

More specifically, he aims at bringing together theory and facts relating to these cycles. Unfortunately, the sections on theoretical ecology are fairly weak (or, rather, superficial). Therefore, even though Finerty provides some bridges, he does not close the increasing gap between theory and facts.

In my opinion, the importance of the book lies in chapter 3, entitled "Do cycles exist?"; this constitutes approximately one-third of the book. Finerty answers this question with a definite yes. And more important, he does this by applying refined statistical techniques such as spectral analysis and autocorrelation. In this chapter he succeeds, I believe, in showing how field ecologists can apply some of the statisticians' powerful techniques in analyzing their data.

Nevertheless, I was a bit disappointed to see that lemmings and voles are so superficially treated; after all, these are the species that come to mind on seeing the words "cycles in small mammals." It would have been valuable if Finerty had analyzed the *Lemmus sibiricus* (= *trimuncronatus*) data for Barrow, Alaska, from 1946 until the mid-1970's (Pitelka, Schultz, and others) and likewise the *Lemmus lemmus* data for northern Finland from 1946 until the present (Kalela and others), the *Microtus arvalis* data for continental Europe from at least 1950 until now, and the *Clethrionomys rufocanus* data for Siberia from 1935 to 1965 (Koshkina). Certainly these data are in quality comparable to the Canadian fur statistics on lynxes from the latter half of the last century. I am sure, however, that the book will stimulate other mammalogists to carry out such analyses; it does indeed provide a valuable start.

The next chapter, "Causal factors: theories and facts," is disappointing. Finerty is unable to bridge the gap between data and mathematical models; much of the discussion is well-known material that belongs in a standard ecology textbook rather than a monograph. One important conclusion emerges, however, from this chapter: dispersal and the spatial structure of the habitat are likely to play essential roles in the occurrence of cycles. This emerges convincingly both from Finerty's data analysis and from his theoretical arguments.

The last chapter, largely devoted to loop analysis, is an interesting one. The author does a splendid job of explaining the essence of the method; this presentation will certainly stimulate more ecologists to apply it. As a good theoretician, Finerty then goes on to ask what kind of system might produce a stable, oscillatory situation. Unfortunately, some of

the models are based on very implausible assumptions. I find it hard to accept a model (such as model 1, pp. 184-185) in which the individuals are assumed to be able to conceive what conditions are like in another area to which they may disperse (that is, a dispersal sink); how can a lemming detect an "invitation" from a dispersal sink? Basically, I think there is too much hand waving in parts of this chapter. Further, in this section (and in others) I find several group-selectionist arguments such as have plagued much of the study of cyclic small mammals.

In summary, I think Finerty has succeeded in presenting the mathematical and statistical techniques necessary for a detailed analysis of small mammal cycles; he is less successful at interpreting and applying the biological theories. I recommend that scientists and students working with cyclic small mammals read this book. It makes one think about the problem in new and (I believe) profitable ways. In short, it is a stimulating book, which obviously has been written by a culturally well-oriented person; it is clear that Evelyn Hutchinson (to whom the book is dedicated) has been the author's supervisor. However, I shall tell my students to read additional literature on cyclic small mammals (even though a comparable synoptic account admittedly is difficult to find).

NILS CHR. STENSETH

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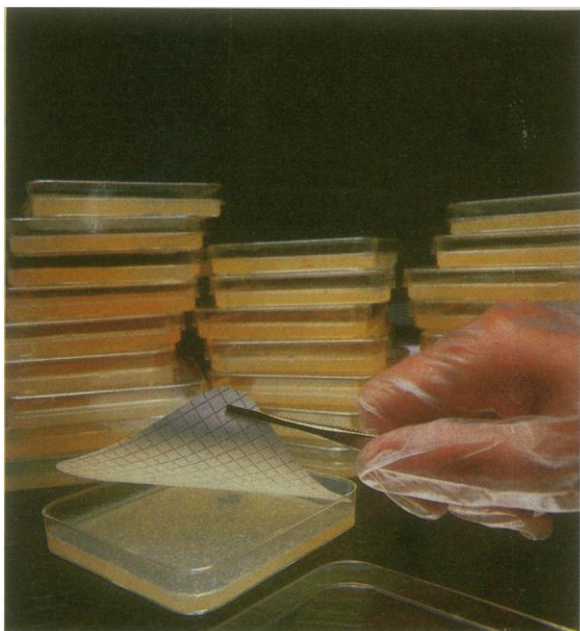
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Homogeneous Transition-Metal Catalysis. A Gen-

(Continued on page 356)

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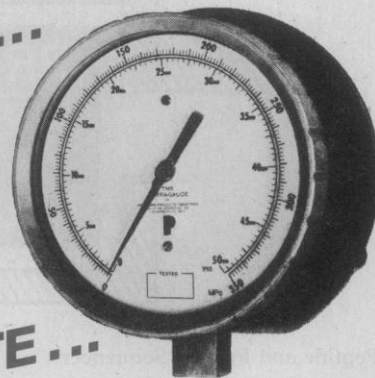
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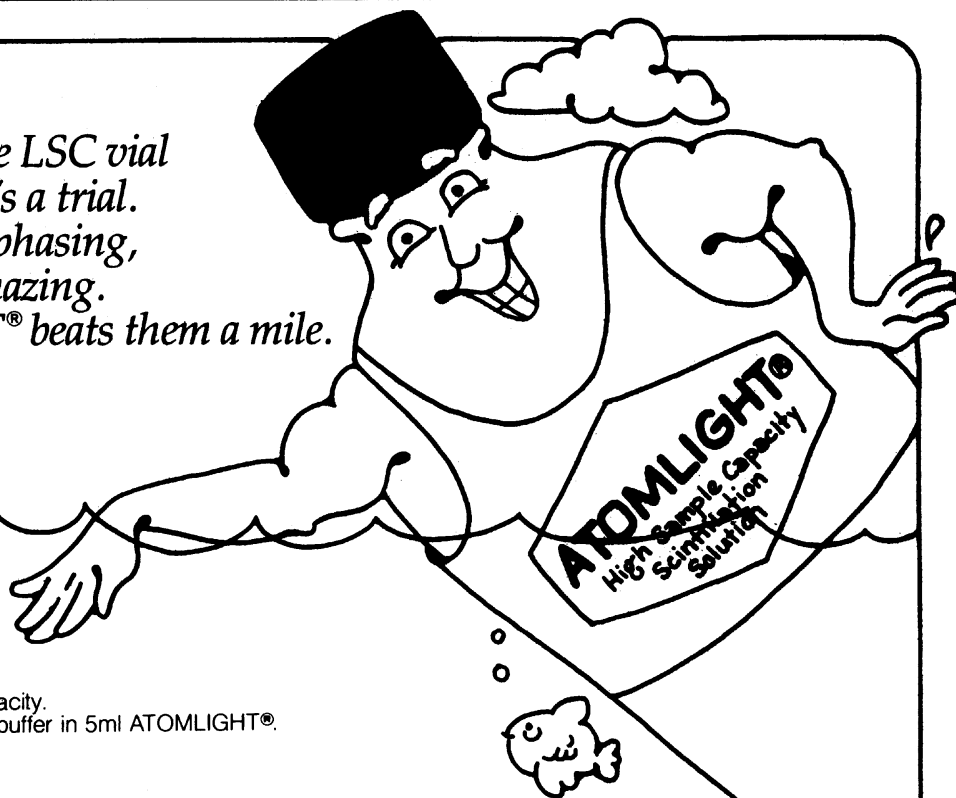


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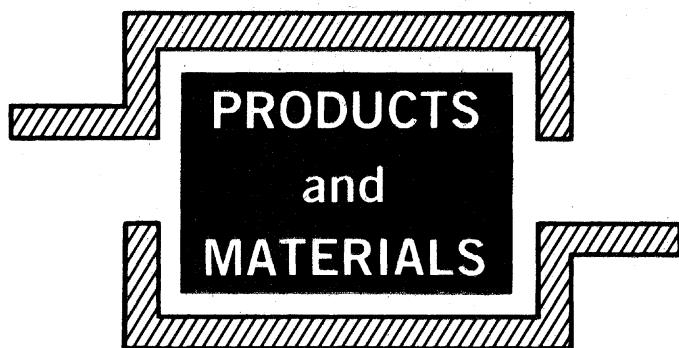
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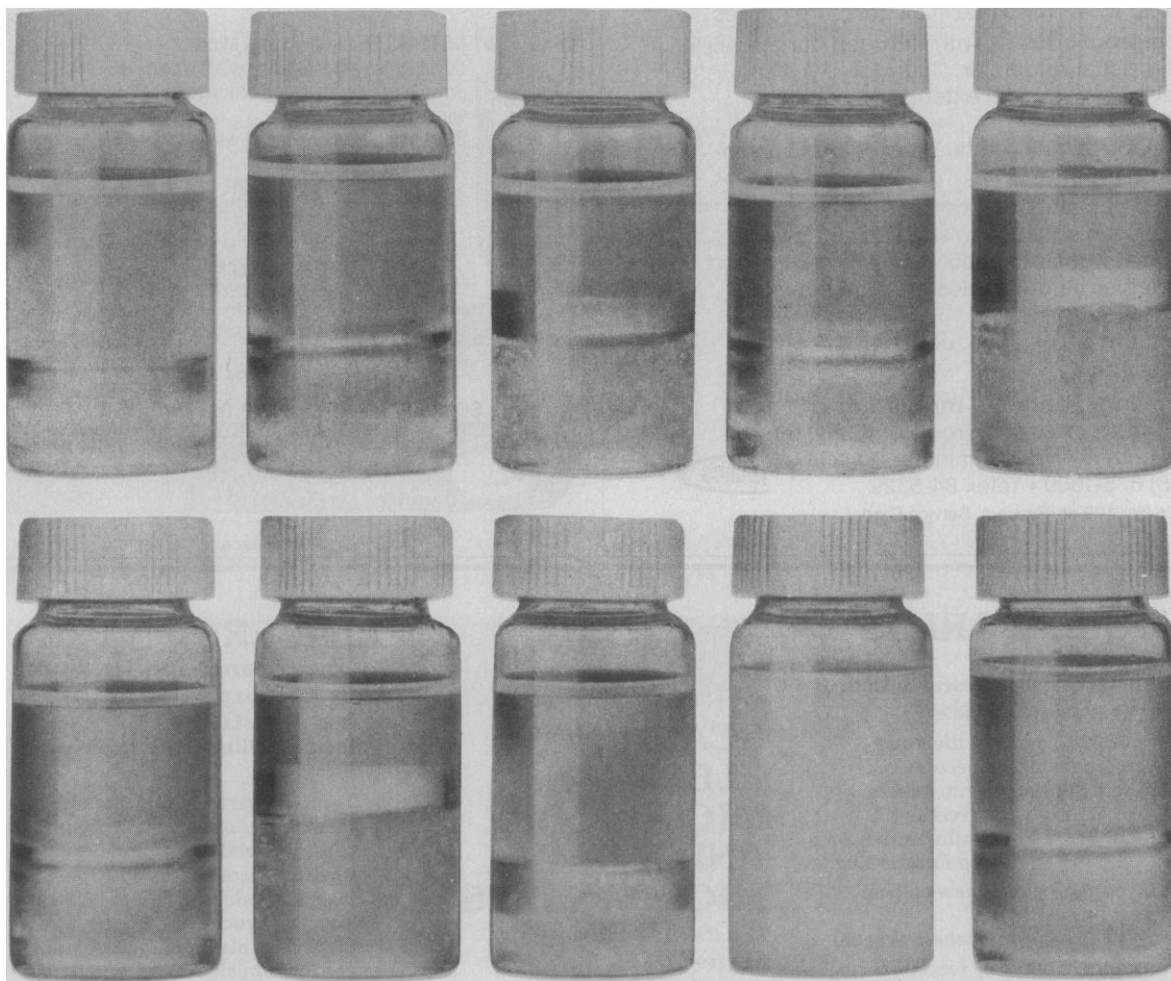
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Digital Voice for Computers and Communications describes LISA, an audio response unit; MIKE, a voice-recognition system; VOPAC, a communicator for voice-data operations; and VoiceWare, an integrating programming and operating system. Centigram. Circle 760.

Portable Meters and Probes lists field research apparatus to measure temperature, pH, pressure, air velocity, conductivity, salinity, and many other environmental parameters. Exttech International. Circle 761.

Light Research is a catalog of optical apparatus and technical data including specifications and techniques. Oriel. Circle 762.

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- Forms a stable milky emulsion with **higher efficiencies** than the same formulation using traditional clear ethoxylated alkyl phenols, such as Triton-X-100 (test results are on file at our reagent development laboratories). And, it maintains this homogeneous mixture for up to 2 weeks without two phasing — regardless of percent sample.
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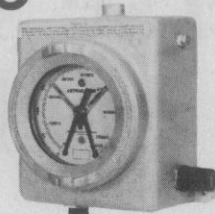
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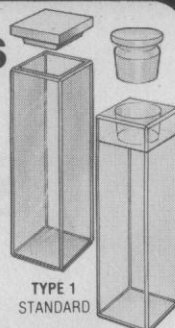


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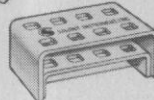


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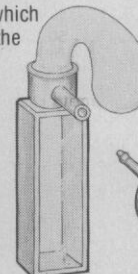
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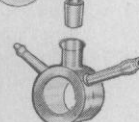
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A Text for Biologists,
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Lehigh University

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University of Cambridge

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Bell Laboratories

Charles Fiori

National Institutes of Health

and Eric Lifshin

General Electric Corporate

Research and Development

Designed for the beginning student in scanning electron microscopy and X-ray microanalysis as well as the worker who utilizes SEM techniques. approx. 675 pp., illus., 1981, \$29.50

LASERS

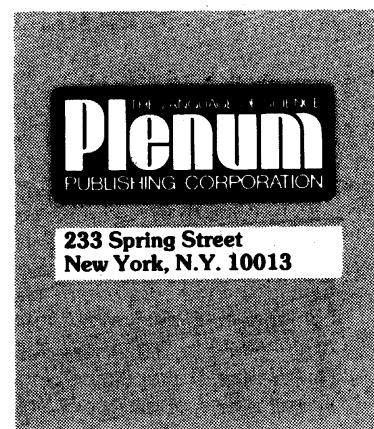
Theory and Applications

by K. Thyagarajan

and A. K. Ghatak

Indian Institute of Technology,
New Delhi

Topics covered in this work include elements of quantum mechanics, the Einstein coefficients and light amplification, laser-induced fusion, and lasers in industry. Nobel lectures by Townes, Prochorov, Basov, and Gabor are also included. A volume in *Optical Physics and Engineering*. approx. 425 pp., illus., 1981, \$39.50



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SCIENCE
1515 Massachusetts Ave., NW
Washington, D.C. 20005

POSITIONS WANTED

Anatomist. Ph.D., anatomy/pathology. Seeks position in academic environment (Northeast). Postdoctoral training in hematology. Research interests include liver cell function. Will teach anatomy, histology, pathology, ultrastructure, cell biology. Box 255, SCIENCE. X

Biochemist. Ph.D. 1980. Experienced in electron spin resonance, circular dichroism, magnetic circular dichroism, protein purification, and anaerobic technique. Some experience with bacterial culture and mutagenesis. Seeking research and development or academic position. Box 247, SCIENCE. X

Biochemist. Ph.D. 1981. Experience in radioactive ion and metabolite binding assays in whole cell systems, absorption spectroscopy, preparation and characterization of subcellular particles. Seeking research and development position in industry. Prefers Northeast. Box 251, SCIENCE. X

Cell/Developmental Biologist. University of Chicago Ph.D., 1976. Experience: DNA biochemistry, DNA repair, cell fusion. Interests: gene regulation, DNA biochemistry, cell differentiation. Seeks research/teaching position. Recombinant DNA research preferred. Good references. Box 259, 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. 10/16, 23, 30; 11/6, 13, 20, 27; 12/4, 11, 18

Neurologist is seeking position in pharmaceutical industry, research, or translations of medical and/or scientific literature (English-German, German-English). Foreign M.D. and specialization. Background involves extensive experience in clinical neurology and neurophysiology, some psychiatry and internal medicine. Prefers Northeast, especially Philadelphia area. Box 260, SCIENCE. X

POSITIONS WANTED

Lawyer/Microbiologist (Ph.D.). Hybridomas, recombinant DNA, interferon experience with legal expertise in FDA area (drugs, biologics, and medical devices). Seeks a legal/regulatory position with developing firm, full- or part-time. Box 254, SCIENCE. X

Microbial Physiologist/Soil Microbiologist/Biochemist (Ph.D.). Experience in selection and isolation of specific microorganisms; induction and selection of mutants; degradation of pollutants in soil and water; toxicity of chemicals to microorganisms; microbial synthesis of radiolabeled compounds; plant cell tissue culture; small-scale fermentations; and veterinary pharmaceutical production. Supervisory and management experience. Desires laboratory-oriented or group leader position in industry. Midwest preferred. Box 244, SCIENCE. X

Neurophysiologist. Ph.D. Assistant research professor with teaching experience and good publishing record seeks tenure-track position in university basic science department. Research interest is spinal cord physiology. Methods include electrophysiological studies in tissue culture and slice preparation of vertebrate central nervous system. Box 249, SCIENCE. X

Nutritionist/Biochemist/Analytical Chemist. Ph.D. 1980. Extensive research experience in nutritional studies. Experience with NMR, HPLC, AA, TLC, electrophoresis, and so forth. Knowledge of isotope, cell, and tissue culture techniques. Publications. Seeking industrial/academic position. Box 261, SCIENCE. X

Russian Translator. Ph.D. in physiology, 1981. Will translate scientific, technical, or popular articles for \$5¢ per word. Accuracy, speed, and confidentiality guaranteed. Can travel as needed; free consultation. Box Number 1, 25 Washington Street, Beverly, Mass. 01915. X

Toxicological/Nutritional/Clinical Biochemist. Ph.D. Years of research experience in toxicology, lipid metabolism, enzyme, and clinical studies. Publications. Seeks industrial and academic positions in Washington, D.C., area. Box 256, SCIENCE. X

Veterinarian. Ph.D., experimental pathology. Seeks academic or industrial position near either coast and major metropolitan area. Administrative or liaison-type position requiring travel acceptable. No diagnostic laboratories please. Box 257, SCIENCE. X

Veterinary Pathologist. Ph.D., Board-certified (ACVP), 15 years of experience in diagnostic and laboratory animal pathology, including toxicology. Box 246, SCIENCE. 10/16, 30

Zoologist/Anatomist. B.S., M.S., Ph.D. Experience in undergraduate, graduate, and medical schools. Seeking teaching position in small college. Box 258, SCIENCE. X

POSITIONS OPEN

Position—One position as ASSISTANT PROFESSOR OF BIOCHEMISTRY.

Research interests and competence—This position will be filled by an individual with training and research skill in the following area:

Regulation of gene expression in eukaryotic cells

Qualifications—Candidates must have a Ph.D. or M.D. degree and at least 2 years of postdoctoral experience in a laboratory well known in this area of research. There must be strong recommendations relative to research ability and teaching competence. In addition, there must be demonstrated productivity and evaluations of the candidate which give clear indication of an ability to initiate and develop an effective, independent research program. The candidate should also be articulate and able to perform effectively as a lecturer and in more informal teaching situations at the medical and graduate student, as well as postdoctoral, levels.

Applications—Interested individuals should send the following information to: **Philipp Strittmatter, Department of Biochemistry, University of Connecticut Health Center, Farmington, Conn. 06032.**

- 1) Complete curriculum vitae and bibliography,
 - 2) Three or more letters of recommendation bearing upon the points above,
 - 3) A brief description of future research interests, objectives, and experimental plan, and
 - 4) If available, reprints of most significant work.
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POSITIONS OPEN

ASSISTANT PROFESSOR OF BIOMEDICAL SCIENCES ANATOMY

The University of California, Riverside/University of California, Los Angeles, Division of Biomedical Sciences, has a permanent position available beginning 1 January or 1 July 1982 for an exceptional individual capable of teaching HUMAN GROSS ANATOMY to medical students while continuing a high-caliber research program in an area of basic medical science. Applicants should have a Ph.D. or M.D. degree, postdoctoral research experience, and teaching experience in gross anatomy. The University of California is an Affirmative Action/Equal Opportunity Employer. Applications, including curriculum vitae and the names of three references, should be sent to:

Richard T. Lobl, Ph.D.
Anatomy Search Committee
University of California
Riverside, California 92521

ASSISTANT PROFESSOR OF ENTOMOLOGY:

Physiology and biochemistry of insect-plant interactions. Research (80 percent) involves: (i) elucidation of insect-plant interactions, particularly biochemical and physiological factors involved in plant resistance to insects, and (ii) collaborative studies with sorghum breeders on an interdisciplinary program for sorghum improvement. Teaching (20 percent) responsibility includes an undergraduate course in economic entomology and potential to teach graduate course in area of interest. Qualifications: Ph.D. in entomology with training in plant resistance, insect/plant physiology and/or biochemistry, plus knowledge of genetics and plant breeding. Tenure track. Starts 1 April 1982. Application deadline: 10 December 1981. Send letter of application, résumé, transcripts, and three letters of reference to: **Dr. R. G. Helgesen, Department of Entomology, Kansas State University, Manhattan, Kans. 66506.**

The Department of Environmental Sciences, University of Virginia, invites applications for three tenure-track ASSISTANT PROFESSORSHIPS beginning September 1982:

- Climatology/meteorology,
- Environmental chemistry/geochemistry, and
- Water resources/hydrology.

Applicants should have a Ph.D. and expect to teach undergraduate- and graduate-level courses in their area of specialization and to pursue a vigorous research program within the context of an interdisciplinary department. Curriculum vitae, a brief statement of research interests, and names of three individuals who may be contacted for references should be sent to: **George M. Hornberger, Department of Environmental Sciences, Clark Hall, University of Virginia, Charlottesville, Virginia 22903. The University of Virginia is an Equal Opportunity/Affirmative Action Employer.**

ASSISTANT PROFESSOR, tenure-track position in **NEUROBIOLOGY**, Marine Biomedical Institute, University of Texas Medical Branch, Galveston. Investigator with postdoctoral experience to establish independent and collaborative research program in any area of neurobiology. Send curriculum vitae and three letters of recommendation to: **Dr. David McAdoo, Chairman, Search Committee, Marine Biomedical Institute, 200 University Boulevard, Galveston, Texas 77550. The University of Texas Medical Branch is an Equal Opportunity/Affirmative Action Employer.**

ASSISTANT PROFESSOR OF PHYSIOLOGY

Applications are invited for tenure-track appointments at the assistant professor level. We seek individuals committed to research at the cellular or molecular level in any of three areas:

- 1) Membrane transport processes,
- 2) Mechanisms of endocrine regulation, and
- 3) Neurophysiology of vertebrates.

Applicants should have the Ph.D. or M.D. degree and two or more years of postdoctoral experience. Please send curriculum vitae, a brief description of research interests, teaching experience and career objectives, and names of three references to: **Faculty Search Committee, Department of Physiology and Biophysics, The University of Iowa College of Medicine, Iowa City, Iowa 52242.**

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

POSITIONS OPEN

PHYSIOLOGY UCR/UCLA PROGRAM IN BIOMEDICAL SCIENCES

The UCR/UCLA Program in Biomedical Sciences, which offers an accelerated M.D. curriculum jointly between the University of California, Riverside (UCR), and the University of California, Los Angeles (UCLA), School of Medicine, has a faculty opening in **PHYSIOLOGY** at the **ASSISTANT PROFESSOR** level. Teaching responsibilities will be in cardiovascular/respiratory physiology for medical students. Applicants are required to have postdoctoral experience and should be able to continue with or develop an independent research program. *The University of California is an Affirmative Action/Equal Opportunity Employer.* Applications, including curriculum vitae and names of references, should be sent to:

Dr. Paul M. Quinton, Chair
Physiology Search Committee
Division of Biomedical Sciences
University of California, Riverside
Riverside, California 92521

ASSISTANT RESEARCH PHYSIOLOGIST (Department of Medicine). Ph.D. in the biological sciences required. Applicant will collaborate and set up laboratory for studies of ion transport and/or hormone receptors on brush-border and basolateral membrane preparation and enzyme assay. Applicants with recent knowledge in these areas are encouraged to apply. The position may be filled immediately or at the beginning of the new academic year. The salary will be related to the established schedule of University of California, San Diego (UCSD), research series, which starts at \$22,900 per annum. Send curriculum vitae, statement of background and interest, and names and addresses of three references to: **K. Dharmasathaphorn, M.D., Division of Gastroenterology, Department of Medicine, UCSD Medical Center H-811-D, 225 Dickinson Street, San Diego, Calif. 92013.** *UCSD is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT RESEARCH SCIENTIST

Assistant research scientist position in Biochemistry Department, working on the development of therapeutic agents for sickle cell disease. Research will involve studies of the reactivity and specificity of protein modifying agents toward hemoglobin and the purification and characterization of chemically modified derivatives of hemoglobins A and S. The results will be used for the design of new compounds with improved therapeutic properties. A Ph.D. degree in biochemistry or a related field and at least 2 years of additional postdoctoral training are required. The applicant must have expertise in methods of protein purification and in physical studies of proteins. Some experience in organic synthesis is also needed. Salary is \$19,000. Send curriculum vitae and three letters of recommendation to:

Job Service of Iowa
1910 Lower Muscatine Road
Iowa City, Iowa 52240
Attention: Thomas Cannon
An Equal Opportunity Employer

CELL BIOLOGISTS with particular expertise in cell culture wanted to join pulmonary research group. Faculty position offered. Inquire with curriculum vitae to:

Yutaka Kikkawa, M.D.
Professor and Chairman
Department of Pathology
New York Medical College
Basic Science Building
Valhalla, N.Y. 10595

CELL-MOLECULAR BIOLOGIST, interest and training in genetics. Ph.D. preferred. Erskine College is a fully accredited, church-related, liberal arts, coeducational college of 650 students, with 50 highly qualified faculty members. Contact:

Dean J. A. Knight
Erskine College
Due West, S.C. 29639

LIPID BIOCHEMIST wanted to join pulmonary research group. Faculty position offered. Inquire with curriculum vitae to:

Yutaka Kikkawa, M.D.
Professor and Chairman
Department of Pathology
New York Medical College
Basic Science Building
Valhalla, N.Y. 10595

POSITIONS OPEN

ASSISTANT/ASSOCIATE ADJUNCT PROFESSOR OF TOXICOLOGY. The Laboratory for Energy-Related Health Research and Department of Physiological Sciences, School of Veterinary Medicine, University of California, Davis, are seeking a Ph.D. **toxicologist** with training and some experience in biological screening methods for complex samples of energy-related pollutants. Research emphasizes extent and mechanisms of action of potential mutagens, carcinogens, and cell toxins produced by energy-related effluents such as combustion products. Candidate should have training in experimental toxicology with experience in carcinogen handling, mutagenesis research, and/or bioassay systems. This team research position will be at the academic research level equivalent to assistant/associate professor. Teaching responsibilities to be arranged. Send curriculum vitae and the names of three references to: **Dr. Marvin Goldman, Laboratory for Energy-Related Health Research, University of California, Davis, Calif. 95616.** Applications will be accepted through 30 October 1981 or until the position is filled.

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

CARBOHYDRATE CHEMIST—Ph.D., research position available January 1982. Seeking individual with interest in relation of chemical structure of cell membrane carbohydrate components to their biological function. Individual will participate in ongoing bacterial immunochemistry projects conducted as collaborative efforts by several investigators within Harvard Medical School. Experience in all areas of carbohydrate chemistry, particularly structural analysis, is desirable; ability to think and work independently, yet collaboratively, and a strong commitment to discovery are essential. Possibility of joint appointment with teaching opportunities in other departments open to qualified candidates. Salary commensurate with experience. Those interested should send résumés and three references to:

J. McLeod Griffiss, M.D.
CHANNING LABORATORY
HARVARD MEDICAL SCHOOL
180 Longwood Avenue
Boston, Mass. 02115-5899

UNIVERSITY OF ALBERTA KILLAM MEMORIAL CHAIR IN SCIENCE AND ENGINEERING

Bequest from the late Dorothy J. Killam has resulted in the endowment of two Killam Memorial Chairs in any area of basic science or engineering. These are senior appointments offered to distinguished individuals to permit them to carry on high-level research and graduate teaching.

One of the Killam Memorial Chairs will become available on 1 July 1982. We are seeking outstanding candidates to fill this position. We invite nominations and applications on behalf of or from distinguished individuals interested in this chair. Inquiries, nominations, and applications should be directed to:

Dr. J. Gordon Kaplan
Vice President, Research
University of Alberta
Edmonton, Alberta, Canada T6G 2J9

Nominations should be received before 1 December 1981.

CHAIRMAN. Biology Department, tenure-track position. Associate professor or professor level to serve eight-member department and as director of Reclamation Program. Ph.D. required with emphases in invertebrate zoology, entomology, ecology. Training in physiology desirable. Leadership ability, excellence in teaching, and interest in research required. Salary negotiable. Start fall semester 1982. Send curriculum vitae and names of three references by 1 January 1982 to: **Dr. M. Tufte, Search Committee, Department of Biology, University of Wisconsin-Platteville, Platteville, Wisc. 53818.** *An Affirmative Action/Equal Opportunity Employer.*

ENTOMOLOGIST—Assistant professor, 12-month, tenure-track position for insect ecologist with background in medical/veterinary entomology to conduct research on biting flies affecting man and animals in New Jersey and to teach undergraduate and graduate courses in medical/veterinary entomology and insect ecology, or in his/her specific interest area. Position is budgeted as two-thirds research, one-third teaching. Send application, including résumé, transcripts, and three letters of reference, to: **Dr. H. T. Streu, Department of Entomology and Economic Zoology, Rutgers-The State University of New Jersey, New Brunswick, N.J. 08903.**

POSITIONS OPEN

CHAIRPERSON ANATOMY

The Department of Anatomy of the Ohio State University at Columbus is seeking qualified candidates for the position of departmental chairperson to begin 1 July 1982. Salary commensurate with qualifications. Qualified persons interested in this position are invited to submit curriculum vitae documenting teaching, research, and administrative and program leadership experiences, postmarked no later than 15 November 1981, to:

David J. Lim, M.D.
Chairman, Search Committee
Ohio State University College of Medicine
4331 University Hospitals Clinic
456 Clinic Drive
Columbus, Ohio 43210

An Affirmative Action/Equal Opportunity Employer

Candidates for the **CHAIRMANSHIP** of the Department of Diagnostic Radiology at the University of Alabama School of Medicine are being sought. Qualifications include an established reputation in patient care, research, teaching, and administration in academic medicine. Nominations and applications should include curriculum vitae and bibliography, and should be submitted to:

Dick D. Briggs, M.D.
Chairman, Diagnostic Radiology Search Committee
Lyons-Harrison Building, Room 323
University Station
Birmingham, Alabama 35294

Deadline for receipt of applications is 30 November 1981.

The University of Alabama in Birmingham is an Equal Opportunity/Affirmative Action Employer.

DEVELOPMENTAL BIOLOGIST

The Department of Anatomy invites applications for a tenure-track faculty position beginning 1 July 1982. Candidacy is restricted to **developmental biologists** investigating molecular aspects of cellular differentiation, regulation of gene expression in development, or organelle development. Qualifications required are prior postdoctoral experience and ability to develop independent, productive research program in developmental biology. Teaching responsibilities include participation in teaching anatomical sciences in the basic medical science curriculum and participation in a graduate program in cell and developmental biology. Prior training and teaching in anatomical disciplines desirable but not required. Applicants should submit curriculum vitae, list of publications, projected research plans, and names of three references by 1 December 1981 to:

Dr. J. A. Grasso
Developmental Biology Search Committee
Department of Anatomy
University of Connecticut Health Center
Farmington, Connecticut 06032
An Affirmative Action/Equal Opportunity Employer, M/W/H

DIRECTOR RECOMBINANT DNA CORE FACILITY

As a part of the Diabetes and Endocrinology Core Research Program, a position is available immediately to direct the university-wide Recombinant DNA Core Facility located in the Biochemistry Department. Candidate should have Ph.D. or equivalent, with experience in recombinant DNA techniques. Some experimental deficiencies may be overcome by a short training period after appointment. Send curriculum vitae and references to:

Dr. John E. Donelson
Department of Biochemistry
Bowen Science Building
University of Iowa
Iowa City, Iowa 52242

Affirmative Action/Equal Opportunity Employer

Colorado School of Mines (CSM). **FACULTY POSITION IN ENVIRONMENTAL SCIENCES.** Applicant must have Ph.D. degree and a minimum of 3 years of appropriate industrial experience. Rank and salary dependent upon experience and credentials. Program is new and expanding. Resources and facilities must be developed. Send résumé and references, together with a description of your expertise and how it would be employed in the education of mineral engineers, to: **Dr. Beatrice E. Willard, Head, Department of Environmental Sciences and Engineering Ecology, Colorado School of Mines, Golden, Colo. 80401.** *CSM is an Affirmative Action Employer stressing Equal Opportunity.*

POSITIONS OPEN

COMPUTER CENTER DIRECTOR sought by the University of California (UC), San Francisco, for its Fresno-Central San Joaquin Valley Medical Education Program. The new computer center will support educational and research activities for approximately 100 faculty. The center will assist investigators in planning and conducting a diverse range of projects including biostatistical analyses, epidemiological surveys, health delivery comparisons, imaging, clinical algorithm development, and psychophysiological monitoring. Educational responsibilities will include not only familiarizing faculty, house staff, and other health professionals with computer applications in medicine, but also providing consultation to those with specific computer interests. Existing collaboration with local state university presents opportunities for participation of graduate students in computer sciences. Initial equipment includes VAX-11/750 and ample space in new educational building.

Applicants should possess advanced degree or considerable experience in computer sciences or closely related field and strong interest in biomedical science and clinical investigation. Experience with UNIX is highly desirable. Salary and academic appointment commensurate with experience.

Please direct inquiries to:

Howard Corbus, M.D.
Acting Associate Dean
UC Medical Education Program
2615 East Clinton Avenue
Fresno, Calif. 93703

The University of California is an Equal Opportunity Employer.

COORDINATOR for national project on marine toxicology. Must have general knowledge of chemistry, biology, and immunology; experience in administration of research programs; and good writing and communications skills. Ph.D. preferred. Salary dependent on qualifications. Reply immediately with résumé and three letters of reference to: **Dr. C. S. Giam, Dean, College of Science, University of Texas at El Paso, El Paso, Texas 79968.** *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

FACULTY APPOINTMENT. The Department of Microbiology, College of Medicine, has an opening for an **assistant professor**. Responsibilities include teaching graduate and medical students. Preference will be given to candidates who will develop a strong research program in the control of gene expression or gene organization in prokaryotes, eukaryotes, or viruses. Use of recombinant DNA techniques is especially desirable. Postdoctoral experience is required. Send curriculum vitae and three letters of reference to: **Chairman, Microbiology Search Committee, Department of Microbiology, College of Medicine, University of California, Irvine, Irvine, Calif. 92717.** *An Affirmative Action/Equal Opportunity Employer.*

FACULTY POSITION. The Department of Microbiology, College of Medicine, has an opening for an assistant or associate professor. Primary responsibilities include teaching medical students and serving as director for a course in medical microbiology. Preference will be given to individuals with a research program in the molecular biology of pathogenic agents, including animal viruses, bacteria, antibiotic resistance, or microbial toxins. Use of recombinant DNA techniques is desirable. Send curriculum vitae and three letters of reference to: **Chairman, Medical Microbiology Search Committee, Department of Microbiology, University of California, Irvine, Calif. 92717.** *An Affirmative Action/Equal Opportunity Employer.*

IMMUNOLOGIST/ BIOLOGIST, Ph.D.

Experience in hybridoma technology, immunochemistry. Tenure-track position with full benefits at Baylor College of Medicine, Houston, Texas. Please send curriculum vitae and bibliography to:

Box 242, SCIENCE

Baylor is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

FACULTY POSITIONS IN BIOCHEMISTRY

The Department of Biochemistry and Biophysics at Texas A & M University invites applications for 12-month tenure-track positions. Rank and salary will be commensurate with experience. Interest is expressed in biochemists with experience in plant molecular biology; however, individuals with interests in other areas of biochemistry and molecular biology will be considered.

Applicants should send curriculum vitae, summary of future research plans, and names of three references to: **Dr. E. G. Sander, Head, Department of Biochemistry and Biophysics, Texas A & M University, College Station, Texas 77843.** Telephone: 713-845-5032. Closing date is 1 December 1981 or until suitable applicants are found. *Texas A & M University is an Equal Opportunity/Affirmative Action Employer.*

IMMUNOLOGIST

The Department of Biology at the University of California, Riverside, anticipates having an opening for an **assistant professor in immunology**. The appointment will be effective 1 July 1982 with duties beginning September 1982. Candidates must have evidence of ability to initiate and sustain a creative research program, and enthusiasm and skill in teaching and supervision in both undergraduate and graduate programs. Teaching duties will consist of undergraduate and graduate courses in immunology as well as undergraduate teaching of vertebrate histology and/or embryology. Applicants should send up-to-date curriculum vitae, a brief description of research and teaching goals, and reprints of scientific papers and should request letters from three individuals who, from close personal knowledge, can evaluate the applicant. *The University of California is an Equal Opportunity/Affirmative Action Employer.* Applications are invited from all qualified individuals.

Send applications by 16 November 1981 to:

Professor R. Ruibal, Chairman
Department of Biology
University of California
Riverside, California 92521

The
SPACE TELESCOPE SCIENCE INSTITUTE (ST Sci)
to be operated by
THE ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN
ASTRONOMY
under contract to
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
(NASA)
requires a
CHIEF DATA AND OPERATIONS SCIENTIST (CDOS)
for the development and management of the
OPERATIONS DEPARTMENT OF THE ST Sci

CHIEF DATA AND OPERATIONS SCIENTIST (CDOS) to manage the Operations Department (OPD) of the ST Sci. Reporting to the director of the ST Sci, the CDOS will supervise the deputy manager of the OPD, who also serves as subcontractor project manager, and a technical support staff of scientists and systems analysts. The CDOS has overall responsibility for all Institute activities involving mission operations, observation support, and data management. Will direct the efforts of approximately 100 professional astronomers, computer hardware and software experts, and technicians.

The CDOS is expected to carry out an active research program and to be responsible for the technical aspects and scientific accomplishments of this research, including published papers and participation in scientific meetings.

The position requires the following: a Ph.D. or equivalent degree with a background in physics or astronomy; several years of independent research experience; publication of significant scientific papers in an area of astronomical research; and a high degree of initiative, judgment, and scholarly competence. The incumbent must be familiar with mission operations requirements for NASA space astronomy programs. Experience in developing computer hardware and software systems for mission planning and scientific data reduction and analysis with particular regard to interactive computing and image data processing is required.

Management experience of scientific and computer hardware and software support staff is required and experience in supporting scientific observations of guest or general observers is particularly desirable.

The salary, terms, and level of appointment will be commensurate with the appointee's qualifications and background.

The Institute is located on the Homewood Campus of the Johns Hopkins University in Baltimore, Maryland.

An application (or nomination) consists of a résumé, including a statement of relevant experience, a bibliography, a statement of research interests, and the names of three references. Applications should be received by 30 October 1981. **The Space Telescope Science Institute, Homewood Campus, Baltimore, Md. 21218.** *An Equal Opportunity/Affirmative Action Employer, M/F/H.*

DIRECTOR

BROOKHAVEN NATIONAL LABORATORY

Associated Universities, Inc. (AUI) invites applications or nominations for the position of **director** of the Brookhaven National Laboratory (BNL) at Upton, Long Island, New York. AUI, a nonprofit corporation with headquarters in Washington, D.C., manages BNL for the U.S. Department of Energy (DOE), and the National Radio Astronomy Observatory for the National Science Foundation.

Brookhaven National Laboratory is a multidisciplinary laboratory whose scientific staff conducts basic and applied research in high energy, nuclear and condensed matter physics, chemistry, engineering, biology, and medicine. Frontier research programs emphasize the use by qualified scientists of specialized BNL research facilities, such as the 33 GeV proton accelerator (AGS), the High Flux Beam Reactor, the Tandem Van de Graaff, and the National Synchrotron Light Source. A 400 x 400 GeV proton-proton colliding beam accelerator (ISABELLE) is now under construction. Other research and development programs are designed to assist the sponsoring agency (DOE) and other agencies, such as the U.S. Nuclear Regulatory Commission, by addressing specific problems on their behalf.

Candidates should be either experienced scientists of national stature or administrators with successful records of working with scientists and should have demonstrated leadership in scientific affairs. Candidates should have an awareness of and concern for national needs in scientific research and a familiarity with federal agencies and national groups involved in the conduct and support of scientific research.

Applications or nominations are requested by 13 November 1981. Inquiries, nominations, or applications with résumés should be directed to the President:

Dr. Robert E. Hughes
Associated Universities, Inc.
Suite 603
1717 Massachusetts Avenue, NW
Washington, D.C. 20036

AUI is an Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

IMMUNOLOGIST/IMMUNOCHEMIST

Staff research position available for experienced researcher with Ph.D. or M.D. who is interested in applying new technologies to the study of human disease. Experience with monoclonal antibody production and isolation of cellular antigens is desirable. Send curriculum vitae and references to:

Dr. Robert Colvin
Immunopathology—Cox 5
Massachusetts General Hospital
Boston, Mass. 02114

IMMUNOLOGIST for tenure-track faculty position involving teaching, research and development, and clinical immunology. Ph.D. in immunology preferred; ASCP registration and M.S. considered; 2 to 3 years of immunology experience required. Teaching experience desirable. Salary and academic rank commensurate with experience. Submit résumé and letters of recommendation by 13 November 1981 to: **Harriet B. Rolen, Chairman of Search Committee, State University of New York—Upstate Medical Center, 776 Irving Avenue, Syracuse, N.Y. 13202. An Equal Opportunity/Affirmative Action Employer.**

INDUSTRIAL HYGIENIST position: Doctoral degree in industrial hygiene and 5 years of experience in aerosol physics required. Participate in nationwide epidemiologic studies on fibrotic and immunologic occupational lung diseases due to cotton, silica, and asbestos dusts, and develop own research interests. Salary: \$28,000 per year, 40-hour week. Contact: **Louisiana State Employment Office, 617 Saint Charles Avenue, New Orleans, Louisiana 70130. Reference: J.O.NR406488.**

INDUSTRIAL MICROBIOLOGIST

Experienced Ph.D. sought for senior position with Biological Energy Corporation. Position involves R & D supervisory role, and development of aerobic and anaerobic bacteria for conversion of biomass to chemicals and fuels. We are a new biotechnology company, with excellent growth potential. We offer a competitive salary and an attractive benefits package. Please send résumé and references to: **Biological Energy Corporation, 3401 Science Center, Suite 320, Philadelphia, Pa. 19104, attention: JDF.**

MOLECULAR BIOLOGY

ASSISTANT or ASSOCIATE PROFESSOR—The Department of Biochemistry, University of Mississippi Medical Center, invites applications for a tenure-track faculty position. Applicants whose research interests center on the molecular biology of gene expression are especially encouraged to apply but highly qualified candidates in other areas of biochemistry will also be considered. Established fields of investigation include developmental biology, nucleic acid and protein synthesis, membrane biochemistry, x-ray crystallography, and the structure and cloning of eukaryotic genes. Interested applicants should forward curriculum vitae and the names of three references by 20 November 1981 to: **Dr. Richard C. Hunt, Department of Biochemistry, University of Mississippi Medical Center, 2500 North State Street, Jackson, Miss. 39216. Equal Opportunity/Affirmative Action Employer.**

MOLECULAR BIOLOGIST (Columbus, Ohio location)

Battelle is one of the world's leaders in contract research and development. This senior scientist position requires a Ph.D. with a strong background in biochemistry, genetics, or microbiology. Postdoctoral and work experience are preferred. An outstanding record of publication and productivity is essential. Research familiarity with recombinant DNA methods and/or microbial genetics is required. We are seeking a dynamic individual to participate with an excellent group of scientists in existing projects in vaccine development, microbial degradation of toxic wastes, and other biotechnology/genetic engineering programs. At the same time, this individual will market to government and industry, and provide input to a broad range of multidisciplinary research problems. We offer excellent comprehensive benefits and salary commensurate with experience. Send curriculum vitae in confidence to: **Dick Shaw, Senior Personnel Advisor, Box 265, SCIENCE.**



Columbus Laboratories

An Equal Opportunity Employer

POSITIONS OPEN

LIMNOLOGIST—POSTDOCTORAL

FIELD DIRECTOR for an NSF ecosystems analysis project at Lake Titicaca, Peru. Duties include scientific direction of the project in the principal investigator's absence and the conduct of the biological measurement program. Some opportunity for studies in the incumbent's area of interest. Knowledge of Spanish very helpful. Expected duration: 18 months, including 12 months in the field, January to December 1982. Salary: \$18,960 per year, plus benefits. For further information, contact: **Dr. Thomas Powell, Institute of Ecology, University of California, Davis, California 95616; telephone: 916-752-1180.** Send application materials, including a letter of application, curriculum vitae, names of three references, and relevant publications, to the above address, and a copy to: **Dr. P. J. Richerson, IMARPE, Apartado 292, Puno, Peru, before 15 November 1981.**

The University of California is an Equal Opportunity/Affirmative Action Employer and invites application from all qualified individuals.

MICROBIOLOGY

The Department of Microbiology is seeking applicants for a tenure-track appointment at the level of assistant professor to begin 1 July 1982. Applicants should be qualified to participate in courses in virology at the undergraduate and graduate level, and to develop an active research program. Preference will be given to those with experience in molecular and genetic aspects. For full consideration, curriculum vitae, together with a list of publications, a brief description of research interests, and the names of three references, should be sent by 31 December 1981 to: **Dr. David Eidinger, Head, Department of Microbiology, University of Saskatchewan, Saskatoon, Saskatchewan, Canada S7N 0W0.**

NEUROIMMUNOLOGIST. The C. V. Whitney Laboratory, a research center of the University of Florida (UF) dedicated to experimental marine biology and medicine, invites applications from persons interested in approaching neurobiology from an immunological viewpoint. This is a full-time (12-month), tenure-earning position at the assistant or associate professor level with an adjunct appointment in an academic department at UF. We are particularly interested in persons who are primarily competent immunologists but who have training or experience in neurobiology, preferably using marine animals. The successful applicant will be expected to develop an independent research program interacting with existing projects in cell membrane biology, pharmacology, and physiology. Send letter stating current and future research interests, curriculum vitae, and names of four references by 15 December 1981 to: **Dr. Barry Ache, C. V. Whitney Laboratory, University of Florida, Route 1, Box 121, St. Augustine, Fla. 32084. The University is an Equal Opportunity/Affirmative Action Employer.**

PHYSICIST/SENIOR PHYSICIST (MEDICAL). Ph.D. required for medical physics department. Clinical work is in radiation medicine (therapy and diagnosis). Research/teaching program is in association with McMaster University. Candidates with experience in medical physics are preferred, particularly for appointment at senior level. However, recent Ph.D.'s wishing to enter the field are encouraged to apply. Send curriculum vitae with names of three referees to: **B. C. Wilson, Ph.D., Ontario Cancer Foundation, 711 Concession Street, Hamilton, Ontario, Canada L8V 1C3.**

POSTDOCTORAL ASSOCIATE position open immediately. Synthesis and structure determination of carcinogen-nucleoside adducts. Strong background in synthetic organic or nucleic acid chemistry preferred. Send résumé to: **Professors Robert Shapiro or Graham Underwood, Department of Chemistry, New York University, New York, N.Y. 10003.**

New York University is an Affirmative Action/Equal Opportunity Employer.

Postdoctoral Positions in Biochemistry. Two positions available to study metabolism of α -tocopherol-quinol. (i) Research associate, grant-funded, requires only a Ph.D. (ii) Hard-money, non-tenure-track position, requires at least 2 years of postdoctoral experience. Send résumé, publications list, description of research interests, and three letters of reference to: **Dr. S. B. Tove, Biochemistry Department, North Carolina State University, Raleigh, N.C. 27650. An Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

PLANT BIOCHEMISTS

The Department of Agricultural Biochemistry at the University of Nebraska—Lincoln invites applications and nominations for two tenure-track faculty positions with research interests in (i) **PLANT MEMBRANES** and (ii) **PLANT GROWTH AND DEVELOPMENT**. Salary and rank are open for both positions. Application deadlines are 30 October 1981 and 31 December 1981, respectively. Postdoctoral experience is desirable. Although these 12-month positions will primarily entail basic research within the Experiment Station, the appointees will also participate in the teaching program. Résumé and names of three references should be sent to: **Dr. R. V. Klucas, Department of Agricultural Biochemistry, The University of Nebraska—Lincoln, Lincoln, Nebraska 68583-0718. Telephone: 402-472-2932. An Equal Opportunity/Affirmative Action Employer.**

PLANT POPULATION BIOLOGIST

The Department of Botany of the University of Georgia is seeking qualified applicants in plant population biology at the assistant/associate professor level. Preference will be given to candidates working in any of the following areas: numerical taxonomy including cladistics; experimental systematics; pollination biology; and population ecology. A research program that emphasizes quantitative or statistical approaches is desirable. The successful candidate will be expected to contribute to the teaching program in plant systematics. Candidates must have a Ph.D. and a strong commitment to research as well as teaching. Duties include developing an independent research program and teaching at the graduate and undergraduate levels. Applicants should forward curriculum vitae, reprints, and a brief statement of research plans, and arrange to have four letters of recommendation sent to: **Department of Botany, University of Georgia, Athens, Georgia 30602.** Screening of applicants began 1 October 1981 and the closing date for applications is 1 December 1981. Appointment would be effective on or about September 1982. *The University of Georgia is an Equal Opportunity/Affirmative Action Institution.*

The Department of Neurology, University of California, Irvine, seeks a **POSTDOCTORAL FELLOW** to train in human-evoked potentials related to motor functions in a newly established laboratory of motor control. Prior experience in neurophysiology, evoked potentials, and motor systems theory would be advantageous for the successful candidate. Position available immediately. Send curriculum vitae to and request three letters of reference be sent to: **Arnold Starr, M.D., and Gideon Ariel, Ph.D., Department of Neurology, Room 144/Med Surge I/California College of Medicine/University of California, Irvine, Irvine, Calif. 92717. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE wanted for neurophysiological investigation of cerebral ischemia in gerbil model. Experience in evoked potentials/transfer functions helpful. Continuous dialog with membrane biochemists and clinical neurologists. Project to begin immediately. Telephone: **Fred Callahan, FRIST-MASSEY NEUROLOGICAL INSTITUTE, at 615-383-1512 or 615-329-9444.**

THE PENNSYLVANIA STATE UNIVERSITY

POSTDOCTORAL POSITION available 1 November 1981 to study the effects of inadequate vitamin E and selenium nutrition on prostaglandin synthetase and lipooxygenase pathways of arachidonic acid metabolism. Experience in enzymology and organic synthesis is desirable. Background in biochemistry/biorganic chemistry preferred. Salary commensurate with qualifications. Send letter of application and three letters of recommendation by 15 November 1981 to: **Dr. C. Channa Reddy, Center for Air Environment Studies, The Pennsylvania State University, 232 Fenske Laboratory, University Park, Pa. 16802.**

An Equal Opportunity/Affirmative Action Employer

Endocrine Research Laboratory at Florida State University is seeking applicants for a **POSTDOCTORAL POSITION IN REPRODUCTIVE ENDOCRINOLOGY**. For studies in inhibin. An excellent background in protein biochemistry is prerequisite. First-year funding is assured. Send curriculum vitae and names of three references to: **Dr. Harry Lipner, Department of Biological Sciences, Florida State University, Tallahassee, Fla. 32306. Equal Opportunity/Affirmative Action Employer.**



**MICROBIOLOGISTS
MOLECULAR
BIOLOGISTS**

SYNERGEN, an established biotechnology firm with laboratories in Boulder, Colorado, is expanding its scientific staff. We seek exceptional individuals with broad interests and records of imaginative research who will enjoy a vigorous and interactive research environment. We are particularly interested in postdoctoral scientists with the following qualifications.

MICROBIOLOGISTS qualified to search for and isolate organisms that thrive in extreme environments; to investigate the physiologic and genetic mechanisms that regulate syntheses of specific biomolecules; and to establish genetic and cloning systems for novel microbial species. Industrial and applied microbiologists are particularly encouraged to apply.

MOLECULAR BIOLOGISTS experienced in all phases of cloning and in the modification and expression of cloned genes and also in contemporary nucleic acid technologies and molecular genetics.

We offer competitive salaries, liberal benefits, and exceptional working and living environments. To apply in confidence, please submit a résumé, a statement of your research interests, and reprints to:

N. Hirsh
Recruitment Director
Synergen Associates
1885 33rd Street
Boulder, Colorado 80301

We are an Affirmative Action/Equal Opportunity Employer

Research Chemist Diagnostics

We currently have an opportunity for a Research Chemist to be responsible for the development of non-isotopic diagnostic products. Position requires a Ph.D. in Chemistry, immunology, biochemistry or an undergraduate degree with appropriate R&D experience. Background in the purification of antigens and antibodies, hapten and protein labeling, and immunoassay development would be very useful. For confidential consideration, send resume to: **BIO-RAD LABORATORIES**, Personnel Department, F52, 2200 Wright Avenue, Richmond, CA. 94804. An equal opportunity employer.

BIO-RAD Laboratories

BIOGEN INC.

CAMBRIDGE, MASSACHUSETTS

Positions are available for **SCIENTISTS** at all levels who are skilled in the areas of:

**Microbial Physiology
Genetics
Cell Biology
Biochemistry
Organic Chemistry
Enzymology
Protein Chemistry
Nucleic Acid Biochemistry
Recombinant DNA Technology**

Biogen, a biotechnology company with laboratories in the United States and Switzerland, is developing commercial applications of molecular biology in the areas of agriculture, chemicals, pharmaceuticals, and energy. We offer a challenging scientific career with the opportunity to interact with talented colleagues in a stimulating environment.

Research is currently under way in our laboratories in Cambridge and we are continuing to expand our staff and facilities during 1981-1982. We are seeking people in a variety of areas as we initiate new projects.

Biogen offers a competitive salary and benefits package.

Reply to: **Personnel Director, Biogen Inc., 50 Church Street, Cambridge, Mass. 02138**. Please send your résumé and a list of three individuals whom we may contact for references on your behalf. All replies will be evaluated in confidence. *Biogen is an Equal Opportunity Employer.*



The Frederick Cancer Research Center, a leading biomedical research facility, located in Frederick, Maryland has an opening for a *Mass Spectroscopist* to supervise, operate and maintain the mass spectrometry facility at the Frederick Cancer Research Center. The facility is equipped with a VG Micromass ZAB-2F high resolution GLC/MS/DS and a Finnigan 3200 GLC/MS/DS. The ZAB Mass Spectrometer is equipped with the latest digital scan unit and high dynamic range capabilities in addition to numerous modes of sample introduction and ionization techniques. A combination of self-initiated research, collaborative and support projects is expected from this position and the facility. Experience in high resolution mass spectrometry is a requirement with a PhD preferred. A background in biological mass spectrometry is an asset but not absolutely necessary.

Please send C.V. to:

**Personnel Position #2120
FREDERICK CANCER
RESEARCH CENTER
Litton Bionetics, Inc.
P.O. Box B
Frederick, MD 21701**

EOE M/F

RESEARCH PHARMACOLOGISTS AND BIOCHEMISTS

Allergan Pharmaceuticals, a leading international manufacturer of ophthalmic and dermatologic products, currently has outstanding career opportunities in our expanding Pharmacology and Biochemistry Departments. We are looking for doctoral and masters level scientists to join our research efforts directed toward the discovery of new therapies for ocular and dermal diseases.

● PHARMACOLOGISTS

The successful candidates will have 1-3 years experience in ocular, cardiovascular/renal, or immuno-pharmacology. Responsibilities will include planning, supervising and conducting research on the mechanism(s) of action of ocular hypotensive and anti-inflammatory agents in order to establish physiologically relevant animal models for eye and skin disease.

● BIOCHEMISTS

3 years research experience and some exposure to ocular biochemistry or physiology are required to plan, direct and perform biochemical and histological studies into the mechanisms of drug actions with emphasis on receptor site interactions in ocular tissues.

Additional qualifications for both departments include expertise in neuropharmacology, neurohistochemistry, statistical analysis and/or computer applications. An established research record and excellent communication skills are essential.

We are offering competitive salaries, a comprehensive benefits program and a stimulating scientific environment in a rapidly growing Southern California

company. For immediate consideration, send resume with salary history to: **Ann Winthrop**.

**Allergan Pharmaceuticals
A Smith-Kline Company
2525 DuPont Drive
Irvine, CA 92713**

Equal Opportunity Employer M/F/H.



POSITIONS OPEN

POSTDOCTORAL POSITION (3 years) is available immediately to study the use of biologically active peptides as drug carriers in the melanoma cell system. The project includes the synthesis of peptide-toxin conjugates and studying their effects on cells in vitro and in vivo. Background in protein/peptide chemistry, HPLC, and tissue culturing is desired. Send curriculum vitae and three letters of reference to: **Dr. J. M. Varga, Department of Dermatology, Yale University School of Medicine, P.O. Box 333, New Haven, Conn. 06510.**

POSTDOCTORAL POSITION in biochemical neuropharmacology available immediately for 2 to 3 years to study opiate receptors in mammalian brain and in invertebrate nervous tissue. Background should be in membrane biochemistry or neuropharmacology. Salary commensurate with experience. Send curriculum vitae and names of three references to: **Dr. R. Suzanne Zukin, Department of Biochemistry, Albert Einstein College of Medicine, Bronx, New York 10461.**

POSTDOCTORAL POSITION

Postdoctoral position available beginning spring or summer 1982 to study the role of nuclear structural elements in gene regulation and DNA replication [Cell 21, 79-85; Nucleic Acids Res. 8, 5623-5634]. Background in cell biology, recombinant DNA technology, or biochemistry useful.

Send curriculum vitae with names of two references to:

Dr. Bert Vogelstein
The Johns Hopkins University
School of Medicine
Oncology Center, Room 1-127
600 North Wolfe Street
Baltimore, Maryland 21205
Equal Opportunity Employer

POSTDOCTORAL POSITION available immediately to study the action of chemical carcinogens on DNA. Research will entail development and application of new methodology to identify distribution and specific loci of adduct formation. Candidate with analytical background preferred. Please send curriculum vitae and names of references to: **R. Gupta, Ph.D., Department of Pharmacology, Baylor College of Medicine, 1200 Moursund Avenue, Houston, Texas 77030. An Equal Opportunity/Affirmative Action Employer.**

THE WEIZMANN INSTITUTE OF SCIENCE, ISRAEL POSTDOCTORAL POSITION

For electrophysiological studies in prokaryotic cells, to learn the mechanism of sensory transduction.

Applicants should have a Ph.D. degree. Preference will be given to those having research experience in electrophysiology or in measuring membrane potential using optical techniques.

Applications or requests for more details should be addressed to:

Dr. M. Eisenbach
Department of Membrane Research
The Weizmann Institute of Science
76100 Rehovot, Israel

POSTDOCTORAL POSITION available for studies of gene isolation and characterization and for in vivo and in vitro transfer of genetic information. Experience with recombinant DNA techniques desirable. Curriculum vitae and letters of recommendation to:

Dr. T. Friedmann
Department of Pediatrics/M-009H
University of California, San Diego
School of Medicine
La Jolla, Calif. 92093

POSTDOCTORAL POSITION IN BIOCHEMISTRY is available for qualified M.D. and/or Ph.D. in biochemistry or physiology to develop collaborative biomedical research program in bioenergetic, membrane structure, and related topics. Experience in radioiodination and electrophoresis is desirable. Send curriculum vitae, bibliography, and three letters of recommendation to: **Professor Panayotis G. Iatridis, Assistant Dean and Director, Northwest Center for Medical Education, Indiana University School of Medicine, 3400 Broadway, Gary, Indiana 46408. Indiana University is an Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

POSTDOCTORAL POSITION IN PHYSIOLOGY is available as of 1 January 1982. Applicants with an M.D. and/or Ph.D. or equivalent degree will be considered. Research will be in the area of ion transport in muscle or epithelial tissues. Additional qualifications desired, but not required, include experience in electrophysiological techniques, including the construction and use of ion selective and recording electrodes. Salary is competitive. Interested applicants should send current curriculum vitae, representative publications, and the names of three references to: **Dr. Donald D. Macchia, c/o Professor Panayotis G. Iatridis, Assistant Dean and Director, Northwest Center for Medical Education, Indiana University School of Medicine, 3400 Broadway, Gary, Indiana 46408. Indiana University is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION IN PHYSIOLOGY is available for qualified M.D. and/or Ph.D. in physiology or biochemistry to develop collaborative biomedical research program in blood coagulation, platelet aggregation, and related topics. Experience in prostaglandin biochemistry is required. Send curriculum vitae, bibliography, and three letters of recommendation to: **Professor Panayotis G. Iatridis, Assistant Dean and Director, Northwest Center for Medical Education, Indiana University School of Medicine, 3400 Broadway, Gary, Indiana 46408. Indiana University is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available for person trained in biochemistry, immunology, or cell biology to study collagenase-mediated collagen degradation in normal and diseased tissues. Experience in cell culture, enzyme purification, and immunologic techniques preferred. Send curriculum vitae and letters of reference to: **Dr. Henning Birkedal-Hansen, Department of Oral Biology and Institute of Dental Research, University of Alabama School of Dentistry, Birmingham, Alabama 35294.**

POSTDOCTORAL POSITIONS available for studies in toxicology, pharmacology, and cell biology of antiviral drugs. Positions tenable at the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) provide an annual stipend of \$20,000 and are administered by the National Research Council. Send curriculum vitae, statement of research background and interests, and letters of reference to: **Dr. Peter G. Canonico, Chief, Department of Antiviral Studies, USAMRIID, Fort Detrick, Frederick, Md. 21701.**

POSTDOCTORAL POSITION Immunology-Interferon Research The University of Texas Medical Branch Galveston, Texas

Position available immediately with salary of \$16,800 per year. Individual will be examining different aspects of immune and nonimmune interferon with regards to hematopoiesis and T-cell differentiation. Opportunity exists for interaction with other established investigators in the fields of immunology and interferon.

Applicants should send curriculum vitae and names and addresses of two references to:

Gary R. Klimpel, Ph.D.
Department of Microbiology
The University of Texas Medical Branch
Galveston, Texas 77550

An Equal Opportunity/Affirmative Action Employer, M/F/H

POSTDOCTORAL RESEARCH ASSOCIATE. One, and possibly two, postdoctoral positions available on 1 January 1982 for work on nonhistone chromatin proteins, particularly those with preferential affinity for single-stranded DNA. Send curriculum vitae and names of three references by 1 December 1981 to: **Gerald R. Reeck, Department of Biochemistry, Kansas State University, Manhattan, Kansas 66506. Kansas State University is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE IN GENETIC TOXICOLOGY to investigate micronuclei in peripheral blood erythrocytes as an indicator of in vivo chromosome breakage. Research will focus on: (i) automation of the detection of micronuclei, (ii) the fate of micronucleated cells in the peripheral circulation, and (iii) the utility of micronuclei as an index of chromosome breakage during chronic exposures in mammalian species. Salary: \$22,500. Résumé and references by 30 October to: **Dr. J. T. MacGregor, U.S. Department of Agriculture, Western Regional Research Center, Berkeley, Calif. 94710.**

POSITIONS OPEN

POSTDOCTORAL RESEARCH IN HUMAN MOLECULAR GENETICS. Positions available to study organization and control of human genome. Research involves mapping cloned genes and DNA segments using cell hybrids; gene cloning, sequencing, and transfer; recombinant library construction; and mechanisms of metabolic disease. Experience required in recombinant DNA methods, biochemistry, molecular biology, and genetics. Salary depends on experience. Send curriculum vitae, reprints, and names of three references to: **Thomas Shows, Ph.D., Department of Human Genetics, Roswell Park Memorial Institute, New York State Department of Health, Buffalo, New York 14263. An Equal Opportunity Employer, M/F.**

POSTDOCTORAL RESEARCH POSITION DEPARTMENT OF PHYSIOLOGY NEW YORK MEDICAL COLLEGE

Available immediately under the sponsorship of Drs. Gabor Kaley and Edward J. Messina. Investigation of role of prostaglandins in regulation of microcirculation, hypertension, and vascular reactivity. Background in microcirculation techniques, vascular smooth muscle work, and small animal surgery preferred. Appointment is for 1 year, renewable for an additional year. Candidates should send curriculum vitae, summary of research experience, and names of three references to:

Gabor Kaley, Ph.D.
Professor and Chairman
Department of Physiology
New York Medical College
Valhalla, N.Y. 10595

POSTDOCTORAL RESEARCH POSITION

A postdoctoral fellowship will be available this fall for research concerned with the regulation of fatty acid degradation (*fad*) in *Escherichia coli*. Biochemical, genetic, and recombinant DNA techniques are being used to determine how the *fadR* regulatory gene product(s) controls the expression of 5 *fad* enzymes and a *fad* transport protein whose structural genes are located at different positions on the *E. coli* chromosome. Knowledge and experience in microbial genetics and cloning are essential. Send curriculum vitae and three references to: **Dr. William D. Nunn, Molecular Biology and Biochemistry, University of California, Irvine, California 92717. The University of California is an Equal Opportunity/Affirmative Action Employer.**

THE ERNA AND JAKOB MICHAEL VISITING PROFESSORSHIPS 1982-1983

The Weizmann Institute of Science, Rehovot, Israel, offers a limited number of visiting professorships in the natural and exact sciences.

The Erna and Jakob Michael Visiting Professorships are intended for candidates already holding the rank of full professor and will be for a duration of 3 months to 1 year.

For further information, please contact: **The Academic Secretary, The Weizmann Institute of Science, Rehovot 76100, Israel.**

RADIATION SAFETY OFFICER. Full-time position available 1 December 1981, supervising and providing operational health physics services for the Radiation Safety Offices at both Old Dominion University and the Eastern Virginia Medical School, Norfolk, Virginia. Both institutions have broad scope NRC licenses. M.S. in health physics or a related field of science and experience required. ABHP certification and experience or training in the handling of chemical and toxic wastes desirable. Salary commensurate with experience. Send application materials by 30 October 1981 to: **Dr. Marvin E. Wyman, Associate Vice President for Research and Sponsored Programs, Old Dominion University, Norfolk, Va. 23508. An Affirmative Action/Equal Opportunity Employer.**

Career in Biotechnology

MARKETING DIRECTOR/ MOLECULAR BIOLOGY

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A superior employment opportunity with a current leader in the field is now available to direct the marketing of products in the dynamic area of Molecular Biology.

The key responsibility of the position will be to identify research products and develop innovative programs which result in a continuing leadership program.

This will also include responsibility for Product Management and Technical Services. Strong R & D, production, sales and communication Departments, within the Research Products Division, are available to provide immediate support.

The ideal candidate will already have achieved demonstrated success in the marketing of products for Biological Research, have an MS/Ph.D. in Biochemistry, along with current knowledge of Biochemical techniques.

This position will provide competitive compensation, a bonus, opportunity for career advancement, and participation in our stock option program.

We welcome your inquiry.

Please send your resume, references and salary history, in confidence to:

J. Wamstad

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P.O. Box 6009, 8717 Grovemont Circle
Gaithersburg, Maryland 20878



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RESEARCH ELECTRON MICROSCOPIST

Merck Sharp & Dohme Research Laboratories, a world leader in the development of pharmaceuticals and biological products, is seeking an electron microscopist to join our Ultrastructure and Histochemistry Department.

The research electron microscopist must have a M.S. degree or equivalent and 6-8 years of relevant experience; a strong background in the biological sciences; a working knowledge of TEM, SEM, X-Ray microanalysis and histochemistry; management experience; and a demonstrated aptitude for developing new techniques.

Salary, benefits and career growth are excellent. Send resume, indicating position of interest, to Johanna Y. Zeltner, Ref. SM, Merck & Co., Inc. P.O. Box 2000, Rahway, New Jersey 07065. An equal opportunity employer m/f



MERCK & CO., INC.

CNS Pharmacologist

G. D. Searle & Co., a leader in the worldwide health care industry, currently has an opening for an aggressive, innovative individual within its Biological Research Department. This individual will assume a leadership role in the area of analgesic research.

The position requires a Ph.D. in Pharmacology or related area, post-doctoral training, with 3-5 years of industrial experience desirable. Experience with primates and a broad background in behavioral pharmacology will be necessary in order to assess CNS properties.

We offer salary commensurate with your experience and background plus a comprehensive benefit program. Qualified applicants are encouraged to send a resume detailing education/training, work and salary history to:

B. Gardner
81191-129

Research & Development Division

G. D. Searle & Co.

Box 5110 / Chicago, IL 60680

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SENIOR SCIENTISTS

The USDA Human Nutrition Research Center on Aging at Tufts University will be recruiting senior level scientists over the next 18 months to examine the relationship of nutrition to aging. The Center building, when completed in July, 1982, will consist of 200,000 square feet in 15 stories housing "state of the art" facilities and over 300 scientific and support staff. Scientists working in the Center will determine the ways in which nutritional status influences the aging process utilizing human volunteers and experimental animals. Research programs at the Center will identify nutrient requirements of the elderly and the ways in which diet, alone and in combination with other factors—constitutional, environmental, hereditary, pharmacological, psychological, and sociological—contribute to degenerative conditions or health and vigor over the lifespan. The Center's unique cooperative government-university origin forms the basis for its intramural funding of research programs and opportunities for academic appointments within Tufts University/New England Medical Center.

Applicants must be established investigators in a basic science, epidemiology, medicine or nutrition with a significant publication record. Ph.D., M.D., or equivalent. Curriculum Vitae and a statement of principal interests and future research directions should be sent to: **USDA Human Nutrition Research Center on Aging at Tufts University, 15 Kneeland Street, Boston, MA 02111, Attn.: David Twomey.** An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE

To study membrane biochemistry and molecular biology. Seek recent Ph.D. in membrane biology or related area. Close interaction with scientists in a multidisciplinary program in molecular biology, genetics, membrane physiology, transport, protein chemistry, and immunology. Position immediately available. Applicants should send résumé and transcripts, and request that three letters of recommendation be sent to:

Dr. Victor J. Dzau, Department of Medicine, Harvard Medical School, c/o Brigham & Women's Hospital, 75 Francis Street, Boston, Mass. 02115.

RESEARCH ASSISTANT PROFESSOR IN BIOCHEMISTRY AND BIOPHYSICS, nontenure-track

A candidate is being sought for the position of research assistant professor in a research program dealing with the measurement of Ca^{2+} transients in single muscle cells. Preference will be given to candidates with several years of experience with techniques pertaining to isolation of single muscle fibers, quantitative microspectrophotometry, electrophysiological recording, and the isolation/characterization of Ca-binding proteins. Please send résumé, including a summary of research, and three letters of reference to:

**Dr. David R. Trentham, Chairman
Department of Biochemistry and Biophysics
University of Pennsylvania
School of Medicine
Philadelphia, Pa. 19104**

The deadline for applications is 15 November 1981. An Affirmative Action/Equal Opportunity Employer.

RESEARCH ASSOCIATE (postdoctoral). Cellular or molecular immunologist to participate in collaborative and independent research in broad areas of genetic control of the immune response in mice using synthetic polymers of amino acids. Studies concentrate on: T cell receptors, factors, idiotype (anti-idiotype), and hybridomas. Contact: **Dr. Paul H. Maurer, Department of Biochemistry, Jefferson Medical College, THOMAS JEFFERSON UNIVERSITY, 1020 Locust Station, Philadelphia, Pa. 19107.**

RESEARCH ASSOCIATE and RESEARCH TECHNICIAN. Two individuals needed for biochemical studies on surface fractions from plant pathogenic fungi. Research associate requires Ph.D., research technician a B.S. or M.S. Experience in protein and membrane purification and carbohydrate characterization desirable. Résumé and three letters of reference by 1 December 1981 to: **Anne Anderson, UMC 45, Utah State University, Logan, Utah 84322.** An Affirmative Action/Equal Opportunity Employer.

DEPARTMENT OF HUMAN GENETICS ROSSELL PARK MEMORIAL INSTITUTE (RPMI) NEW YORK STATE DEPARTMENT OF HEALTH

STAFF POSITIONS at the assistant and associate professor level in human molecular genetics, molecular cytogenetics, and cell genetics. Conducting productive research in organization of the human genome, control of gene expression, or mechanisms of disease is required. Experience necessary in molecular genetics such as gene isolation, cloning, sequencing, regulation, and transfer; chromosome isolation, flow sorting, and in situ hybridization; or dissection of molecular disease. Teaching possible through RPMI graduate division, State University of New York at Buffalo. Send résumé, reprints, and names of three references to: **Thomas B. Shows, Ph.D., Roswell Park Memorial Institute, 666 Elm Street, Buffalo, New York 14263.** An Equal Opportunity Employer, M/F.

VETERINARY BACTERIOLOGIST

Leading animal vaccine manufacturer has an excellent opportunity for individual with M.S. in veterinary bacteriology. Duties include designing, scheduling, coordinating, supervising, and direct-participating in the development of new animal bacterins. The candidate must have at least 2 years of experience in animal bacteriology work. We offer a competitive salary and comprehensive benefits package. To apply, submit résumé, including current salary, to: **Personnel Office, Beecham Laboratories, Inc., East Lincoln Road, White Hall, Ill. 62092.**

POSITIONS OPEN

SCIENCE/HEALTH WRITER—Major New York City-based international public relations firm representing several pharmaceutical companies looking for experienced writers for full-time and freelance assignments. Biochemistry background preferred. Minimum of 4 years of news writing experience essential. Public relations experience not necessary. Compensation open. Respond with résumé and writing samples to: **Box 264, SCIENCE.**

SENIOR CHEMIST. ISCO, a manufacturer of research instruments for chemistry and life sciences, has an immediate opening for a laboratory manager. Will conceive and perform bioanalytical experiments relating to new product development. Must be innovative and instrument-oriented. Strong skills in HPLC, electrophoresis, and written communication are essential. Send résumé to: **ISCO, Inc., P.O. Box 5347, Lincoln, Neb. 68505,** or telephone the marketing director at **800-228-4250.** An Equal Opportunity Employer, M/F.

SOLAR ASTRONOMER

The Astronomy Program of the University of Maryland is looking for a Ph.D.-level person to carry out solar radio research at meter-decameter wavelengths with the Clark Lake facility at Borrego Springs, California. The successful candidate will work on the fast acquisition, storage, and reduction of data from the multifrequency radioheliograph which is now operational and producing two-dimensional maps of the sun's outer corona. Knowledge of computer programming is essential. Salary is dependent upon experience. Appointment is for 1 year initially, with the possibility of renewal, to begin as soon as a suitable candidate is found. Send résumé and names of three references to: **Dr. M. R. Kundu, Astronomy Program, University of Maryland, College Park, Md. 20742.** Equal Opportunity/Affirmative Action Employer. Applications from women and members of minorities are welcome.

TOXICOLOGY

Full-time position currently available for a toxicologist with special interests in reproductive toxicology and/or biochemical toxicology. Salary negotiable.

**Dr. Raymond D. Harbison
Division of Interdisciplinary Toxicology
University of Arkansas for Medical Sciences
4301 West Markham
Little Rock, Arkansas 72205
An Equal Opportunity Employer**

VETERINARY PATHOLOGIST. ACVP-certified or eligible; to join the Toxicology and Biological Evaluation Research Unit for research on food safety and toxicology. Salary commensurate with experience and qualifications. Contact:

**Dr. J. Crispin Smith
U.S. Department of Agriculture
Western Regional Research Center
800 Buchanan
Berkeley, Calif. 94710**

VICE PROVOST AND DEAN OF THE GRADUATE SCHOOL NORTH CAROLINA STATE UNIVERSITY

Full-time administrative position which reports to the provost. Responsibilities include general administration of the graduate programs of the University, provision of advice concerning the development of graduate education, and representation of the University at meetings concerning graduate studies.

Qualifications include earned doctorate with a record of outstanding scholarship and active participation in graduate education; evidence of firm commitment to quality graduate program; and ability to serve as an articulate spokesman for graduate studies and research.

Deadline for applications is 1 December 1981 or until the position is filled.

North Carolina State University is the Land Grant University in the 16-institution University of North Carolina system with nine schools and a graduate school. There are 21,700 students enrolled, including 2,800 graduate students.

Applications and nominations should be sent to:

**William H. Simpson
Secretary, Nomination Committee
Vice Provost and Dean of the Graduate School
North Carolina State University
P.O. Box 5067
Raleigh, N.C. 27650**

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POSITIONS OPEN

Major Atlantic Coast medical center needs **TOXICOLOGIST OR PHARMACOLOGIST** with strong analytic background for university-based clinical drug laboratory to act as assistant director. Teaching and research opportunities available in addition to responsibilities in clinical drug analysis. Send curriculum vitae to: **Box 263, SCIENCE.**

BIOENGINEERING SYSTEMS COMPANY

Is seeking vice president of R & D. Candidate will have industrial and university experience in bioengineering and fermentation technology. Background in fermentation design, instrumentation, separation, and recovery systems is preferred.

The company is established by a venture group with a successful track record in biotechnology. The individual will have significant impact on the business direction of the company.

Contact: **Dan Kollin of Johnston Associates, Inc., Venture Firm, telephone: 609-924-3131,** or at: **Pretty Brook Road, Princeton, N.J. 08540.**

COURSE

MOLECULAR ENDOCRINOLOGY AND TECHNIQUES FOR HORMONE ACTION 21 to 26 February 1982

Course will consist of lectures in methodology with comprehensive syllabus covering receptors, gene transcription, mRNA and protein synthesis, recombinant DNA, protein hormones, and cyclic nucleotides.

Co-directors: **W. T. Schrader** and **B. W. O'Malley.** Fee: \$265/\$195 (fellows). For further information, contact: **Barbara Gordin, Department of Cell Biology, BAYLOR COLLEGE OF MEDICINE, Houston, Texas 77030.** Telephone: 713-790-6200.

Deadline: 1 January 1982.

CONFERENCE

CIIT CONFERENCE ON TOXICOLOGY: CURRENT PERSPECTIVES IN MOUSE LIVER NEOPLASIA

Conference will be held in Raleigh, N.C., on 3 and 4 December 1981. Emphasis will be on the current status of knowledge concerning the biology and implications of mouse liver neoplasms. Registration fee is \$100. Contact:

**Dr. James A. Popp
Chemical Industry Institute of Toxicology
P.O. Box 12137
Research Triangle Park, N.C. 27709**

TRAINING PROGRAM

PRE- AND POSTDOCTORAL TRAINING IN VIRUSES, NUCLEIC ACIDS, GROWTH, AND CANCER. Applications are invited for positions in a NCI interdepartmental (biochemistry, microbiology, and molecular biology) training grant program. The primary areas of study (and faculty) include: epidermal growth factor (S. Cohen); mechanism of vitamin A action (F. Chytil); molecular biology of herpesviruses (T. Ben-Porat and A. S. Kaplan), poxviruses (R. Moyer), rhabdoviruses (S. Moyer), and bacteriophage T4 (G. Mosig); plasmid DNA (R. Bird); regulation of cell proliferation (D. Friedman); and ribonucleoprotein particles (W. LeStourgeon). Citizens or permanent residents are eligible. Write: **Dr. Albert S. Kaplan, Department of Microbiology, Vanderbilt University, School of Medicine, Nashville, Tenn. 37232.**

ASSISTANTSHIPS

BIOCHEMICAL TOXICOLOGY

Postdoctoral research ASSISTANTSHIP available immediately in University of South Florida Medical Center for aggressive individual with doctorate in pharmacology—toxicology. Program involves pulmonary metabolism and response to certain drugs and industrial chemicals. Strong background in biochemistry and physiology a must. Send curriculum vitae and names of three references to: **Mark R. Montgomery, Ph.D., Research Service (151), VA Hospital, 13,000 North 30 Street, Tampa, Fla. 33612.**

VETERINARY PATHOLOGIST

...for staff position. Prefer broad based experience and/or training in laboratory animal pathology, especially Toxicologic Pathology. Duties include designing, conducting and reporting of preclinical drug safety evaluation studies, with emphasis on the gross, histopathologic and clinicopathologic evaluation of animals used in such studies. Requirements include D.V.M. and advanced training in pathology.

Interested applicants should send resume and salary requirements to:

Wyeth Laboratories Inc.
P.O. Box 861
Paoli, Pa. 19301

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TOXICOLOGISTS

The Life Sciences Division of IIT Research Institute, a leading multi-disciplinary research and development organization, seeks well-qualified individuals in the field of Toxicology.

TOXICOLOGIST — Candidates must have a Ph.D. in Toxicology or related discipline with 3-5 years of toxicology research experience. Responsibilities include planning and directing project activities as well as participation in proposal preparation and other promotional activities. Experience in inhalation toxicology is of interest.

TOXICOLOGIST — Candidates must have a Ph.D. in Toxicology or related field with 0-2 years experience. Individuals will aid in planning, conducting and reporting of toxicology and will supervise pre-professional personnel.

REPRODUCTIVE TOXICOLOGIST/TERATOLOGIST — Candidates must have a Ph.D. in an appropriate discipline. Responsibilities will include planning and conducting studies, supervision of pre-professional personnel and report writing.

In all positions, the opportunity is available to develop research program in own area of interest.

Please send resumes, in confidence, including salary history and requirements, to:

Lucy Amft
Employment Representative

IITRI IIT Research Institute
10 W. 35th St.
Chicago, IL 60616

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DEAN

COLLEGE OF NATURAL SCIENCES AND MATHEMATICS UNIVERSITY OF HOUSTON CENTRAL CAMPUS

The University of Houston Central Campus invites nominations and applications for the position of Dean of the College of Natural Sciences and Mathematics. The University of Houston Central Campus is a comprehensive, state-supported, urban university which occupies a 400 acre wooded campus near downtown Houston and enrolls 30,000 undergraduate, graduate, and professional students.

The College of Natural Sciences and Mathematics offers baccalaureate, master's and doctoral degrees in Biology, Biochemical and Biophysical Sciences, Chemistry, Geology, Mathematics, and Physics. The baccalaureate and master's degrees are offered in Computer Science with state approval pending for a doctoral program. Additional baccalaureate options and sequences include systems, science, or business (Computer Science), geophysics (Geology), statistics (Mathematics), and geophysics (Physics). The College has some 4000 students (2950 undergraduate, 500 post-baccalaureate, and 550 graduate), a full-time faculty of 147, and an appropriate budget of \$6 million.

Qualifications: A record of significant scholarly or professional achievement in one of the disciplines of the college, a record of academic administrative experience and achievement at the level of department chair or higher, and the ability to provide leadership. An earned doctorate in one of the disciplines of the College is also expected.

Salary is highly competitive.

Position available: Summer 1982

Application deadline: *November 20, 1981*

Applications should include a complete vita and a list of from three to five references. Nominations and applications should be sent to:

Dr. Michael Bisesi
NSM Search Committee
Office of the Provost, 408 E
University of Houston Central Campus
Houston, Texas 77004

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TRAINEESHIPS

POSTDOCTORAL TRAINEESHIPS IN CANCER BIOLOGY. Applications are invited for positions in the Cancer Biology Training Program of the Michigan Cancer Foundation. Initial appointment will be for a period of 1 year, renewable twice. Program provides for comprehensive and broad training of postdoctoral trainees in cancer research. Trainees are selected on their potential for future excellence and achievement in cancer research and are expected to undertake significant research projects within the disciplines represented.

APPLICATION: Submit curriculum vitae and three references to: **Cancer Biology Training Program Committee**, or to one of the following departmental chairpersons: **Samuel B. Horowitz (Biology)**, **Jerome P. Horwitz (Chemistry)**, **Charles M. King (Chemical Carcinogenesis)**, **Gloria H. Heppner (Immunology)**, **G. Marie Swanson (Social Oncology)**, or **Charles M. McGrath (Tumor Biology)**, Michigan Cancer Foundation, 110 East Warren Avenue, Detroit, Mich. 48201.

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FELLOWSHIPS

FELLOWSHIPS

Postdoctoral fellowship in neural control of the cardiovascular system. A limited number of fellowship positions are available, funded by an NIH training grant. Clinical and basic scientists participate in the program with major emphasis on neural pathways, hypertension, cardiovascular pharmacology, exercise, electrophysiology, cardiac biochemistry, and biofeedback. The positions are open to U.S. citizens and permanent residents who have Ph.D., M.D., or equivalent degrees in a basic biomedical discipline.

Applicants should send curriculum vitae with three references and specific area of interest to: **Dr. H. Lowell Stone, Department of Physiology and Biophysics, University of Oklahoma Health Sciences Center, P.O. Box 26901, Oklahoma City, Oklahoma 73190.** We are an Equal Opportunity Employer.

C. H. BEST FOUNDATION POSTDOCTORAL FELLOWSHIP

In diabetes research, molecular endocrinology, molecular biology, differentiation, immunology, structure and function of membrane, or lipid metabolism. Tenable for 2 years after 1 July 1982 with a competitive stipend plus travel allowance. Available to new Ph.D.'s or candidates with less than 2 years of postdoctoral training by 30 June 1982. Send curriculum vitae, transcripts, and three letters of reference, preferably before 15 November 1981, to: **Dr. C.-H. Siu, Search Committee Chairman, Banting and Best Department of Medical Research, University of Toronto, Toronto, Ontario, Canada M5G 1L6.**

POSTDOCTORAL FELLOWSHIPS IN HUMAN GENETICS

Two positions are immediately available in a large multidisciplinary Division of Medical Genetics for M.D. or Ph.D. postdoctorates to participate in studies of: (i) the molecular mechanism of X chromosome inactivation or (ii) expression of differentiated functions in cultured epithelial cells. Previous experience in somatic cell genetics and/or cellular biochemistry is desirable. Salary is at NIH stipend level. For further information, contact either: **Dr. L. J. Shapiro** or **T. Mohandas**, Division of Medical Genetics, Harbor-UCLA Medical Center, 1000 West Carson Street, Torrance, Calif. 90509.

POLYMER SCIENCE AND ENGINEERING. University of Massachusetts at Amherst. **RESEARCH FELLOWSHIPS** will be awarded in 1982-1983 for studies toward a Ph.D. degree in the Polymer Science and Engineering Department. Fellowships currently pay \$6500 per year. The stipends are income tax-free and include a tuition waiver. Research and course programs are available in polymer synthesis, characterization, morphology, rheology, physics, and engineering. Applications by qualified students with a first degree in chemistry, physics, materials science, or engineering should be made to: **Professor E. L. Thomas, Polymer Science and Engineering, University of Massachusetts, Amherst, Massachusetts 01003.** An Equal Opportunity/Affirmative Action Employer.

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIPS in hearing science. Areas of training and potential research include anatomy, physiology, psychoacoustics, and speech perception. Persons with an interest in clinical applications in addition to a more traditional basic science orientation are encouraged to apply. Fellowships are supported by NIH. Applicants should send curriculum vitae and three letters of reference to: **Kresge Hearing Research Laboratory, 1100 Florida Avenue, Building 147, New Orleans, La. 70119, Attention: Dr. Charles I. Berlin, Director.** An Equal Opportunity/Affirmative Action Employer.

Fill a staff position on Capitol Hill. Two American Chemical Society (ACS) **CONGRESSIONAL FELLOWSHIPS** for practitioners of the chemical sciences to begin fall 1982. For further information, write:

Amanda B. Huston
1155 16th Street, NW
Washington, D.C. 20036
Telephone: 202-872-4384

HERBERT H. JASPER POSTDOCTORAL RESEARCH FELLOWSHIP IN NEUROSCIENCE. One year of financial support. Exceptional research facilities working with investigator of choice. Apply by sending complete curriculum vitae, including a brief statement of research interests and two letters of reference, before 28 February 1982 to: **Fellowship Committee, Centre de recherche en sciences neurologiques, Faculté de médecine, Université de Montréal, C.P. 6128, Montréal, Québec, Canada H3C 3J7.** Fellowship award to be announced 30 April 1982.

POSTDOCTORAL FELLOWSHIPS Visual Science

Applications for NRSA fellowships are being accepted by the Eye Research Institute of Retina Foundation. These fellowships are available only to American citizens or persons with permanent resident status. Preceptors and programs are: **Biochemistry—A. Adler, B. Chakrabarti, C. Cintron, L. Reif-Lehrer; Immunology—M. Abelson, M. Allansmith, C. S. Foster; Morphology—C. Cintron, I. K. Gipson, K. R. Kenyon; Neuroscience—A. R. Adolph, P. H. Hartline, T. Hirose, D. M. Snodderly, J. Weiter, R. Zuckerman; and Bioengineering and Biomaterials—M. G. Doane, G. T. Feke, M. F. Refojo.** A brief brochure describing the training program in detail is available. Write to the preceptor of interest at:

Eye Research Institute of Retina Foundation
20 Staniford Street
Boston, Mass. 02114

POSTDOCTORAL FELLOWSHIP OR ASSISTANTSHIP

Position available immediately in an ongoing program dealing with structure-function relationships of a pharmacologically important enzyme. Work will involve enzyme isolation and protein-peptide sequence determination. A background in protein chemistry or enzymology is highly desirable. The position will offer training with modern equipment for amino acid analysis, automatic Edman sequencing, and HPLC. Send curriculum vitae and names of three references to: **Dr. Raymond L. Blakley, Division of Biochemical and Clinical Pharmacology, St. Jude Children's Research Hospital, Box 318, Memphis, Tennessee 38101.**

POSTDOCTORAL FELLOWSHIP IN ENVIRONMENTAL TOXICOLOGY

The Agricultural Experiment Station will be sponsoring a limited number of postdoctoral fellowships associated with the Interdisciplinary Center for Environmental Toxicology, Michigan State University (MSU). Candidates must have (or be in the process of completing) an M.D., D.O., D.V.M., or Ph.D. in a basic science. These fellowships, with a stipend of \$15,000 per year, are available immediately. Interested persons should submit complete curriculum vitae and have three letters of reference sent to:

Dr. Steven D. Aust, Associate Director
Center for Environmental Toxicology
Department of Biochemistry
Michigan State University
East Lansing, Mich. 48824

MSU is an Affirmative Action/Equal Opportunity Institution.

FELLOWSHIPS

The California Institute of Technology invites applications for the **BANTRELL POSTDOCTORAL FELLOWSHIP PROGRAM IN EARTHQUAKE SEISMOLOGY** at the Seismological Laboratory. Appointments will be made for 1 year with the possibility of a second-year renewal. The 1981-1982 stipend is \$22,000, plus travel expenses. The program is limited to U.S. and Israeli citizens. Interested persons are asked to contact: **Dr. Barclay Kamb, Division of Geological and Planetary Sciences, California Institute of Technology, Pasadena, California 91125.** An Equal Opportunity/Affirmative Action Employer.

The Division of Geological and Planetary Sciences at the California Institute of Technology expects to offer **POSTDOCTORAL RESEARCH FELLOWSHIPS** in one or more of the following areas: geology, geophysics, geochemistry, and planetary science. Interested persons are asked to contact: **Dr. Barclay Kamb, Division of Geological and Planetary Sciences, California Institute of Technology, Pasadena, California 91125.** An Equal Opportunity/Affirmative Action Employer.

THE WEIZMANN INSTITUTE OF SCIENCE IS PLEASED TO ANNOUNCE THE ESTABLISHMENT OF THE

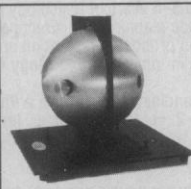
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The Meyerhoff Fellowships are intended to attract outstanding scientists to the Weizmann Institute. They will be awarded to candidates from all over the world and are offered in two categories: to senior scientists for a period of 2 months to 1 year; and to candidates who have completed their Ph.D. requirements within the past 8 years.

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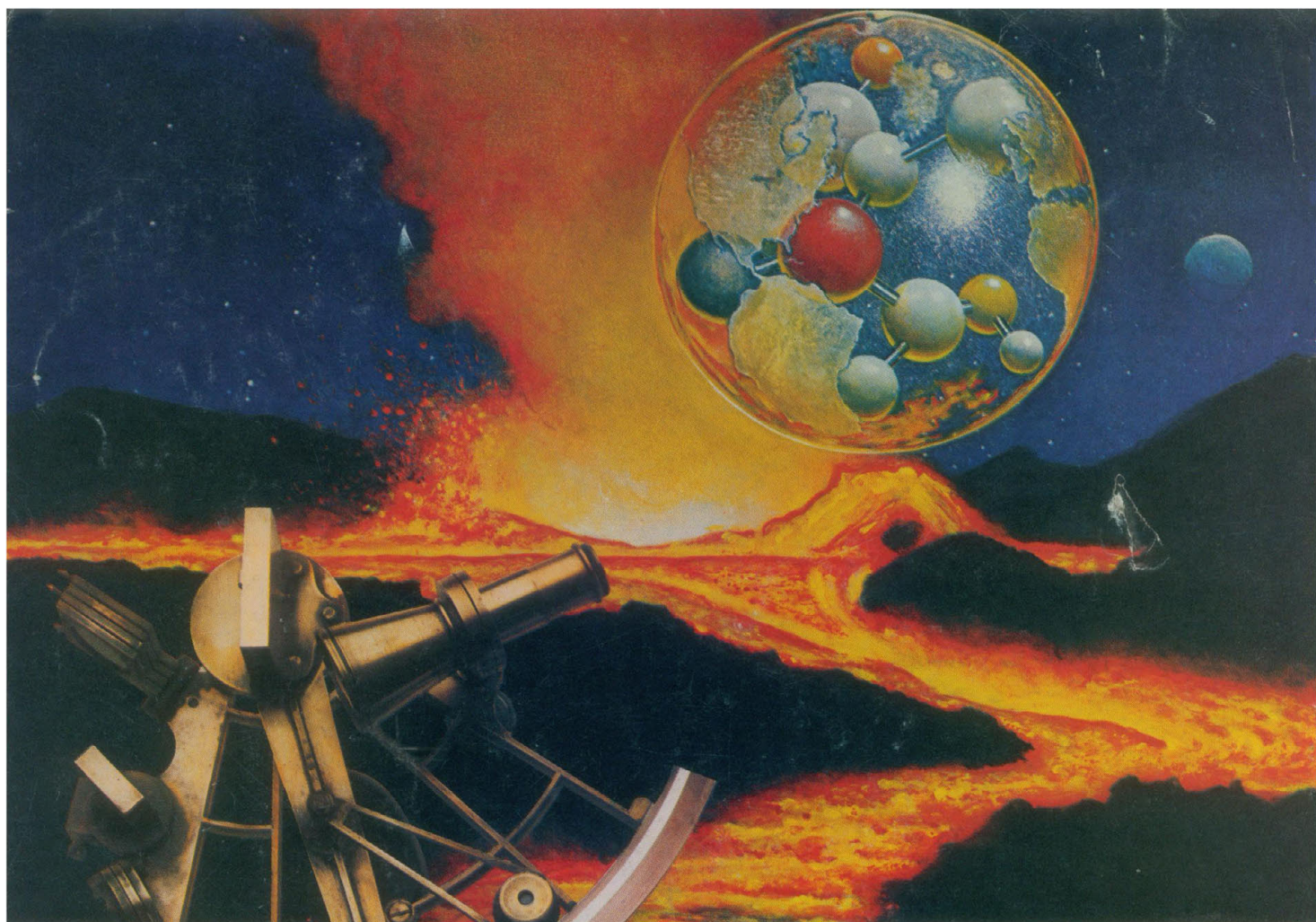
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