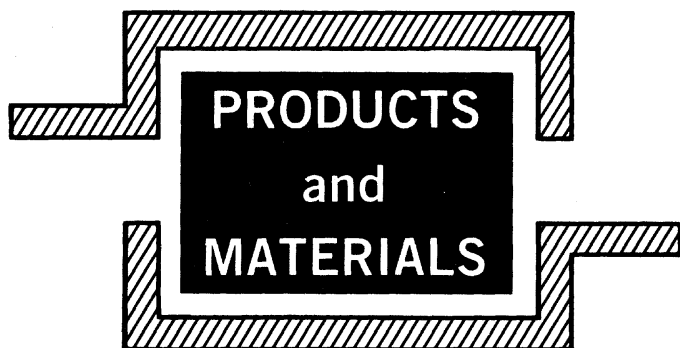
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erence units per milligram of protein. Both substances are calibrated against international reference standards from the National Institutes of Health. Enzo Biochem. Circle 825.

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large image files. This optimizes the analysis of LANDSAT satellite imagery. It includes all standard arithmetic and histogram-based multispectral sensor (MSS) functions. In addition AIMS has radiometric and geometric correction routines, point-to-point registration routines and advanced multiband transforms. The intensity-hue-saturation technique is used to encode data from MSS. Thus, images from different sources may be combined for visual analysis. LogE/Interpretation Systems. Circle 828.

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Nuclear Radiation Detectors features Geiger-Mueller counters for alpha-, beta-, gamma-, and x-radiation. LND. Circle 820.

Data System describes the Simulsacan 820 GC-MS for simultaneous analysis of data for chemical ionization and electron impact techniques. Extranuclear Laboratories. Circle 821.

Energy Dispersive X-ray Microanalysis details elemental mapping, electron energy loss, and Auger spectrometry. Link Systems. Circle 822.

Animal Behavioral Instrumentation offers a complete line of activity monitors. Columbus Instruments. Circle 830.

High Pressure Liquid Chromatography includes columns, plates, syringes, components, and accessories. Applied Science Div., Milton Roy. Circle 831.

Electron Microscope describes the EM 10 with 3.0-angstrom resolution. Carl Zeiss. Circle 832.

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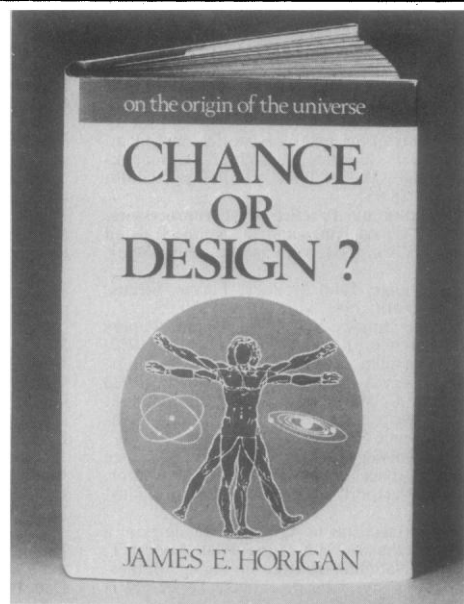
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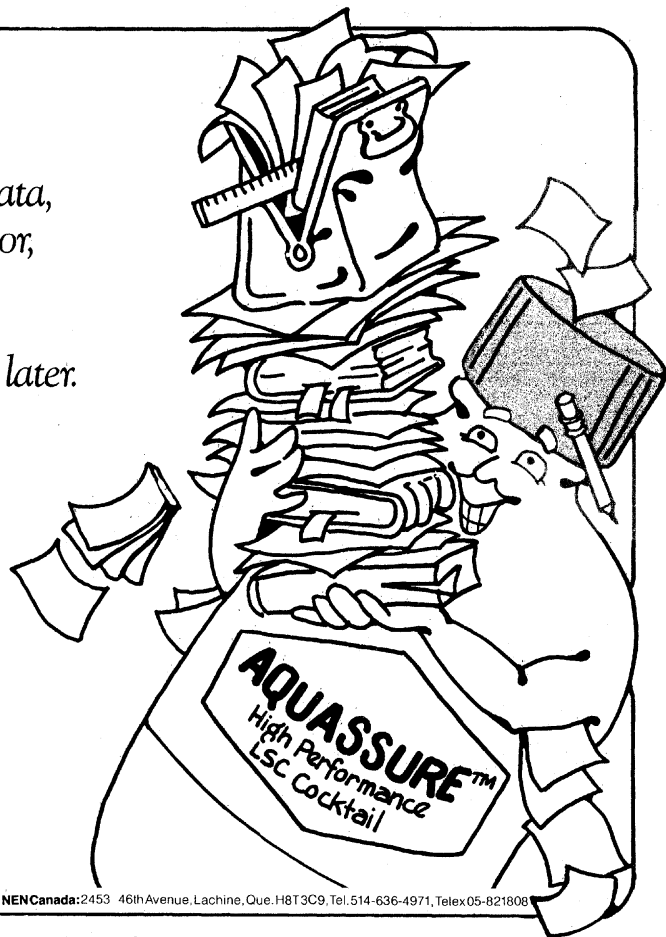
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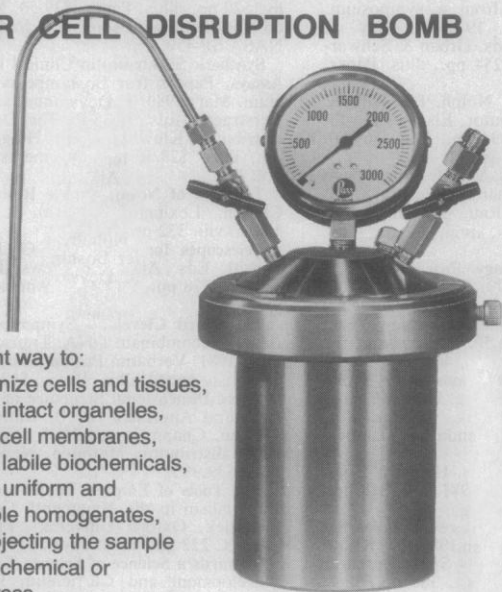
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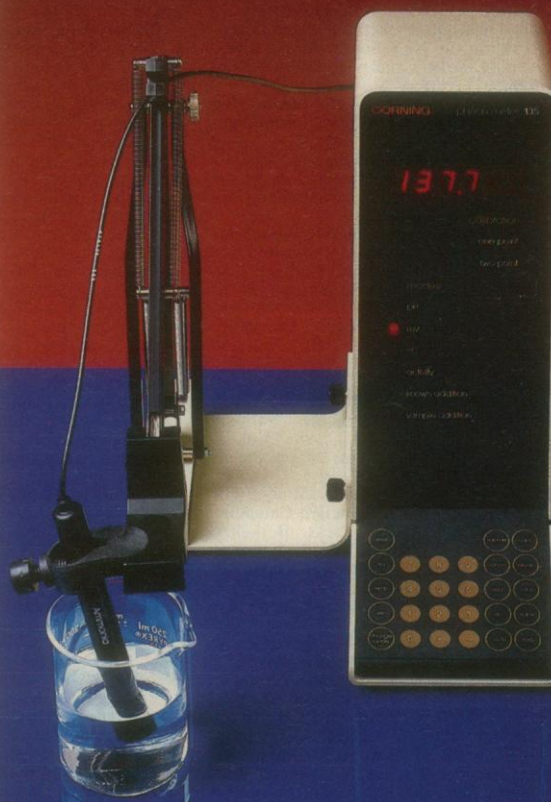
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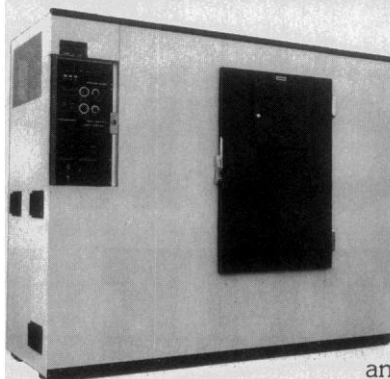
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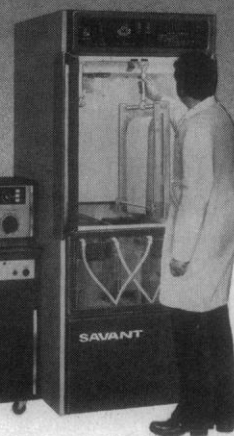
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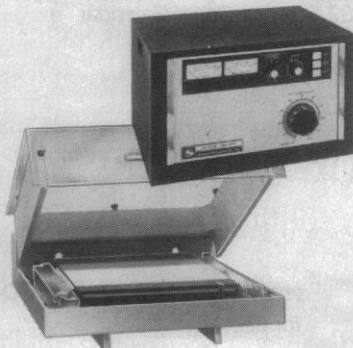
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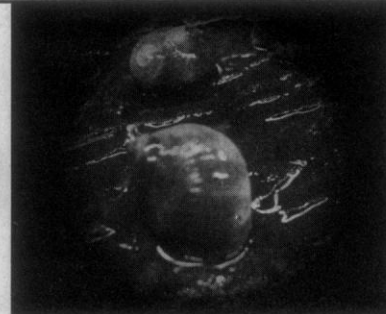
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for relatively short distances. Lightweight,
it adds less than two pounds to your cam-
era. The focal plane iris of this model
allows you to reduce the field of view to
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light tripod.

The Javelin 226 is a larger unit especially
designed for long distance viewing. It fea-
tures a biocular viewer, allowing you to
stand twelve inches back of the NVD and
look with both eyes, like watching TV. This
viewer is on a swinging door mount with
an optional adjacent swinging door to at-
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camera. During field research you can
view the scene by using the biocular view-



er and, within seconds, "change doors" to
position a camera to photograph the
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pounds, heavy enough to support large
telephoto lenses, but light enough to be
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Both models use an Automatic Brightness
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concerning your project. We may be able
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**KING FAISAL UNIVERSITY
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Faculty Positions Open
1982-1983**

King Faisal University College of Medicine, now in its eighth year, invites applications from qualified men and women for the 1982-1983 academic year in:

Chemistry	Pathology
Biology	Epidemiology
Physics	Microbiology
Biochemistry	Parasitology
Anatomy	Pharmacology
Physiology	Community Medicine

Doctorate or equivalent degree required. Language of instruction is English. Interviews to be held in London and Houston during spring 1982.

Salaries are highly competitive and negotiable; comparable to other Saudi universities. Benefits include free furnished housing, educational allowances, air tickets to and from Saudi Arabia once each year for a family of four, 60-day paid vacation, and liberal overweight allowance. No Saudi income tax.

Send curriculum vitae with current telephone number and the names and addresses of three references to:

**Dr. Tawfik Tamimi
Dean, College of Medicine
King Faisal University Office
Suite 540**

**2425 West Loop South
Houston, Texas 77027**

OR

**c/o Saudi Arabian Educational Office
29 Belgrave Square
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POSTDOCTORAL RESEARCH AWARDS

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The National Research Council will make awards in 1982 under the Resident Associateship Program, which provides awardees with opportunities to conduct experimental and theoretical research as visiting scientists and engineers in the fields of:

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In the Ballistic Research Laboratory complex located in the beautiful Chesapeake Bay country of Maryland, within easy driving distance of the metropolitan centers of Baltimore, Philadelphia, and Washington, D.C.

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Further details on research programs may be obtained from: **Dr. L. J. Puckett, Ballistic Research Laboratory, Aberdeen Proving Ground, Md. 21005, telephone: 301-278-2236.**

For application materials and details on specific research opportunities, write promptly, giving areas of interest, to:

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NATIONAL RESEARCH COUNCIL
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Postmark deadline for application is 15 January.

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POSITIONS WANTED

Biology/Computers. Broadly trained Ph.D. biologist. Ten years of teaching, research experience. Simulations in behavioral ecology, evolution using FORTRAN, structured WATFIV, Pascal. Experience with regression, factor, discriminant analysis using SPSS, BMD, SAS; on CDC, Xerox, IBM, DEC mainframe, microcomputers. Seeking position at biology-computer interface in education, research, management. Box 310, SCIENCE. X

Clinical/Analytical Chemist. Ph.D. 1976. England. Five years of international experience in medical research: diabetes, cancer research, glycoproteins, drugs and metabolites, toxicology. Extensive experience in the application of GC, GC-MS, HPLC, electrofocusing, TLC, UV, AA, and IR in the development of methods. Currently World Health Organization employee. Publications. Desires faculty/senior research position. No agencies please. Box 262, SCIENCE. 12/11, 18

Clinical Immunologist. Ph.D., experienced cellular immunology, histocompatibility, serum proteins, serology, research interest autoimmune disease. Seeks clinical laboratory position, teaching, research at university or teaching hospital. Box 300, SCIENCE. 12/11, 18

Neurophysiologist. Ph.D., with 3 years of experience, seeks research position in East/Midwest: will also teach. Interests: neurophysiology of posture and locomotion, functional electrical stimulation. Experience: behavioral testing, intra-extracellular recording, brain slice techniques, computers/electronics. Box 304, SCIENCE. X

Physician. M.D./M.P.H. Experience in academia and government (NIOSH). Seeking position in preventive medicine, occupational health, or epidemiology. Box 305, SCIENCE. 12/11, 18; 1/1

POSITIONS WANTED

Organic Chemist. Ph.D. Ten years of experience in cancer research, carcinogenesis, mutagenesis, metabolic studies, organic synthesis, natural products, modern instrumentalations. Seeks challenging position. Box 306, SCIENCE. X

Pharmacokinetics/Toxicokinetics. Ph.D. 1978. Seven years of experience in pharmacokinetics, genetics, and molecular toxicology; 8 years of experience with the biochemistry of proteins and nucleic acids. Pre-clinical and clinical protocol and report preparation. Desires an industrial/research position on the West Coast. Box 309, SCIENCE. X

Research Director/V.P. Research. Experienced, articulate technical director seeks challenging, responsible position with dynamic, innovative corporation or university. Background: Ph.D. (physics), high-energy density materials and processes, plasma physics, pulsed power. Box 311, SCIENCE. X

Virologist. (Ph.D. 1972). Assistant professor with good publication record, interest in immunology, experience with viruses, radioimmunoassays, and tumor CSA detection. Current MMTV work funded by NIH through 31 December 1984. Medical center teaching experience in graduate education, medicine, dentistry, and pharmacy. Seeks secure teaching/research position. Box 302, SCIENCE. X

POSITIONS OPEN

ANATOMY FACULTY SEARCH CONTINUED

Applications are invited for two faculty positions available immediately. The Ph.D., D.O., or M.D. degree is required, as well as prior teaching experience in the anatomical sciences. Teaching responsibilities include medical, podiatric, and physician assistant students. Research interests open. Rank and salary dependent upon qualifications and experience. Send curriculum vitae and names of three references to: **William J. Dye, Ph.D., Associate Dean for Pre-Clinical Affairs, University of Osteopathic Medicine and Health Sciences, 3200 Grand Avenue, Des Moines, Iowa 50312. Equal Opportunity Employer.**

ASSISTANT/ASSOCIATE PROFESSOR. Must have research interest in cellular and molecular aspects of host-parasite interaction. Postdoctoral experience in microbial physiology, molecular genetics, immunology, virology, or pathogenic organisms required. Teaching commitment in medical microbiology and graduate courses required. Closing date: 15 February 1982. Send curriculum vitae, description of professional aspirations, and names of three referees to: **Dr. Byron Burlingham, Department of Microbiology, School of Medicine, East Carolina University, Greenville, N.C. 27834. An Equal Opportunity through Affirmative Action Employer.**

ASSISTANT PROFESSOR, BIOCHEMISTRY. Tenure-track position, available fall 1982. Ph.D. required; postdoctoral research experience highly desirable. Submit a letter of application, curriculum vitae, and an outline of research plans and arrange for three letters of recommendation to be sent to: **Dr. Harold Goldwhite, Acting Chair, Department of Chemistry, California State University, Los Angeles, Los Angeles, Calif. 90032.** Deadline for receipt of applications: 15 January 1982. *The University is an Affirmative Action/Equal Opportunity/Handicapped Title IX Employer.*

ASSISTANT/ASSOCIATE RESEARCH SPECIALIST

The Educational Technology Center, University of California, Irvine, announces an immediate opening for an assistant/associate research specialist. Ph.D. in science, mathematics, or science or mathematics education required. Candidate will take over duties as project manager on three National Science Foundation research and development grants involving the use of computers in science and mathematics instruction. Strong background in research and methodology, curriculum development, evaluation, and instructional computing is required. In addition, candidates should have some teaching experience and, preferably, some experience working with teachers or students at the junior high level. Salary range: \$18,500 to \$25,000. For more detailed description, please write to: **Alfred Bork, Department of Physics, University of California, Irvine, Calif. 92717. An Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

ASSISTANT PROFESSOR. Department of Neurological Sciences, Rush Medical College. The Department of Neurological Sciences has a full-time position for an academically oriented neurologist, Board-qualified in EEG and preferably with some experience in evoked potentials. Duties will include participation in an extensive epilepsy surgery program with use of long-term videotape monitoring, implanted electrodes, special diagnostic procedures, and electrocorticography. An interest in epilepsy and/or sleep disorders is desirable. Research space as well as designated research time is available according to the interests of the candidate. Contact: **Dr. F. Morrell, Director, Neurophysiologist Laboratories, Rush Medical College, 1753 West Congress Parkway, Chicago, Ill. 60612.** Rush Medical College is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR OF PHYSIOLOGY

Applications are invited for a full-time, tenure-track position. Candidates possessing a Ph.D. or M.D. degree, at least 2 years of postdoctoral experience, and a strong commitment to developing an independent research program are sought. Outstanding applicants with a primary research interest in cellular and molecular aspects of membrane function are preferred. Responsibilities include participation in the Physiology Department teaching of medical and graduate students. Send summary of reference plans, curriculum vitae, and names of three references to: **Dr. Rodney A. Rhoades, Professor and Chairman, Department of Physiology, Indiana University School of Medicine, 1100 West Michigan Street, Indianapolis, Indiana 46223,** by 31 December 1981. Indiana University is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT RESEARCH SCIENTIST. Assistant research scientist position in a university biochemistry department, working on the biochemistry of antitumor proteins. Research will involve protein purification, characterization by compositional and spectrophotometric assays, and evaluation of biological effects of the drug on tissue culture cells. A Ph.D. degree in biochemistry and publications in peer-reviewed journals are required. The applicant must have expertise in the purification of proteins from tissue fluids and cell membrane, in chemical modification of proteins, in physical studies of proteins, in enzymology—particularly membrane-bound enzymes—in tissue culture, and in cytotoxic assays. Salary is \$16,640. Send résumé and two letters of reference to: **Tom Cannon, Job Service of Iowa, P.O. Box 2390, Iowa City, Iowa 52244.** Equal Opportunity Employer.

BIOCHEMIST. Tenure-track; September 1982; Ph.D. required. Principal training in biochemistry, with interest and ability to teach analytical, physical (thermodynamics or kinetics), inorganic, or general chemistry with quantitative analysis. Evidence for the following is necessary: potential for excellence in teaching, commitment to the liberal arts, ongoing research plans, and a desire to direct undergraduate research. Initially, principal responsibility will be to teach biochemistry with laboratory and other upper-division chemistry courses commensurate with training. A willingness to help develop a cooperative cell biology-biochemistry program with the Biology Department is important. Department is listed in "Research in Chemistry at Private Undergraduate Colleges" 2nd Ed., Council on Undergraduate Research, 1981. Send résumé, transcripts from all institutions attended, examples of scholarly work, brief description of research interests, and a discussion of how you might involve undergraduates from a liberal arts institution in your research. Also, arrange for at least three letters of recommendation to be sent to: **Dr. William J. Randall, Chairman, Department of Chemistry, Lewis and Clark College, Portland, Oregon 97219.** Closing date for applications is 15 January 1982. Lewis and Clark College is an Equal Opportunity Employer and invites the candidacy of qualified minority persons and women.

BIOLOGY TEACHING OVERSEAS. Positions open in biological sciences at American University of Beirut for the academic year 1982-1983. Applications are invited for positions in the following specialties: developmental biology, plant biochemistry, plant taxonomy/anatomy. Ph.D. required; rank and salary depend on experience and qualifications, but normally appointments are in the rank of assistant professor. Usual contract is for 3 years. Curriculum vitae and three letters of recommendation should be forwarded to: **Chairman, Biology Department, American University of Beirut, Beirut, Lebanon.** An Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

DEPARTMENT OF ZOOLOGY UNIVERSITY OF CALIFORNIA, DAVIS

ASSISTANT PROFESSOR. Applications are invited for a tenure-track position at the assistant professor level for September 1982. A strong, independent research program is expected; fields of particular interest include, but are not limited to, **evolutionary biology, marine or behavioral ecology, and environmental physiology.** Preference will be given to candidates able to teach invertebrate zoology at the upper-division level. The appointee may also teach a one-quarter course in introductory biology and will have the opportunity to develop courses and/or seminars in his/her area of expertise. Persons wishing to apply should send curriculum vitae, reprints of published work, a description of research program and future plans, a summary of teaching experience and capabilities including evaluations if available, and three letters of recommendation to: **Dr. Arthur M. Shapiro, Chairman, Search Committee, Department of Zoology, University of California, Davis, Calif. 95616.** Final date for receipt of applications is 15 February 1982. The University of California is an Equal Opportunity/Affirmative Action Employer.

BIOLOGIST—Tenure-track position, assistant professor rank, beginning fall 1982; Ph.D. desired. Broadly trained in biology; skilled in biochemistry, cell biology, and physiology. Contact: **Dr. George Labanick, Chairman, Search Committee, Division of Science, University of South Carolina at Spartanburg, Spartanburg, S.C. 29303.** Application deadline is 15 February 1982. The University of South Carolina at Spartanburg is an Affirmative Action Employer.

DEPARTMENT OF BIOLOGY UNIVERSITY OF HOUSTON

The Department of Biology, University of Houston, invites applications for two tenure-track positions at the assistant or associate professor level beginning 1 September 1982.

One position is in the marine science program at the Galveston Laboratory of the National Marine Fisheries Service. Marine biologists with interest and training in **EXPERIMENTAL INVERTEBRATE ZOOLOGY** are particularly encouraged to apply.

We also seek applicants for a second position in one of the following areas:

- 1) **DEVELOPMENTAL BIOLOGY,**
- 2) **EVOLUTIONARY BIOLOGY, and**
- 3) **PLANT NUCLEIC ACIDS OR PROTEINS.**

Responsibilities for both positions will include teaching at the graduate and undergraduate levels, supervision of graduate students, and development of a nationally competitive research program. Applicants should send curriculum vitae, selected reprints, and names and addresses of at least three references to: **Search Committee, Department of Biology, University of Houston, Houston, Texas 77004.**

An Equal Opportunity/Affirmative Action Employer

BIOPSYCHOLOGICAL RESEARCH. Staff position, 3-year contract. The applicant should be a Ph.D. in physiological psychology. Experience in two of these areas: experimental psychogenetics, stress and catecholamines, PDP-11 systems, analysis of spontaneous rat behaviors. The position requires team-oriented research attitudes, tutoring of students, and participation in the teaching duties of the department. Knowledge of German welcome but not required. Send application, curriculum vitae, and copies of publications to: **Dr. K. Bättig, Department of Behavioral Sciences, Federal Institute of Technology, Turnerstrasse 1, 8092 Zürich, Switzerland.**

CELL BIOLOGIST

The C. V. Whitney Laboratory, a research center of the University of Florida, invites applications for a full-time, tenure-earning research position at the assistant or associate professor level. The successful applicant will be expected to develop a strong independent research program and to interact with existing projects in neurophysiology, neurochemistry, cellular immunology, biochemistry, and membrane transport. All applicants with good ideas on fundamental questions will be seriously considered, but preference will be given to applicants with training or experience in immunology who would be interested in taking advantage of marine organisms to study problems in neurobiology, endocrinology, comparative immunology, cell-cell interaction, or fertilization. Send letter stating current and future research interests, curriculum vitae, and names of four references by 31 December 1981 to: **Search Committee, C. V. Whitney Laboratory, University of Florida, Rt. 1, Box 121, St. Augustine, Fla. 32084.** An Equal Opportunity/Affirmative Action Employer.

HEAD MICROBIOLOGY SECTION ANTITUMOR DRUG R & D

Permanent staff Scientist position responsible for both fundamental and applied research direction of a 10+ person antitumor drug Microbiology Section in the NCI-FCRF Fermentation Program. Individual to supervise staff scientists in the areas of Prescreen Development, Novel Drug Dereplication (biosynthesis, mode of action), and Strain Development in support of NCI experimental drug production efforts. Requires Ph.D. in microbiology/biochemistry/genetics plus experience in antitumor drugs, molecular genetics, streptomycetes genetics, and rDNA methodology. Related industrial, scientific, and supervisory experience desired. Send curriculum vitae and names of references to:

**Personnel Department
Requisition #2181S
NCI-Frederick Cancer Research Facility
Litton Biometrics, Inc.
P.O. Box B
Frederick, MD 21701**

EOE M/F

Drug Safety Evaluation

Outstanding opportunity for a Ph.D. in toxicology or equivalent with substantial industrial experience in drug safety evaluation to assume study director responsibilities for in-house and contract laboratory studies. The individual selected for this key position must be quantitatively oriented, able to organize, analyze and interpret animal toxicity data, possess above average writing skills and communicate effectively. The selected candidate will be offered a competitive salary commensurate with experience and a liberal benefits package. Relocation will be assisted. Please forward your resume in confidence to:

Michael D. Szap, Ph.D.

Endo Laboratories, Inc.
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An Equal Opportunity Employer M/F

POSITIONS OPEN

The Department of Psychology at the University of Texas at Austin has a position for a **BIOPSYCHOLOGIST** in the area of brain mechanisms and behavior. The individual would be responsible for teaching graduate and undergraduate classes in physiological psychology as well as departmental service courses. The position is open at the assistant professor level, but others will be considered. Please send curriculum vitae, three letters of recommendation, and publications to: **Biopsychology Recruiting Committee (Attention: Del Thiessen), Department of Psychology, University of Texas, Austin, Texas 78712. An Equal Opportunity/Affirmative Action Employer.**

CARDIOVASCULAR PHARMACOLOGIST
(Ph.D.) (Assistant Professor)

or
CARDIOVASCULAR CLINICAL PHARMACOLOGIST (M.D.) (Assistant Professor)

For research and teaching on mechanisms of action of cardiovascular drugs. If Ph.D., he/she would initially have a 5-year appointment (nontenure track) but would be eligible to apply during this time for any tenure opening.

If individual has M.D., F.R.C.P.(C), or completed residency in internal medicine, he/she would be reappointed annually to both the University Department of Pharmacology and the Clinical Pharmacology Division in the Toronto Western Hospital. Apply to:

Dr. Philip Seeman, Chairman
Department of Pharmacology
Faculty of Medicine
University of Toronto

Toronto, Ontario, Canada M5S 1A8

Position effective 1 July 1982.

CHAIRPERSON OF PHYSICS DEPARTMENT UNIVERSITY OF SOUTH FLORIDA

The University of South Florida invites applications and nominations for the position, chairperson, Department of Physics. The department has 15 full-time faculty and offers the bachelor's and master's degree in physics. Interdisciplinary Ph.D. programs are available in applied mathematics and in engineering science. We prefer an individual (theorist or experimentalist) who strongly supports quality teaching and whose research specialties overlap and complement one or more of those already present in the department—solid-state physics, plasma physics, high-energy physics, theoretical physics, and atmospheric physics. The ability to provide innovative leadership, work effectively with related disciplines and industry, and direct an orderly departmental building and improvement process will be considered of primary importance. Salary and rank will be commensurate with qualifications. The application deadline is 1 March 1982. Send curriculum vitae and names of references to: **Professor Stanley R. Deans, Chairperson Search Committee, Department of Physics—PHY 114, University of South Florida, Tampa, Fla. 33620.**

The University of South Florida is an Equal Opportunity/Affirmative Action Employer.

Indiana University—Purdue University at Indianapolis (IUPUI)
Chairmanship of Department of Physics

Applications are invited for the **CHAIRMANSHIP** of the Department of Physics of the Purdue School of Science at IUPUI. IUPUI is a joint urban campus of Indiana and Purdue Universities at Indianapolis with 14 schools, including Schools of Science, Medicine, Engineering, Liberal Arts, Law, Business, and so forth. It is a rapidly growing university with a total enrollment of 22,500 students. The Physics Department has a full-fledged undergraduate program, and a master's program is expected to start in 1983. The physics faculty (11 full time and 7 part time) has research interests in biophysics and solid-state, nuclear, and high-energy physics. The current major research projects with external funding are in biophysics, especially in biological magnetic resonance. Active collaborations exist with the Medical School and local hospitals. As part of an urban university the department has a commitment to develop educational and research programs of interest to the community. The Physics Department seeks for the chairmanship an established scientist with demonstrated research accomplishments and reputation who would provide leadership in the growth of the department to full graduate stature. Applications containing full particulars and names of references should be sent by 15 February 1982 to: **Professor B. D. Nageswara Rao, Chairman, Search and Screen Committee, Physics Department, IUPUI, Indianapolis, Ind. 46205. IUPUI is an Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

CHAIRMANSHIP DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY THE UNIVERSITY OF MISSISSIPPI MEDICAL CENTER

Candidates for the chairmanship of the Department of Pharmacology and Toxicology are being sought. Qualifications include an established reputation in research and teaching and the ability to direct a department with an active graduate program and teaching responsibilities for medical, dental, and nursing students. Applicants should submit curriculum vitae, list of publications, description of research plans, and names of three references by 1 March 1982 to: **Dr. Dennis J. O'Callaghan, Chairman, Search Committee, Department of Microbiology, University of Mississippi Medical Center, 2500 North State Street, Jackson, Miss. 39216. University of Mississippi Medical Center is an Equal Opportunity/Affirmative Action Employer, M/F/V/H.**

THE WEIZMANN INSTITUTE OF SCIENCE is pleased to announce the availability of the Charles H. Revson Career Development Chairs.

The Revson Chairs are intended for promising scientists who are eligible for appointment as senior scientists at the Weizmann Institute.

The Revson Chairs are intended for either scientists who reside in Israel or for those who are considering making their residence in that country.

The appointments for Revson Career Development Chairs are for 3 years. Appointees found suitable at the end of this period will be invited to continue their employment as permanent members of the Weizmann Institute's scientific staff.

Application forms and further information are available from:

The Charles H. Revson Foundation Program
c/o The Academic Secretary
Weizmann Institute of Science
Rehovot 76100, Israel

CYTOGENETICIST

Corporation in Southwest invites applications for a Ph.D. cytogeneticist to direct a new cytogenetic service laboratory which accepts referrals on a nationwide basis.

Must have minimum of 4 years of laboratory experience in human cytogenetics beyond the doctorate.

This is an opportunity to get in on the ground floor of a rapidly developing company and to live in a delightful community with an ideal climate.

Please send curriculum vitae, list of publications, and names (with telephone numbers) of three references to:

VIVIGEN, INC.
550 St. Michael's Drive
Santa Fe, New Mexico 87501

FACULTY APPOINTMENT IN MOLECULAR BIOLOGY

The Department of Biological Chemistry at the University of Cincinnati College of Medicine is presently recruiting for a tenure-track faculty position in the area of molecular biology/genetics at the assistant or associate professor level, depending upon experience.

All applicants should have a minimum of 2 years of postdoctoral experience and proven research ability. Applicants will be expected to develop independent research programs and supervise the training of Ph.D. candidates. The department and college have a very active group of molecular biologists; also, excellent opportunities exist for collaboration with clinical colleagues on medically oriented problems.

Applicants should send curriculum vitae and a detailed outline of future research plans to: **Dr. Harry Rudney, Director, Department of Biological Chemistry (522), University of Cincinnati College of Medicine, 231 Bethesda Avenue, Cincinnati, Ohio 45267.**

We are an Equal Opportunity Employer.

POSITIONS OPEN

DEVELOPMENTAL SOCIAL SCIENCE. The Committee on Human Development, The Department of Behavioral Sciences, The University of Chicago, seeks a promising scholar for a faculty position. Disciplinary affiliation is of less importance than scholarly interest in issues of development and of change over time, including life-course social science. Please address letters of inquiry, including recent curriculum vitae, to: **Search Committee, The Committee on Human Development, The University of Chicago, 5730 South Woodlawn Avenue, Chicago, Illinois 60637. The University of Chicago is an Affirmative Action Employer.**

Faculty Position, Assistant Professor
Biology Department

California State University, Los Angeles (CSULA)

A tenure-track **FACULTY POSITION** at assistant professor level is available in theoretical evolutionary biology. The successful candidate is expected to provide leadership in computing and modeling for teaching and research and to collaborate with other faculty in the quantitative aspects of their research. Teaching responsibilities will include undergraduate and graduate courses in evolution, biometrics, or biogeography. Ph.D. required. Salary range is \$19,932 to \$22,896. Send curriculum vitae, names of three referees, and statement of research and teaching by 1 February 1982 to: **Dr. Margaret Jefferson, Search Committee, Biology Department, CSULA, 5151 State University Drive, Los Angeles, Calif. 90032. An Equal Opportunity/Affirmative Action/Handicapped/Title IX Employer.**

HEAD OF HORN POINT ENVIRONMENTAL LABORATORIES

The **UNIVERSITY OF MARYLAND'S CENTER FOR ENVIRONMENTAL AND ESTUARINE STUDIES (UMCEES)** is seeking a new head for its environmental laboratory at Horn Point. The laboratory is located at Cambridge on the Eastern Shore of Chesapeake Bay. At present, there are 17 faculty members and a total of 75 employees. At present, emphasis is placed on studies of Chesapeake Bay and associated drainage areas. Research programs include studies of benthic ecology, invertebrate physiology and genetics, nutrient dynamics and ecosystem analysis, sedimentology, and marsh ecology.

Scientists from a wide range of disciplines within ocean biology should be encouraged to apply. It is anticipated that the successful candidate will hold a tenured position as full professor within UMCEES. The successful candidate will be expected to show a record of accomplishments in research publications and grant support and will be expected to pursue a vigorous research program. The head of the Laboratory will be responsible for the development of programs and some experience in scientific and/or academic administration is preferred. Salary will be competitive. The closing date for applications is 30 January 1982, and the appointment is expected to take effect 1 July 1982. Nominations and applications (with the names of references) should be sent to: **Dr. Dennis Taylor, Chairman, Search Committee, UMCEES, P.O. Box 775, Cambridge, Maryland 21613, from whom further details may also be obtained.**

Affirmative Action/Equal Opportunity Employer

PHYSICAL OCEANOGRAPHERS to be appointed in the University of Maryland's Center for Environmental and Estuarine Studies (UMCEES).

UMCEES intends appointing a number of physical oceanographers at the Horn Point Environmental Laboratories, which is situated on the Eastern Shore of Chesapeake Bay at Cambridge, Maryland. Appointments are expected to be made in both tenure-track positions (rank open) and as nontenure-track research scientists. Preference will be given to those individuals concerned with coastal and estuarine processes and interaction with biological and chemical oceanographers will be encouraged. The successful candidates will be expected to play a major role in the development of a physical oceanography program in UMCEES. It is anticipated that there will be an opportunity for an involvement with a development of physical oceanography within the Division of Physical Sciences and Engineering at the College Park campus of the University of Maryland. Successful applicants will be expected to have a Ph.D. or equivalent experience. The closing date for applications is 30 January 1982, and the appointment is expected to take effect 1 July 1982. Nominations and applications (containing a list of references) should be sent to: **Dr. Robert Ulanowicz, Chairman, Search Committee, Chesapeake Biological Laboratory, Box 38, Solomons, Maryland 20688, from whom further details may be obtained.**

Affirmative Action/Equal Opportunity Employer

NATIONAL UNIVERSITY OF SINGAPORE

DEPARTMENT OF PHYSICS

Applications are invited for teaching appointments in the Department of Physics. Candidates should possess a Ph.D. degree, and have teaching and/or research experience. Preference will be given to candidates in the following areas:

- (a) Digital Electronics/Computer Sciences (Hardware or Software) with specialization in micro-processors/minicomputers.
- (b) Experimental solid state physicist/materials scientist with experience on the use of scanning electron microscopes.
- (c) Experimental Nuclear Physics with experience on low energy accelerators especially the Van de Graaff generator.
- (d) Scientific Instrumentation.

Gross annual emoluments range as follows:

Lecturer : S\$25050-49850
Senior Lecturer : S\$43090-74590
Associate Professor: S\$64830-86600

The commencing salary is dependent upon the candidate's qualifications, experience, and the level of appointment offered.

Staff may be considered for tenure appointment after an initial contract of 3 years. Leave and medical benefits are provided. Under the University's Academic Staff Provident Fund Scheme, the staff member contributes to the Fund at the present rate of 22% of his monthly gross salary subject to a maximum of S\$660 p.m., and the University contributes 20½% of his monthly gross salary. The sum standing to the staff member's credit in the Fund may be withdrawn when he leaves Singapore/Malaysia permanently. Other benefits include: a settling-in allowance of S\$1000 to S\$2000, an education allowance in respect of children's education subject to a maximum of S\$12000 p.a., subsidised housing at rentals ranging from S\$120 to S\$306 p.m., passage assistance, and baggage allowance for transportation of personal effects to Singapore.

Application forms and further information may be obtained either from:

Mr. Peter Lim, Director
North America Office
Suite 4J, One Harkness Plaza
61 West 62nd Street
New York, N.Y. 10023
U.S.A.

or **The Head**
Recruitment Unit
National University of Singapore
Kent Ridge
Singapore 0511

Applications should be submitted to the Recruitment Unit.

DRUG METABOLISM

SmithKline Corporation, a multi-national Health Care Firm, features exciting opportunities to participate in a challenging new Drug Metabolism program, which will expand over the next several years and play an important role in drug discovery and development.

Associate Director

Will direct the analytical group within the department and will direct and supervise pharmacokinetic and bioavailability studies. Will be expected to propose and carry out a basic research program in support of drug discovery and development.

Candidates must have a PhD plus five or more years post-doctoral research experience in Drug Metabolism - Pharmacokinetics. Preference will be given to those candidates with research experience or education in all or most of the following:

- Instrumental methods of analysis including GC-MS, GC, HPLC and RIA.
- Drug metabolism studies in animals and man including the use of stable isotopes for such studies.
- Pharmacokinetics and biopharmaceutics including the development and use of pharmacokinetic models.
- Familiarity with regulatory issues related to the Pre-Clinical Phases of Drug Development.
- A proven record of technical supervision, excellent communication and interpersonal skills, and an outstanding record of scientific accomplishment/publications.

Associate Senior Investigator

Will set up and supervise the toxicokinetic laboratory and serve as a primary interface between Drug Metabolism and Toxicology Departments. Will also be expected to develop research programs to investigate the mechanisms of drug toxicity as they relate to safety evaluations.

Candidates must have a PhD and:

- Two or more years post-doctoral experience in Biochemical Toxicology or Drug Metabolism.
- Analytical skills which may include: GC, HPLC, radioisotope technologies and enzymology.
- Experience in studies of **in vivo** xenobiotic metabolism and/or studies of the mechanisms of chemical toxicities.
- Proven research ability evidenced by outstanding scientific publications.

SmithKline offers an excellent compensation and benefits program including an attractive relocation package and an opportunity for personal and professional growth. Please send resume in confidence to: C.J. Elder, Senior Scientific Employment Administrator, SmithKline Corporation, 1502 Spring Garden Street, P.O. Box 7929, Philadelphia, Pennsylvania 19101.

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POSITIONS OPEN

ETHOLOGIST/TERRESTRIAL ECOLOGIST. Applications are invited for a tenure-track position at the assistant professor level. Ph.D. required. Teaching responsibilities include general biology, general ecology, behavior, and area of specialty. Applicants with teaching experience in general biology preferred. The successful applicant will be expected to maintain an active research program in ecology or behavior and to guide graduate students at the master's level. Send application, curriculum vitae, transcripts, research interests, and names and addresses of three potential references to: **Dr. James E. Platz, Search Committee, Department of Biology, Creighton University, Omaha, Nebraska 68178**, by 15 February 1982. *An Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION IN BIOCHEMISTRY

The Department of Biochemistry is seeking an individual at the level of assistant professor for a tenure-track position. The successful candidate will be expected to establish a vigorous research program and must have an interest in teaching both graduate and professional students. The research area of interest is open, although applications in the areas of metabolic regulation, molecular immunology, or recombinant DNA research are especially encouraged. Candidates must have a Ph.D. or M.D. degree and 2 years of postdoctoral research experience. Interested individuals should send curriculum vitae, a statement of research interests, and the names of three references to:

Dr. C. L. Harris
Chairman, Biochemistry Search Committee
Department of Biochemistry
West Virginia University School of Medicine
Morgantown, W. Va. 26506

West Virginia University is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITIONS

The Virginia-Maryland College of Veterinary Medicine invites applications for faculty positions in the following areas:

Cardiovascular or cardiopulmonary physiology
Clinical pharmacology
Gastrointestinal physiology
Internal medicine (cardiovascular or cardiopulmonary)
Neuroscience
Therigenology

Applicants for clinical positions should hold the D.V.M. degree. Board-certification, Board-eligibility, and/or advanced training and degrees are desirable. Successful candidates will be expected to participate in teaching and/or clinical programs, and should have a strong commitment to developing productive research programs in their areas of expertise. Salary and rank will be commensurate with qualifications and experience.

Letters of application should include curriculum vitae, statements of research, clinical, and teaching goals, and the names and addresses of three persons who will provide letters of reference.

Closing date for applications is 1 January 1982 or until positions are filled.

Correspondence should be addressed to:

Dr. Peter T. McGovern
Chairman, Division of Veterinary Biology
Virginia-Maryland Regional
College of Veterinary Medicine
Virginia Tech
Blacksburg, Va. 24061-5999
Telephone: 703-961-7666

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ICHTHYOLOGY JOB DESCRIPTION

Cornell University solicits applications for a tenure-track position, preferably an assistant professor, in the Section of Ecology and Systematics to begin September 1982. We seek a systematic ichthyologist with broad interests in vertebrate biology and a strong research program. The successful candidate will participate in curation of the Ichthyology Collection. Teaching responsibilities include an upper-level course in biology of fishes, a share of the introductory vertebrate biology course, and participation in the graduate program in vertebrate biology. Applications must include curriculum vitae and names of three references, and will be reviewed 1 February 1982. Send application to: **Dr. W. N. McFarland, Section of Ecology and Systematics, Cornell University, Ithaca, New York 14850**. *Cornell University is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

HEALTH SCIENCE, 12-month, tenure-track academic staff position in health sciences. Doctorate in anatomy, physiology, pathophysiology, pharmacology, or medicine. Responsibilities include teaching graduate and undergraduate level courses in discipline, directing existing undergraduate and graduate level health science programs, and developing new health science programs. Opportunity for research. Position available after June 1982. Rank and salary commensurate with education and experience. Applications must be postmarked by 1 February 1982 and sent to: **Dr. Ronald D. Ballard, Dean, School of Science and Humanities, Texas Wesleyan College, Forth Worth, Texas 76105**.

IMMUNOLOGY/PARASITOLOGY

The West Virginia School of Osteopathic Medicine (WVSOM), Department of Microbiology, anticipates an opening for a tenure-track position as assistant professor beginning in January 1982. The selected candidate will be expected to teach immunology and parasitology for first- and second-year medical students and conduct a vigorous research program.

Send curriculum vitae and arrange for three letters of recommendation to be sent to:

Elizabeth K. Blatt, Ph.D.
Associate Dean, Academic Affairs/Basic Sciences
West Virginia School of Osteopathic Medicine
400 North Lee Street
Lewisburg, West Virginia 24901

WVSOM is an Equal Opportunity/Affirmative Action Employer.

IMMUNOLOGY OF DIABETES

Applications are invited for the position of assistant or associate professor to work in the area of the etiology of diabetes. The position, available on 1 July 1982, will carry an initial appointment of 5 years funded through **The Banting and Best Diabetes Center, University of Toronto**, at a competitive salary. Candidates should have a strong background in immunology and be interested in developing a strong research program in the areas of autoimmunity and/or immunogenetics related to diabetes. A colony of partially inbred (11 generations), spontaneously diabetic, BB Wistar rats is available for research purposes. The successful candidate will be expected to attract independent research grants and to spend at least 75 percent of his/her time carrying out an independent research program. Teaching obligations will be minimal. Applicants should forward curriculum vitae, an outline of research interests, and the names of three references to: **Dr. David H. MacLennan, Professor and Chairman, Banting and Best Department of Medical Research, 112 College Street, University of Toronto, Toronto, Ontario, Canada M5G 1L6**.

IMMUNOLOGIST. Experienced in the field of lymphokine production, isolation, and characterization; to join a group interested in the immunoregulation of collagen synthesis. Position is at the level of instructor or assistant professor, depending upon qualifications. Interested candidates should send their curriculum vitae to: **Dr. Raul Fleischmajer, Department of Dermatology, THE MOUNT SINAI SCHOOL OF MEDICINE, One Gustave L. Levy Place, New York, N.Y. 10029**. *An Equal Opportunity Employer.*

MICROBIOLOGIST: ASSISTANT PROFESSOR

Available September 1982. Ph.D. required. Applicants should demonstrate a broad background in microbiology and cell biology. Teaching responsibilities include undergraduate courses in general microbiology, a team-taught course in cell biology, and an advanced course in molecular biology or in area of expertise. Active involvement in research expected. Application deadline: 1 February 1982. Send curriculum vitae and three letters of recommendation to: **Dr. Janet Shambaugh, Chairman, Search Committee, Goucher College, Towson, Maryland 21204**. *An Equal Opportunity/Affirmative Action Employer.*

MOLECULAR BIOLOGIST—A proven teacher is sought to continue strong courses in genetics, physiology, biochemistry, and microbiology at a small, liberal arts, work-study college on 1100-acre campus in the southern Appalachians. Balance is needed for a flourishing environmental program based heavily on field biology. Preference given to persons in animal science or medical field. Housing, plus salary, insurance, and retirement benefits provided. Send inquiries to: **Dr. Alan Haney, Chairperson, Department of Biology, Box 5064, Warren Wilson College, Swannanoa, N.C. 28778**. Applications close 20 January 1982.

POSITIONS OPEN

INSTRUCTOR IN REHABILITATIVE ENGINEERING

Instructor in rehabilitative engineering needed to co-lead interdisciplinary Tissue Pressure Management Team and develop satellite clinic programs at hospitals in Texas, Oklahoma, and New Mexico that offer rehabilitation services as well as develop satellite programs at extended care facilities for geriatrics. Assist in the development of new research ideas related to pressure management and new materials for use in orthopedic implants. Contribute design talent and solve the problems of several disabled persons who need one-of-a-kind technological aids. Write reports and prepare planning documents for the REC. Must have master's degree in bioengineering. Position involves 5 percent domestic travel time.

Salary: \$32,000 per year; 40 hours per week. Send résumé to: **Texas Employment Commission, P.O. Box 1390, Houston, Texas 77001**. Job Order Number 2427882. *Ad paid by Equal Opportunity Employer.*

JUNIOR FACULTY POSITION available. Cell Biology Division, Cystic Fibrosis Program, in a medical school/hospital setting. For Ph.D. or M.D. with experience in molecular biology and the study of the complement genes and cells from cystic fibrosis patients. Position includes research and teaching responsibilities. Salary: \$25,000. Send curriculum vitae to: **Sandra Thomas, Boston Placement Office, Hurley Building, Boston, Mass. 02114**, and quote job reference Number 2023.

TWO MOLECULAR GENETICISTS Department of Molecular and Population Genetics University of Georgia

The University of Georgia is seeking two molecular geneticists for tenure-track positions at the assistant professor level, beginning fall 1982. For one position, preference will be given to candidates with interests in prokaryotic or viral genetics. For the other position, preference will be given to a eukaryotic molecular geneticist; one area of interest is molecular evolution. However, qualified candidates in any area of molecular genetics will be considered. Candidates will be expected to maintain an active research program and to teach at the graduate and undergraduate level. The Department of Molecular and Population Genetics is a new department with 12 faculty members and strong research programs in molecular genetics and population genetics. Applicants should send curriculum vitae and names and addresses of four references to: **Dr. Norman Giles, Chairman, Molecular Geneticist Search Committee, Department of Molecular and Population Genetics, University of Georgia, Athens, Georgia 30602**. Screening of applicants will begin immediately. The closing date for applications is 15 February 1982.

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MOLECULAR GENETICIST

The Department of Molecular Genetics, University of Texas Health Science Center at Dallas, invites applications for a tenure-track position as assistant professor. The appointee is expected to develop a vigorous independent research program employing recombinant DNA technology and to interact with a group of investigators studying cellular and molecular aspects of receptor-mediated endocytosis and lipoprotein metabolism. Qualified individuals should send their curriculum vitae, a statement of research plans, and the names and addresses of three references to:

Dr. Joseph L. Goldstein
Department of Molecular Genetics
University of Texas Health Science Center at Dallas
5323 Harry Hines Boulevard
Dallas, Texas 75235

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NUTRITIONAL BIOCHEMIST

A state-funded, full-time research position in a growing 4-year medical college is available for an individual desiring to establish a human nutrition laboratory for the purpose of evaluating the nutritional status of pediatric patients with cystic fibrosis and elderly patients with cardiovascular disease. Salary is negotiable. A Ph.D. degree is required. To apply, send curriculum vitae, names and addresses of three references, and a statement of career goals by 1 February 1982 to: **Martin Banschbach, Associate Professor of Biochemistry, Director, Molecular Medicine Research Center, The Oklahoma College of Osteopathic Medicine and Surgery, P.O. Box 2280, Tulsa, Okla. 74101-2280**. *An Equal Opportunity/Affirmative Action Employer.*

RESEARCH BIOCHEMIST, Ph.D.

The Lilly Research Laboratories, a leader in pharmaceutical and agricultural research, seeks a biochemically oriented scientist to expand its fermentation screening program. To be considered for this position, applicants must have a Ph.D. in biochemistry, enzymology, or a related area. The successful applicant will conceive, develop, and implement novel screening methods for the detection of nonantimicrobial activities in fermentation broths. These methods may include enzyme inhibition screens, tissue culture, or other techniques short of whole animal studies. The position requires an ability to work in a multidisciplinary environment that encompasses chemical, biochemical, and biological skills. A working knowledge of mammalian physiology would be a definite asset.

Eli Lilly and Company offers an excellent compensation program and opportunities for professional growth. Qualified individuals should send their résumé in confidence to:

Mr. Mark J. Turney
Personnel Representative
Lilly Research Laboratories
307 East McCarty Street
Indianapolis, Indiana 46285



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cetus

a leader in the commercial application of biotechnology is seeking:

- Ph.D.s in molecular biology with experience and interest in virology and infectious diseases. Preference will be given to individuals with a broad background which includes recombinant DNA techniques and immunological characterization of viral antigens. Positions are available at the Sr. Scientist, Scientist, and Postdoctoral levels.
- Ph.D.s in biochemistry or molecular biology with 3-5 years' postdoctoral experience, preferably in DNA cloning, expression and eukaryotic gene regulation for pharmaceutical use.

Applicants should send their resumes in confidence to:

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Research Scientists

Salary: \$23,225 — \$43,200
Ref. No.: 81-NCRSO-DFO-7, 8 and 9

Department of Fisheries and Oceans
Ocean Science and Surveys
Dartmouth, Nova Scotia

The Bedford Institute of Oceanography, Dartmouth, Nova Scotia, requires two scientists to participate in marine environmental quality research and a third scientist to conduct research into the ecology and life history of fish.

MARINE PHYSIOLOGICAL BIOCHEMIST 81-NCRSO-DFO-7

Research experience in the study of biochemical and physiological pathways and reservoirs of metal or radionuclide accumulation in marine biota is required for this position. Experience is also required in the handling and determination of radioisotopic tracers and ocean sampling equipment.

BENTHIC MICROBIAL ECOLOGIST 81-NCRSO-DFO-8

For this position, research experience in the study of benthic microbial ecology is required. Experience in the handling and determination of radioisotopic tracers and conducting in situ experiments at sea is also required.

FISHERIES ECOLOGIST 81-NCRSO-DFO-9

To successfully meet the requirements of this position, experience is required in the planning and directing of laboratory and field programs on the ecology of aquatic production. Also, a demonstrated capacity in statistical and mathematical analysis of ecological systems is required.

Qualifications

All three positions require a doctorate or a lesser degree with research experience and productivity equivalent to that of a doctorate.

Language requirements

Knowledge of the English language is essential.

Clearance Nos.: 111-211-006
111-211-005
111-258-015

Additional job information is available by writing to the address below:

Toute information relative à ce concours est disponible en français et peut être obtenue en écrivant à l'adresse suivante:

How to apply

Send your application form and/or résumé to:

Brian Beyer
National Capital Region Staffing Office
Public Service Commission of Canada
300 Laurier Avenue West
Ottawa, Ontario K1A 0M7
Tel. (613) 593-5331 Ext. 497
Closing date: January 29, 1982

Please quote the applicable reference number at all times.

Canada

POSITIONS OPEN

MUSEUM DIRECTOR—Delaware Museum of Natural History seeks director. Send inquiries to:

Search Committee
P.O. Box 3937
Greenville, Delaware 19807

A faculty position for a **NUTRITIONAL BIOCHEMIST** at the assistant professor level is available in the Division of Nutritional Sciences at Cornell University effective 1 September 1982. The position involves teaching at the undergraduate or graduate levels and establishment of a vigorous research program. The successful applicant will have a dual appointment in the Section of Biochemistry, Molecular and Cell Biology of the Division of Biological Sciences. Candidates should possess a doctoral degree in biochemistry or nutrition, postdoctoral experience, and demonstrate potential for outstanding accomplishments in research and teaching. The research interests of the candidates must be relevant to nutrition. Send résumé, names of three references, and brief statements of research and teaching goals by 1 February 1982 to: Dr. William J. Arion, Division of Nutritional Sciences, Cornell University, 323 Savage Hall, Ithaca, New York 14853.

Cornell University is an Affirmative Action/Equal Opportunity Employer.

ARIZONA STATE UNIVERSITY PARASITOLOGIST

We invite applications for a temporary, one academic year assistant professor position, starting 15 August 1982. Ph.D. required; responsibilities include teaching an undergraduate parasitology course, an advanced course in parasitology-protocology, and participation in lower division biology instruction. Send curriculum vitae and three letters of recommendation to: Professor Kathleen Church, Chair, Department of Zoology, Arizona State University, Tempe, Ariz. 85287, before 15 February 1982.

Arizona State University is an Equal Opportunity/Affirmative Action Employer.

PETROLOGY—GEOCHEMISTRY. Applications invited for one tenure-track position (assistant professor) for August 1982. Successful candidate expected to teach at the undergraduate level and pursue vigorous research program. Applicant should have a background in petrology and geochemistry. Candidates in geophysics or hydrogeology may also be considered. Ph.D. degree required. Closing date: 15 March 1982. Curriculum vitae, research interests, and three letters of reference should be sent to: Dr. L. Keller, Department of Physical Sciences, Florida International University, Miami, Fla. 33199. *Florida International University is a member of the State University System of Florida. An Equal Opportunity/Affirmative Action Employer.*

PHARMACOLOGIST. Assistant professor. Doctoral degree in pharmacology and 3 years of postdoctoral experience in neuroendocrinology. RIA's, neurochemistry, aging research. Position supported by grant funds; to start as soon as possible. Send curriculum vitae and three letters of recommendation to:

Dr. K. E. Moore
Department of Pharmacology and Toxicology
Michigan State University
East Lansing, Mich. 48824

Ph.D. in PHYSICS, to teach physics and mathematics. Position is available 20 August 1982. Salary and rank depend on qualifications and teaching experience. Send résumé to:

Dean Anna D. Reuben
Morris College
Sumter, South Carolina 29150
Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL POSITIONS for recent Ph.D. or M.D. U.S. citizen or permanent resident: available immediately and 1 July 1982; supported by NIH Training Grant (National Research Service Awards) in the area of basic cancer chemotherapy, clinical cancer chemotherapy, cancer biology, and cancer drug development (organic synthesis). Application deadline for immediate position: 1 month. Send résumé, indicating area(s) of interest, and two or more letters of reference to: Dr. Sungman Cha, Brown University, Box G, Providence, R.I. 02912. Telephone: 401-863-3114. *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

PHARMACOLOGIST. Ohio University has an opening for a full-time, tenure-track faculty position in the College of Osteopathic Medicine and the Department of Zoology and Microbiology. Applicants should have an earned Ph.D. or equivalent and at least 1 year of postdoctoral experience. Although preference will be given to candidates with training and expertise in neuropharmacology, candidates from other specialties are encouraged to apply. In addition to instructing osteopathic medical students and graduate students, the successful candidate is expected to develop a strong independent research program. Collaborative opportunities exist in several areas including: biochemical pharmacology and endocrinology, cellular neurobiology, neurogenetics, spinal cord physiology, developmental neurobiology, striated and smooth muscle physiology, and ultrastructures and membrane transport. Earliest starting date is 1 July 1982.

Ohio University is located in picturesque southwestern Ohio in a small, quiet university town. Salaries are competitive and cost of living, including housing, is moderate. Recreational opportunities abound in many nearby state parks and national forests.

Letters of application, curriculum vitae, a brief description of proposed research program, and three letters of recommendation must be received by 31 January 1982. Address to: Dr. Ronald Portanova, Chairperson, Pharmacology Search Committee, Ohio University, College of Osteopathic Medicine, Irvine Hall, Athens, Ohio 45701. *Ohio University is an Affirmative Action/Equal Opportunity Employer.*

PHYSIOLOGY

WASHINGTON UNIVERSITY OF ST. LOUIS

Applications are invited for an academic position in the Department of Biomedical Sciences, School of Dental Medicine. The successful candidate will be expected to participate in the teaching of cellular and general vertebrate physiology, and to develop and maintain an active, fundable research program. Strong preference will be given to those individuals who have completed a postdoctoral training program and whose interests are compatible with the major research activities of the department. These activities include study of: (i) bone and bone marrow cell differentiation pathways, (ii) cell-cell and cell-matrix interactions involved in bone and connective tissue development, and (iii) the biology of tumor cells. Salary and rank will be commensurate with qualifications. Interested parties should send curriculum vitae, representative reprints, and the names of three referees to:

Dr. Brian Clevinger
Washington University School of Dental Medicine
Box 8100
4559 Scott Avenue
St. Louis, Missouri 63110-1087

Washington University is an Equal Opportunity Employer.

PHYSIOLOGIST. Assistant professor position available September 1982. Minimum of 1 year of postdoctoral experience required. Candidate must be able to develop strong research program and to attract external funding. The successful applicant will also participate in the undergraduate and graduate teaching program in physiology. Area of specialization open; research areas of present physiology faculty range from cellular to organismal levels, and collaboration is encouraged. Northeastern is a large urban university with an emphasis on cooperative education. The Biology Department includes well-equipped modern laboratories, marine laboratory, EM and computer facilities, and is part of an expanding research-oriented health-science community. Salary dependent on qualifications. Send curriculum vitae and names of at least three references to: Helen Lambert, Physiology Search Committee, Biology Department, 403 RI, Northeastern University, 360 Huntington Avenue, Boston, Mass. 02115. *An Equal Opportunity/Affirmative Action/Title IX Employer.*

POSTDOCTORAL POSITION available immediately in developmental biology; to extend and test models for the mechanical processes which shape animal body parts during ontogeny. Experience in electron microscopy or continuum mechanics desirable. Send curriculum vitae, three letters of recommendation, and reprints by 20 January 1982 to:

Dr. Jay Mittenthal
Department of Anatomical Sciences
School of Basic Medical Sciences
University of Illinois
506 South Mathews Avenue
Urbana, Illinois 61801

An Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

PLANT PATHOLOGY DEPARTMENT HEAD. Nominations and applications are invited for the position of head, Department of Plant Pathology, University of Georgia Coastal Plain Experiment Station, Tifton, Ga. Available 1 July 1982; closing date: 15 February 1982. Requirements include Ph.D. in plant pathology, demonstrated accomplishments in research, and outstanding administrative and leadership capabilities or potential; candidate must qualify for the rank of professor. Send application, current résumé, reprints, and three letters of reference to: Dr. C. F. Douglas, Chairman, Search Committee, Plant Science Building, Coastal Plain Experiment Station, Tifton, Ga. 31793-5401; telephone: 912-386-3360. *The University of Georgia is an Affirmative Action/Equal Opportunity Institution.*

POSTDOCTORAL available immediately. Recent Ph.D. with background in cell or molecular biology, hybridoma technology, or protein purification. To work on steroid receptor mechanisms in human breast cancer or vascular smooth muscle cells. Salary competitive; 2-year appointments. Submit complete curriculum vitae and names of three references to: Doctors K. B. or L. D. Horvitz, Department of Medicine, University of Colorado Health Sciences Center, 4200 East Ninth Avenue, Denver, Colorado 80262. *The University of Colorado Health Sciences Center is an Equal Opportunity Employer.*

POSTDOCTORAL ASSOCIATE to work on the **IMMUNOLOGY OF MALARIA**. Project concerned with the identification and characterization of malarial antigens. Recent Ph.D. with background in molecular biology or immunochemistry preferred. Send curriculum vitae and two letters of reference to: Dr. Anil N. Jayawardena, Department of Epidemiology and Public Health, Yale University School of Medicine, 60 College Street, New Haven, Conn. 06510. *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITIONS available immediately to study interactions of phytopathogenic bacteria with tissue culture cells or the mechanism of tumorigenesis by *Agrobacterium*. Previous training in bacteriology, plant pathology, electron microscopy, or nucleic acid research. Send résumé to: Dr. Ann Matthyse, Department of Botany, Coker Hall 010A, University of North Carolina, Chapel Hill, N.C. 27514. *University of North Carolina is an Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION available immediately for recent Ph.D. with some experience in protein or membrane structure, ligand-receptor interactions or immunochemistry. NIH-supported study on mechanism of activation of blood platelets. Curriculum vitae and three letters of recommendation to: Dr. Pan Ganguly, Department of Biochemistry, University of Tennessee, Memphis, Tenn. 38163. *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION available now to study chemosensitivity of nociceptors in primate in relation to itch and pain sensations. Electrophysiological recordings of activity in single peripheral nerve fibers will be compared with psychophysical measures of itch or pain sensations. Background in neurophysiology desirable; U.S. citizenship required. Send curriculum vitae and names of three references to: Dr. Robert LaMotte, Department of Anesthesiology, Yale University School of Medicine, 333 Cedar Street, New Haven, Conn. 06510. *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION available immediately to study neurohormone receptor and secretion mechanisms in adrenal chromaffin cells. Experience in one or more of the following areas desirable: receptors; cell isolation, culture, and fractionation; membrane fusion; assays for cyclic nucleotides, catecholamines, membrane marker enzymes, and ion transport. U.S. citizens and permanent residents send curriculum vitae, bibliography, and names of three references to: Dr. Allan S. Schneider, Sloan-Kettering Institute, Cornell University Graduate School of Medical Science, 1275 York Avenue, New York, N.Y. 10021.

POSTDOCTORAL POSITION to study the components of the renin-angiotensin systems in the kidney, brain, and other organs. Emphasis will be on localization, purification, and characterization of these components. Experience in protein and peptide chemistry desired. Please send curriculum vitae and three letters of recommendation to:

Ian A. Reid, Ph.D.
Neuroendocrine Laboratory
University of California, San Francisco
San Francisco, Calif. 94143

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A pioneer in bioindustry since 1971, is currently seeking innovative professionals in the following areas:

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- Protein chemistry
- Plant cell genetics
- Biochemical engineering
- Process engineering
- Instrumentation Design

We invite you to submit your resume in confidence to:

CETUS CORPORATION
Box SKLH
600 Bancroft Way
Berkeley, CA 94710
(415) 549-3300



SQUIBB



RESEARCH ASSOCIATE Pharmacology

E.R. Squibb & Sons, Inc., an established leader in the pharmaceutical industry, is seeking an individual to conduct research related to immunopharmacology and pathology of the skin.

The qualified applicant will have an MS Degree or equivalent or BS and equivalent experience in biochemistry, biology, or allied science. Education and/or work experience would preferably include investigation in inflammation and immunology, histological preparation and evaluation of tissues, and the handling of small laboratory animals. The qualified applicant must have a proven ability to work independently but will interact with a multi-disciplinary section conducting dermatological research.

This challenging research position, located at Squibb's World Headquarters in Princeton, New Jersey, offers an excellent starting salary and a liberal benefits package.

Please submit resume including salary requirements in confidence to: Ms. P.T. Zimmerman, Department BL, E.R. SQUIBB & SONS, INC., P.O. Box 4000, Princeton, NJ 08540. Equal Opportunity Employer, M/F/H/V.

Program Director, Immunology

Play a key role in advancing the field of in-vitro diagnostics.

The BBL Microbiology Systems Division of Becton Dickinson is the world leader in microbiology. Combine your scientific expertise with our recent state-of-the-art advances, and together we'll assume the same leadership position in the expanding area of in-vitro diagnostics.

You'll provide overall direction to our expanding Immunology Department by managing existing projects and by assessing needs for new ones. Using a "systems approach" to management, you'll develop and monitor budgets, secure necessary external resources, develop detailed plans and schedules, etc.

You should possess a PhD or equivalent and formal training in immunology, virology, biochemistry, microbiology and/or cell biology. You should have working knowledge of the growth and isolation of microbial antigens, production of conventional and monoclonal antibodies, and biochemical and immunodiagnostic technologies. Scientific/industrial recognition as evidenced by publications, patents, etc., is required, as is a minimum of 8 years research experience including a supervisory background.

We offer an excellent salary and outstanding benefits. Find out more about the innovative environment and the career advantages of this expanding division of Becton Dickinson by sending resume and salary history to: Dr. Laurence McCarthy, BBL Microbiology Systems, Becton Dickinson, Dept. 300, P.O. Box 243, Cockeysville, Maryland 21030. An equal opportunity/affirmative action employer.

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POSITIONS OPEN

POSTDOCTORAL POSITION for study of microbial iron metabolism, available immediately. Strong chemical background and microbiological experience required. Send curriculum vitae and two letters of recommendation by 11 January 1982 to: **Dr. Thomas Emery, Department of Chemistry and Biochemistry, Utah State University, Logan, Utah 84322.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION available. Physiological and pharmacological studies on skeletal muscle. Excitation-contraction coupling, electrophysiological study of opiate drug receptors, and so forth. Salary: \$17,000 to start. Send curriculum vitae and the names of three references to, or for further information write to: **Dr. George B. Frank, Department of Pharmacology, University of Alberta, Edmonton, Alberta, Canada T6G 2H7.**

POSTDOCTORAL POSITION. Research associate II, available immediately. Individual will be responsible for conducting research on the behavior of laying hens in cages and floor pens. The research is part of an interdisciplinary research project in the behavioral, genetic, nutritional, physiological, and immunological aspects of animal welfare. Salary: \$14,000 per annum, minimum. Appointment assured for 1 year. Send curriculum vitae and have two letters of recommendation sent to: **Dr. A. van Tienhoven, Department of Poultry and Avian Sciences, Rice Hall, Cornell University, Ithaca, N.Y. 14853.**

Cornell University is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITIONS are available in the Cancer Research Laboratory, University of Western Ontario. Staff includes Doctors G. Chaconas, K. Ebisuzaki, E. Faust, D. Fujita, and B. Milavetz. Areas of research include DNA replication, poly(ADP)ribose metabolism, tumour virology, control of mammalian cell cycle, and cloning of mammalian genes with particular reference to cancer. Submit curriculum vitae and letters of reference to: **Dr. David Denhardt, Cancer Research Laboratory, University of Western Ontario, London, Ontario, Canada N6A 5B7.**

POSTDOCTORAL RESEARCH ASSOCIATE

Position available January 1982 for 2 to 3 years to assess in vitro hormone-cellular interaction. Radio-labeled hormone binding and processing will be studied to evaluate regulatory mechanisms in human hemopoietic cells. Expertise in cell biology and radio receptor techniques preferred. Starting salary is about \$19,000. Send curriculum vitae and names and addresses of three references to: **Dr. Peter Greenberg, Department of Medicine, Stanford University Medical Center, Stanford, California 94305.**

POSTDOCTORAL/RESEARCH ASSOCIATE position available in laboratory investigating normal and abnormal lipoprotein gene characterization and expression techniques, including molecular cloning in phage and plasmid RNA/DNA characterization. DNA sequencing, in vitro translation/transcription, and genomic blotting. Ph.D. in biochemistry/microbiology science required; experience in molecular biology/recombinant DNA techniques desirable. Salary commensurate with experience. Send résumé and three references to: **Dr. Lawrence Chan, Department of Cell Biology, Baylor College of Medicine, 1200 Moursund Avenue, Houston, Texas 77030.** *An Equal Opportunity Employer.*

POSTDOCTORAL RESEARCH POSITION. 1 January 1982 through 31 December 1982, to isolate and identify fungi from decaying wood products. Reappointment for second year possible. Experience in identification of *Basidiomycetes* and *Fungi Imperfecti* desired. Send curriculum vitae, transcripts, and references by 25 December 1981 to: **Professor Malcolm E. Corden, Department of Botany and Plant Pathology, Oregon State University, Corvallis, Oregon 97331.** *Oregon State University is an Affirmative Action/Equal Opportunity Employer and complies with Section 504 of the Rehabilitation Act of 1973.*

POSTDOCTORAL RESEARCH POSITION—Available to study the mechanism for hormonal regulation of glutamine synthetase activity, gene expression, protein degradation, and amino acid metabolism in cultured 3T3 adipocytes. [See R. E. Miller *et al.* *PNAS* 75, 1418 (1978); *JBC* 255, 5490 (1980); *ABB* 209, 486 (1981).] Recent Ph.D. in biochemistry, molecular biology, or a related discipline required. Send curriculum vitae and three references to: **Dr. Richard E. Miller, Metabolism Section, Departments of Medicine and Biochemistry, Case Western Reserve University, Veterans Administration Medical Center, 10701 East Boulevard, Cleveland, Ohio 44106; telephone: 216-791-3800, extension 7612.**

POSITIONS OPEN

POSTDOCTORAL POSITION available immediately for studies on the molecular mechanisms of fibroblast cell-cell and cell-matrix adhesion. This is a part of an active program in cell biology/membrane biochemistry. Technology currently employed includes mutants blocked in the adhesion process, surface labeling, 2D gels, monoclonal antibodies to surface proteins, fluorescence microscopy, and liposome techniques. This is an NIH-funded position with a salary in the \$14,000 to \$15,000 range. A strong cell biology and/or protein biochemistry background preferred. Send curriculum vitae and two letters of reference to: **Dr. R. L. Juliano, Department of Pharmacology, University of Texas Medical School, P.O. Box 20708, Houston, Texas 77025.** *An Equal Opportunity Employer.*

Applications are now being accepted for a **POSTGRADUATE RESEARCH CHEMIST** in hemoglobin and blood protein chemistry. Specific areas include iron metabolism and transport, iron porphyrin chemistry, function of hemoglobins, other heme proteins and blood proteins, blood cell biology, plasma proteins, and coagulation. Faculty sponsors are in the Departments of Biology, Chemistry, Physics, Pathology, and Medicine. Applicants must be U.S. citizens. Closing date: 15 January 1982. Address inquiries to: **T. G. Traylor, Chemistry Department, D-006, University of California, San Diego, La Jolla, California 92093.** *The University of California, San Diego, is an Equal Opportunity/Affirmative Action Employer.*

NATIONAL SCIENCE FOUNDATION (NSF) NSF, Division of Behavioral and Neural Sciences, is recruiting Intergovernmental Personnel Act assignees for 1- or 2-year assignments in key staff positions, beginning August 1982: **Program Associate/Assistant for Psychobiology**, which requires 6 to 8 years of independent research experience in physiological psychology, animal behavior, or brain-behavior research; and **Program Associate for Neuroscience**, which requires 6 to 8 years of independent research experience in developmental neuroscience. Interested candidates should submit curriculum vitae to: **National Science Foundation, Division of Behavioral and Neural Sciences, Room 320, 1800 G Street, NW, Washington, D.C. 20550, attention: Dr. Jim Brown.** For further information about these openings, telephone: 202-357-7564. *NSF is an Equal Opportunity Employer.*

NATIONAL SCIENCE FOUNDATION (NSF) NSF, Division of Environmental Biology, is seeking candidates for 1-year rotational appointment as **PROGRAM DIRECTOR** in the Population Biology and Physiological Ecology Program, EC-14/EP (equivalent to the GS-14/15), \$39,689 to \$60,689 (limited by statute to \$50,112.50) per annum. The program director administers a program of basic research grant support, including advising applicants, reviewing proposals, and other administrative duties. Candidates should have a Ph.D. or equivalent, 6 years of research experience, and be active in research in population biology and physiological ecology. Supervisory or management experience is highly desirable. Send résumés to: **National Science Foundation, Personnel Administration Branch, Room 212, 1800 G Street, NW, Washington, D.C. 20550, attention: E. Paul Broglio, EX-1.** For further information, telephone: 202-357-7840. *NSF is an Equal Opportunity Employer.*

RENAL PHYSIOLOGIST (Ph.D.)—A Ph.D. renal physiologist research position is available in a newly developing Nephrology Division of a university-affiliated hospital located in a highly desirable area. The position is hospital-based and not grant-dependent. Salary is negotiable. Send curriculum vitae to: **Vincent DiScala, M.D., Professor of Medicine, Director, Division of Nephrology, Nassau Hospital, 259 First Street, Mineola, Long Island, New York 11501.**

RESEARCH ASSISTANT PROFESSOR position, nontenure track, available in the Thrombosis Research Center of the Temple University School of Medicine. Ph.D. in biochemistry and experience in protein purification required. Individuals should have expertise in biochemical research on coagulation proteins and platelets. Responsibilities include purification and characterization of coagulation proteins and experimental work on interactions with isolated proteins. Please send current curriculum vitae and three references to: **Dr. Robert W. Colman, Director, Thrombosis Research Center, Temple University School of Medicine, 3400 North Broad Street, Philadelphia, Pa. 19140.** *Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

PROJECT ENGINEER—300-INCH TELESCOPE

The University of Texas (UT), McDonald Observatory, is seeking applications from senior-level engineers interested in undertaking leading role in development of 300-inch monolithic primary, optical telescope. Successful candidate will hold title of special research associate and form the nucleus of a team responsible for final specification and design of the total observing system, including telescope, housing, aluminizing facility, and control systems. Position requires experienced, versatile individual with demonstrated ability to develop cost-effective solutions to technical and engineering management problems involved in the construction of large, dynamic mechanical assemblies. Pending completion of funding, an appropriate candidate could assume role of chief project engineer for the multi-year construction effort on this facility.

Send résumé including salary history to: **Dr. Harlan Smith, Director, UT McDonald Observatory, Austin, Texas 78712; telephone: 512-471-4461.** *We are an Equal Opportunity/Affirmative Action Employer.*

RADIATION BIOLOGIST. The J. Graham Brown Cancer Center, University of Louisville, School of Medicine, is seeking candidates at the assistant/associate professor level in the Radiation Biology Section of the Therapeutic Radiology Department. The candidate should hold a Ph.D. degree in radiation biology or equivalent experience. Productivity in radiation research, tumor biology, experimental therapeutics, and some teaching are required. Rank and salary are negotiable. Applications, including curriculum vitae and statement of future research interest, should be submitted by 31 December 1981 to: **Ann M. Chu, M.D., Chairman of the Search Committee, James Graham Brown Cancer Center, University of Louisville, 529 South Jackson Street, Louisville, Kentucky 40202.** *The University of Louisville is an Affirmative Action/Equal Opportunity Employer.*

REPRODUCTIVE BIOLOGY

The Department of Reproductive Biology at Case Western Reserve University School of Medicine invites applications for the position of senior assistant or associate professor. Candidates with a Ph.D. and/or M.D. degree should have demonstrated excellence in research and ability to obtain independent research funding. The area of research in reproductive biology is open although we are especially interested in neuroendocrinology, cellular mechanisms of hormonal action, and/or basic mechanisms in the regulation of growth and development of the fetus, and male reproduction. Submit detailed curriculum vitae, list of publications, statement of research activities, and names of three references to: **Dr. R. B. Billiar, Department of Reproductive Biology, Case Western Reserve University School of Medicine, Cleveland, Ohio 44106.** *An Equal Opportunity/Affirmative Action Employer.*

REPRODUCTIVE PATHOLOGIST

The New York State College of Veterinary Medicine is seeking a veterinary pathologist with research interest and experience in reproductive pathology; ACVP-certification required. Appointment as assistant professor is available immediately. Interested candidates should provide curriculum vitae, personal bibliography, five letters of reference, and a statement of career goals to: **Robert M. Lewis, D.V.M., Chairman, Department of Pathology, New York State College of Veterinary Medicine, Cornell University, Ithaca, New York 14853.** Deadline for applications is 1 January 1982. *Cornell University is an Affirmative Action/Equal Opportunity Employer.*

RESEARCH ASSISTANT PROFESSOR OF PHYSIOLOGY

The Department of Physiology, University of Pittsburgh School of Medicine, solicits applications and nominations for this position. Candidates should have research interests in cellular calcium phosphate metabolism and in the techniques for the measurement of cytosolic-free calcium, must have completed a postdoctoral fellowship of at least 2 or 3 years, and be prepared to initiate an independent research program for which extramural support must eventually be obtained. Please send curriculum vitae, references, and a statement of research plans to: **A. B. Borle, Department of Physiology, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania 15261.** *An Equal Opportunity/Affirmative Action Employer*

TUMOR IMMUNOLOGIST

The Cancer Metastasis and Treatment Laboratory and the Biological Response Modifier Program located at the National Cancer Institute-Frederick Cancer Research Facility, Frederick, MD are seeking a qualified individual for the position of *Group Leader* for the preclinical testing of biological response modifiers in the treatment of cancer. Ph.D. in Biological Sciences and experience with *in vitro* assays of cell-mediated and antibody-mediated immunity as well as *in vivo* tumor models are essential. The selected candidate will be directly responsible for the supervision of a large technical staff trained to perform a variety of *in vitro* cell-mediated immune assays and *in vivo* tumor therapy studies. Salary is negotiable, dependent upon qualifications and experience. Send curriculum vitae and three letters of reference to:

I. J. Fidler
Director, Cancer Metastasis and
Treatment Laboratory
NCI-Frederick Cancer Research Facility
Litton Bionetics, Inc.
P.O. Box B
Frederick, MD 21701

EOE M/F

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Hoffman-La Roche, one of the leaders in the expanding field of biotechnology has three career opportunities in its Molecular Genetics Department.

Responsibility: Assist in the planning and execution of experiments involving the cloning and expression of bioactive substances utilizing recombinant DNA technology.

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The successful candidate will have a broad background in technology and research administration, with majors in microbiology and/or immunochemistry and with post-graduate training or experience in biochemistry, molecular biology, immunology, genetics and the fermentation sciences.

A publications history or performance record should demonstrate creative ability in project conceptualization and experimental design.

This position offers an excellent starting salary and a good fringe benefits package. Qualified individuals should forward a resume to:

Rod Waters
Personnel Manager



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The candidates we seek should have 5-10 years pharmaceutical

industry experience and possess strong managerial skills as well as familiarity with GLP, IND and NDA activities. Board certification desirable.

We offer a competitive salary and excellent fringe benefits. Please send resume, including salary history, in complete confidence to: Manager Selection and Placement, Research and Development Division, Dept. 6140, Revlon Health Care Group, 11 West 37th Street, New York 10018

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M/F

REVLON Health Care Group

POSITIONS OPEN

RESEARCH ASSOCIATE

Ph.D. or equivalent with training in tissue and cell culture to work on research related to experimental liver carcinogenesis. Postdoctoral position available immediately. Salary negotiable. Send résumé to: **A. David Gibson, Research Administrator, Department of Pathology, School of Medicine, University of Pittsburgh, Pittsburgh, Pa. 15261.**

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RESEARCH ASSOCIATE position with Occupational Health Program at Harvard School of Public Health. Research will include a study of lung function in meat-wrappers, case-control studies to investigate possible industrial cancer hazards, and other projects of mutual interest to the research associate and the Program. Will have significant responsibility in the development of research protocol, oversight of data collection, and analysis of statistical results. Ph.D. in epidemiology, physiology, or related science required. Experience in epidemiologic research, excellent writing skills, strong conceptual and analytical abilities, and computer skills sought. Salary range: \$20,000 to \$25,000, based on experience. Send résumé and references to: **David H. Wegman, M.D., Harvard School of Public Health, 665 Huntington Avenue, Boston, Mass. 02115.**

An Affirmative Action/Equal Opportunity Employer. Minority and women candidates are urged to apply.

RESEARCH ASSOCIATE/THEORETICAL PHYSICAL OCEANOGRAPHY—Applications invited for two postdoctoral research associate positions in the School of Oceanography, Oregon State University. Applicant will conduct research in theoretical modeling and observational comparisons of ocean circulation. Ph.D. in mathematics or the physical sciences. Submit résumé, brief statement of research interests, and three references by 1 January 1982 to: **Professor Pearn P. Niller, School of Oceanography, Oregon State University, Corvallis, Oregon 97331. An Affirmative Action/Equal Opportunity Employer.**

TROPICAL ECOLOGIST—TULANE UNIVERSITY. Tenure-track assistant professor, starting August 1982. Doctoral dissertation must be in some area of tropical ecology. Undergraduate teaching and establishment of a research program in tropical ecology expected. Applicants should submit curriculum vitae, transcripts, and a list of at least three professional references by 15 January 1982 to: **Dr. Alfred E. Smalley, Department of Biology, Tulane University, New Orleans, Louisiana 70118. Tulane University is an Equal Opportunity/Affirmative Action Employer.**

MEETING

Health Effects Institute Initial Health Research Committee Meetings

The Health Effects Institute (HEI) is an independent, nonprofit organization developed to design and implement research concerning the health effects of emissions from mobile sources. The Institute is governed by a three-person Board of Directors whose chairman is Archibald Cox, Carl M. Loeb Professor, Harvard Law School. The other members are William O. Baker, Chairman Emeritus of Bell Laboratories, and Donald Kennedy, President, Stanford University. HEI derives its funding from the Environmental Protection Agency and from the automotive manufacturers.

The Institute's Health Research Committee, chaired by Walter A. Rosenblith, Institute Professor and recent Provost at the Massachusetts Institute of Technology, is the entity charged with the development and execution of the research program.

The Health Research Committee will hold a second open meeting 17 and 18 December as a first step toward developing the scientific priorities and program budget for the Institute.

At this meeting Institute sponsors and others will have an opportunity to make research suggestions to the Committee. And the Committee will devote special attention to the issues of atmospheric chemistry as they relate to the Institute's work.

The meetings will be held at the American Academy of Arts and Sciences at 136 Irving Street (corner of Irving and Beacon) in Cambridge, Massachusetts. The meetings will begin at 9:30 a.m. and continue through the day.

Questions may be addressed to: **Charles W. Powers, Executive Director, Health Effects Institute, 215 First Street, Cambridge, Massachusetts 02142. Telephone: 617-491-2926.**

TRAINING PROGRAMS

HARVARD UNIVERSITY—Seeking qualified graduate students or postdoctoral fellows for **TRAINING IN RADIOBIOLOGY**, with research interests at the cellular and molecular level in the investigation of the lethal, mutagenic, and carcinogenic effects of radiation and chemical agents in mammalian cells. Stipends available. Contact: **Laboratory of Radiobiology, Harvard School of Public Health, 665 Huntington Avenue, Boston, Mass. 02115. Telephone: 617-732-1184. Harvard University is an Equal Opportunity Employer with an Affirmative Action Plan.**

CAREER CHANGE

This unique program offers the candidate with an earned doctorate in the sciences (or equivalent) the opportunity to obtain a doctor of optometry (O.D.) degree in two calendar years. Employment opportunities exist in private practice, industry, education, and research. Contact: **The Dean of Admissions, The New England College of Optometry, 424 Beacon Street, Boston, Mass. 02115.**

FELLOWSHIPS

GRADUATE TRAINING IN PHARMACOLOGY. Research training and course work leading to the Ph.D. degree, realistically designed for career opportunities in this expanding field. Major departmental research programs include: molecular cardiovascular, renal, and nervous system pharmacology; the toxicology of therapeutic and environmental agents including drugs of abuse; clinical pharmacology. A limited number of fellowships offering tuition and a stipend of \$6000 are available. Early application for September 1982 is advised. Apply to: **Director of Graduate Studies, Department of Pharmacology and Therapeutics, Medical School, State University of New York at Buffalo, 127 Farber Hall, Buffalo, N.Y. 14214. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL FELLOWSHIP—Position available immediately, for 2 years. Research concerned with the effects of early visual deprivation upon the oculomotor system. Project involves behavioral, chronic microelectrode recording, and anatomical methods. Send curriculum vitae and three letters of reference to: **Dr. David Sparks, Neurosciences Program, University of Alabama in Birmingham, University Station, Birmingham, Ala. 35294. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL FELLOWSHIP OR ASSISTANTSHIP

Two positions available immediately in ongoing programs. The first deals with protein structural aspects of the allosteric regulation of enzyme activity, and uses biophysical techniques to investigate allosteric mechanisms. Applicants should have considerable experience in enzyme purification and some familiarity with biophysical methods of studying proteins.

The second program involves studies of the transport, uptake, efflux, and metabolism of an antineoplastic drug in cultured human cells. Applicants should have experience of cell culture techniques. Experience in transport measurements and HPLC is desirable.

Send curriculum vitae and names of three persons who will provide references to: **Dr. R. L. Blakley, Division of Biochemical and Clinical Pharmacology, St. Jude Children's Research Hospital, Box 318, Memphis, Tenn. 38101.**

St. Jude Children's Research Hospital is an Equal Opportunity Employer.

IMPERIAL CANCER RESEARCH FUND RESEARCH FELLOWSHIP

Applications are invited for a 3-year postdoctoral appointment to clone mammalian DNA sequences specifying control regions, structural genes, and transforming genes and to test the expression and biological activity of the cloned sequences by the use of DNA transfection techniques and eukaryotic vector systems.

Salary range: £8,787 to £10,837 (inclusive of London Allowance) with entry according to qualifications and experience.

For further information, contact: **Dr. M. Fried (telephone: 01.242.0200, extension 297).** Applications with curriculum vitae and the names of two referees should be sent to: **The Secretary, Imperial Cancer Research Fund, Lincoln's Inn Fields, London W.C.2, England, quoting reference number 10/82.**

CONFERENCE

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3 to 5 May 1982

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Minneapolis, Minnesota

FACULTY: 30 Internationally
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Jeffrey McCullough, M.D.
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University of Minnesota Medical School

EMPHASIS WILL BE ON:

Tissue specific polymorphic antigen systems; methods of detection, antigen specificities; characteristics of cell surfaces, and the mechanisms of formation of tissue specific determinants; role of tissue specific antigens in transplantation, autoimmune diseases, and cellular immune mechanisms.

FOR FURTHER INFORMATION CONTACT:

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University of Minnesota
Box 293 Mayo Memorial Building
420 Delaware Street, SE
Minneapolis, Minn. 55455
Telephone: 612-373-8012

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GRADUATE STUDIES IN BIOLOGY, TUFTS UNIVERSITY. M.S. and Ph.D. degrees. Teaching and research assistantships with tuition remission are available for highly qualified applicants. Research areas include animal behavior, biochemistry, cell biology, developmental biology, ecology, mammalian physiology, microbial genetics, plant biology, reproductive biology, and invertebrate zoology. For further information, write: **Dr. E. C. Siegel, Department of Biology, Tufts University, Medford, Mass. 02155. Equal Opportunity/Affirmative Action Employer.**

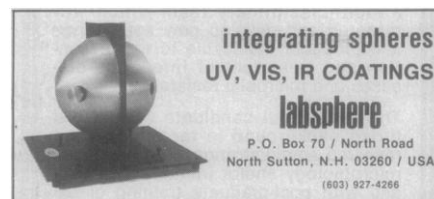
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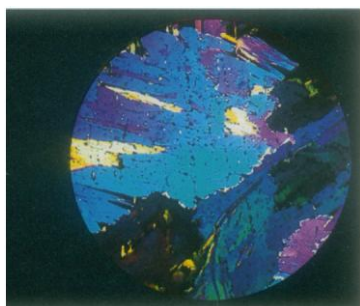
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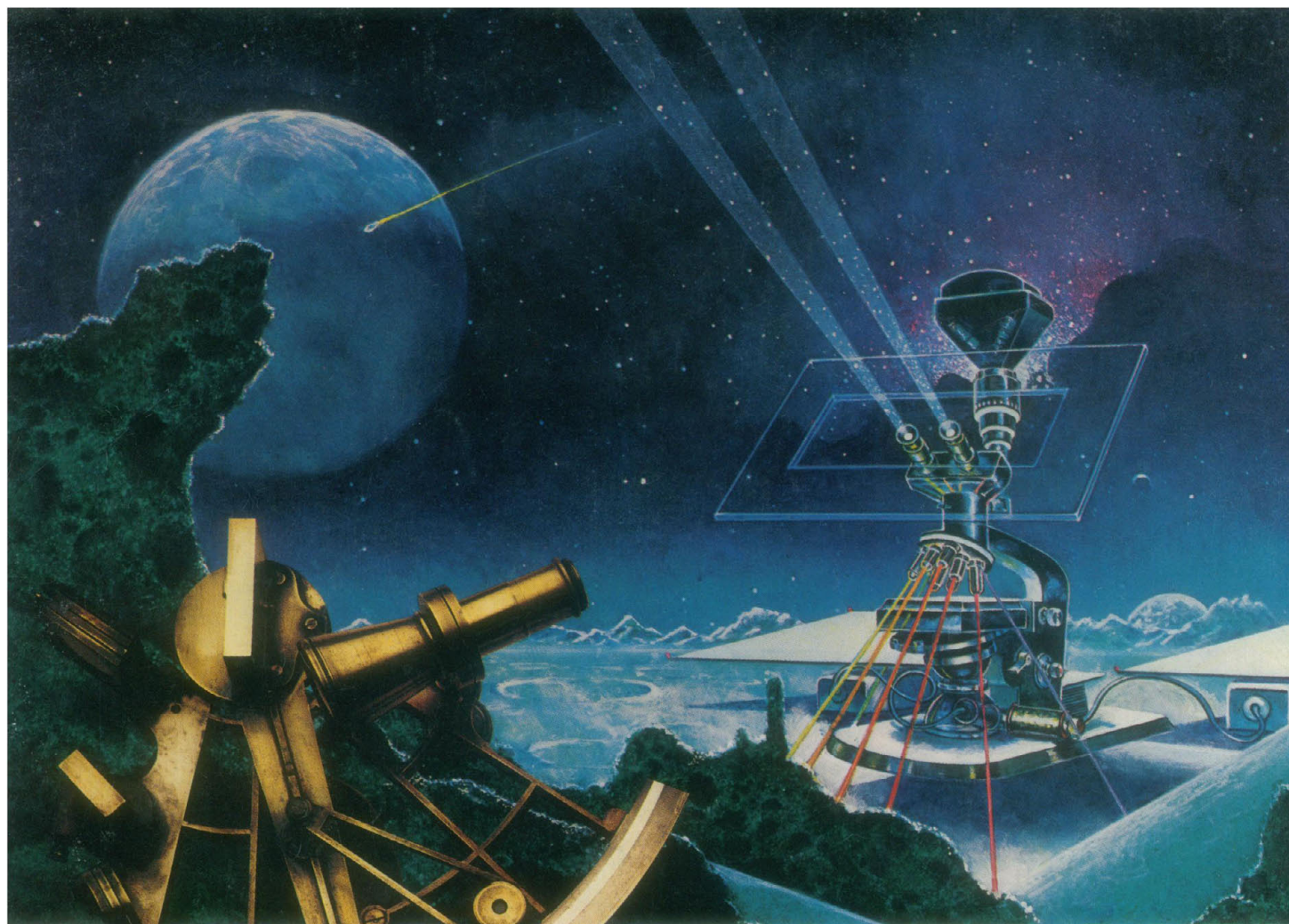
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