

But this inference flies in the face of a body of morphological evidence (presumed synapomorphies or shared derived traits) linking the aye-aye with other lemurs. As Ian Tattersall has pointed out elsewhere in regard to Oxnard's assessment of *Daubentonia*, the presence of specialized features (autapomorphies) developed in a particular lineage subsequent to an event of evolutionary divergence is irrelevant in reconstructing its relationship to other taxa stemming from that divergence. Oxnard's multivariate studies may inform us in a general way about morphological distinctions and functional specializations, but they cannot be used in the way he uses them to determine phylogenetic relationships (that is, unless positions along multidimensional axes can be reliably translated into symplesiomorphies, synapomorphies, autapomorphies, and parallelisms, a possibility that he himself rejects).

The second example involves Oxnard's controversial interpretations of *Australopithecus*. Again on the basis of morphometric divergence, Oxnard has concluded that *Australopithecus* could not have been ancestral to *Homo* (although he notes that he cannot rule out *A. afarensis* as a possible ancestor, since he has not examined these most recently discovered fossils). While Oxnard views *Homo habilis* as a direct progenitor of later hominids, he removes the Olduvai specimens traditionally assigned to this genus by most paleoanthropologists (notably the OH 8 foot and the OH 7 hand, skull, and mandibular fragments). This is because his morphometric analyses indicate that the postcranial fossils from Olduvai and South Africa are "uniquely different" when compared with the differences observed between African apes and humans. But again, because we cannot meaningfully translate such morphometric distances and differences into phylogenetic characters, the removal of such groups from direct human ancestry is unwarranted. Oxnard's task, using all the morphological information currently available, is to demonstrate that the features distinguishing his australopithecines from *Homo* are truly autapomorphic in the former, that is, that they were not present in the common ancestor of *Homo* and the australopithecines (whether or not we'd call that common ancestor an australopithecine). This he has not done.

It is particularly ironic that Oxnard's assessment of australopithecines as "uniquely different" is relative to a comparison of the African apes and *Homo*, because his own work has been of fundamental importance in establishing certain

morphological similarities between the orangutan and early hominids (though he takes this to reflect functional convergence rather than genetic affinity, just the reverse of the logic he uses to exclude *Australopithecus* as ancestral to *Homo*). In fact, it is likely that additional fossil evidence may show that certain postcranial features shared by the orangutan, *Australopithecus*, and early *Homo* are primitive, that many postcranial differences between *Australopithecus* and later *Homo* are the result of post-divergence specializations in *Homo*, and that many of the postcranial dissimilarities between the African apes and *Homo* plus *Australopithecus* result from recent specializations in the knuckle-walking chimpanzees and gorillas. Thus, a consideration of australopithecine morphology relative to an orangutan-*Homo* axis, with the African apes seen as divergent and particularly specialized, might have led Oxnard to different conclusions.

Whatever the difficulties with Oxnard's phylogenetic assessment of *Australopithecus*, his conclusions regarding morphology and behavior have been prophetic. His and his collaborators' claims that *Australopithecus* engaged in a form of locomotion quite different from that of modern *Homo* were ignored or ridiculed by many for years, but they have recently gained support from various analyses. Much of this new evidence is summarized by Oxnard in an appended note bene to the concluding discussion on human fossils (chapter 10). Oxnard would be justified in gloating much more than he does in this discussion. The ability of his morphometric investigations to provide functional insights is nowhere better demonstrated. His persistent arguments about the associations of structure, function, and behavior in early hominids have encouraged others to rethink and reanalyze traditional assumptions.

But what is the precise relationship between the investigative techniques and statistical methodologies favored by Oxnard and the biological conclusions reached? One cannot conclude that Oxnard's significant insights into early hominid morphology and function could have been made only by using these "new" approaches. Indeed, different workers using more traditional methods of comparative anatomy (Tuttle and Stern and Susman), as well as other techniques (Prost), have all to some degree converged upon the view presented by Oxnard that australopithecines were more proficient in the trees and more different from modern *Homo* in their form of bipedalism than was previously

believed. These advances, like most others in the scientific endeavor, result from asking appropriate and important questions that are indeed answerable. It is Oxnard's excellence as a scientist in this respect, rather than his use of particular methods, that underlies his significant contributions to primatology. This is the most important lesson in Oxnard's work for both the general reader and the professional primatologist.

BRIAN T. SHEA

Departments of Anthropology
and Cell Biology and Anatomy,
Northwestern University,
Evanston, Illinois 60201

Books Received

Academic Science, Higher Education, and the Federal Government, 1950-1983. John T. Wilson. University of Chicago Press, Chicago, 1983. x, 116 pp. \$10; paper, \$3.50.

The Brain Booster. Your Guide to Rapid Learning and Remembering. Robert W. Finkel, Prentice-Hall, Englewood Cliffs, N.J., 1983. x, 198 pp., illus. \$13.95; paper, \$6.95.

Cartilage. Vol. 3, Biomedical Aspects. Brian K. Hall, Ed. Academic Press, New York, 1983. xiv, 353 pp., illus. \$49.50.

Dynamical Properties of IV-VI Compounds. H. Bilz et al. Springer-Verlag, New York, 1983. viii, 101 pp., illus. \$25. Springer Tracts in Modern Physics, 99.

Electric Power System Dynamics. Yao-nan Yu. Academic Press, New York, 1983. xii, 255 pp., illus. \$36.50.

Future Life. Michel Salomon. Macmillan, New York, 1983. xxii, 295 pp. \$19.95. Translated from the French edition (Paris, 1981) by Guy Daniels.

The Gardens of China. History, Art, and Meanings. Edw'n T. Morris. Scribner, New York, 1983. xii, 273 pp., illus. \$37.50.

Hydraulic Fracturing and Geothermal Energy. Siavouche Nemat-Nasser, Hiroyuki Abé, and Seiichi Hirakawa, Eds. Nijhoff, The Hague, 1983 (U.S. distributor, Kluwer Boston, Hingham, Mass.). xii, 528 pp., illus. \$78.50. Monographs and Textbooks on Mechanics of Solids and Fluids, 5. From a seminar, Tokyo, and a symposium, Sendai, Japan, Nov. 1982.

Imagery. Vol. 3, Theoretical and Clinical Applications. Joseph E. Shorr et al., Eds. Plenum, New York, 1983. x, 435 pp., illus. \$42.50. From a conference, New Haven, Conn., June 1981.

The Multilingual Computer Dictionary. Alan Isaacs. Facts On File, New York, 1983. iv, 332 pp. Paper, \$12.95. Reprint, 1981 edition.

Neurobiology of the Trace Elements. Ivor E. Dreosti and Richard M. Smith, Eds. Humana, Clifton, N.J., 1983. Vol. 1, Trace Element Neurobiology and Deficiencies. xx, 354 pp., illus. \$49.50. Vol. 2, Neurotoxicology and Neuropharmacology. xx, 300 pp., illus. \$49.50. Contemporary Neuroscience, vols. 1 and 2.

The Physiology and Pharmacology of the Microcirculation. Vol. 1. Nicholas A. Mortillaro, Ed. Academic Press New York, 1983. xviii, 495 pp., illus. \$62. Physiologic and Pharmacologic Bases of Drug Therapy.

Robots and Telechairs. Manipulators with Memory; Remote Manipulators; Machine Limbs for the Handicapped. M. W. Thring. Horwood, Chichester, England, and Halsted (Wiley), New York, 1983. 298 pp., illus. \$49.95. Ellis Horwood Series in Engineering Science.

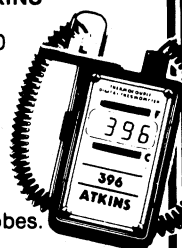
Saunders Dictionary and Encyclopedia of Laboratory Medicine and Technology. James L. Bennington, Ed. Saunders, Philadelphia, 1984. xx, 1674 pp., illus. \$45.

Transmission Electron Microscopy of Silicon VLSI Circuits and Structures. R. B. Marcus and T. T. Sheng. Wiley-Interscience, New York, 1983. xii, 217 pp., illus. \$45.

Zinc Deficiency in Human Subjects. Ananda S. Prasad et al., Eds. Liss, New York, 1983. xii, 272 pp., illus. \$36. Progress in Clinical and Biological Research, vol. 129. From a symposium, Ankara, Turkey, April 1982.

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Biochemist, Ph.D., 3 years of postdoctoral experience—University of Michigan. Expertise in glycoprotein and proteoglycan membrane receptors and metabolism. Experience in protein purification, enzymology, and tissue culture. Seeking academic position with teaching and research responsibilities. Box 74, SCIENCE. X

Bioscience Research Consultant—Operations planning; protocols, logistics, applications; experienced, successful. Box 88, SCIENCE. X

Cell Biologist, Ph.D. June 1984. Experience in general cytogenetics, measuring chromosome damage in mitotic and PCC, banding, tissue culture, cell synchrony, fusion, DNA repair measured by alkaline elution, CsCl density gradients, flow microfluorimetry. Seeks challenging postdoctoral position. Box 95, SCIENCE. X

Ecologist-Statistician-Programmer. Life science Ph.D. projected May 1984, math-computer M.S. 1983, botany M.A. 1975, forestry B.S. 1969. Interdisciplinary. Field methods, theory, taxonomy, laboratory skills, SEM, remote sensing, original software, database design. College teaching credential. Presentations. Publication. Highly creative individual. Box 93, SCIENCE. 4/13, 27

Fish Physiologist, Ph.D. Biology background. Broad range of research/teaching experience in comparable physiology, fish biology, environmental protection. Familiar with biochemical and histological techniques. Publications. Seeking research/teaching position in academia or institute. Box 96, SCIENCE. X

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Optical Microscopist, Biologist; 25-year record of successful and dependable research results. Skilled in literature searches and judgments on the scientific merits of publications. Interested in important research problems whose solution will provide major practical advances benefiting mankind. Desires a working relationship with person(s) dedicated to common sense and Nobel-quality workmanship. Self-motivating, dedicated, honest. Publications. International honors and recognition. Send description of problem(s), instrumentation (microscopical) available, and three letters of reference from former employees. Send terms and conditions of employment, salary minimum to maximum, vacation, holidays, sick leave, insurance, disability, and pension. Box 92, SCIENCE. X

Ten years of experience as **Vertebrate** (mainly rodents) **Pest Ecologist**; doctorate, with 100 publications. Available for any teaching, research work in universities, or pest control organizations. Box 91, SCIENCE. X

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Departments of Medicine and Physiology, University of California, Los Angeles (UCLA), require Ph.D. with special expertise and interest in the biochemistry/biophysics of membrane phospholipids. Position is in the Cardiovascular Research Laboratory where emphasis is placed on investigation of basic myocardial function. Title based on previous experience. Applicants should send curriculum vitae, including names of those who may be contacted for reference, to: Dr. G. A. Langer, Cardiovascular Laboratory, UCLA, A3-375, Center for the Health Sciences, Los Angeles, Calif. 90024.

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ANATOMIST. One temporary or part-time position to teach human gross anatomy to medical students. Must have extensive gross anatomy experience at an accredited medical school, preferably embryology also. Course is fall semester (6 August to 20 December 1984). Send curriculum vitae and three letters of recommendation to: Dr. Louise Odor, Department of Anatomy, University of South Carolina School of Medicine, Columbia, S.C. 29208.

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ANALYTICAL NEUROCHEMIST, assistant professor, tenure-track: To participate in an interdisciplinary program in the Nancy Pritzker Laboratory of the Department of Psychiatry at Stanford. The program has a major research emphasis directed at the biochemical substrates of mental illness. We are seeking a scientist with conceptual and practical skills in various aspects of mass spectrometry who has an interest in the application of mass spectrometry to answering neurochemical questions in basic and clinical research. Experience in the development of assays for neurotransmitters and their derivatives using mass spectrometry and ability to develop procedures for quantification of these compounds in mammalian brain and cerebrospinal fluid are important. Studies of peptides is a core interest of the program with the goal of utilizing mass spectrometry to assist in the characterization and identification of neuropeptides. Should be familiar with and experienced in the biochemistry and pharmacology of neurotransmitter systems. Applicants should have demonstrated evidence of first-rate past research and skill in presentation of results in written and oral formats. Further, the applicant must be able to collaborate effectively within the program and with other faculty, have abilities relevant to successful grant applications, and be able to work with pre- and postdoctoral persons in a teaching and/or collaborative mode. Position requires an advanced degree with postdoctoral experience. Salaries are competitive. *Stanford University is an Equal Opportunity Employer and welcomes nominations of women and minority group members and applications from them.* Please send résumé with list of publications, a one- or two-page summary of future research goals, and the names of four reference individuals to: **Edna Dorles, Administrative Assistant, Department of Psychiatry, Stanford University School of Medicine, Stanford, California 94305.**

ASSISTANT CHEMIST II

The Ames Laboratory is seeking an Assistant Chemist II. Applicants must have a Ph.D. in biochemistry or analytical biochemistry. A minimum of 2 years of experience in the development of immunoassay techniques, preferably the detection of carcinogens, the preparation of DNA adducts, and the familiarity with bioluminescence techniques is required. Documented ability to develop proposals to obtain extramural funding is an added qualification. Salary range is \$19,548 to \$28,728. The deadline for applications is 1 May 1984. Applicants should send their curriculum vitae and the names of three references to:

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SEARCH REOPENED

The Biochemistry Program of Fels Research Institute, a multidisciplinary cancer research center, solicits applications for the position of **ASSISTANT PROFESSOR** in the tenure track. The area of research should be on some aspect of mammalian cell biology or molecular biology of gene expression and regulation. Candidates should submit curriculum vitae and request that three letters of recommendation be submitted to: **Dr. Gerald Litwack, Chairman of the Search Committee, Fels Research Institute, Temple University School of Medicine, Medical Research Building, 3420 North Broad Street, Philadelphia, Pa. 19140.** *An Equal Opportunity Employer.*

The University of Michigan Department of Psychiatry has an **ASSISTANT/ASSOCIATE PROFESSOR** tenure-track position open on the Adult Service. Applicants should have a background in neuropsychology/neuroendocrinology and interest in research in these areas. Applicants should have experience in cognitive/behavioral approaches to short-term and/or group treatment of adult depression patients. Responsibilities include supervision of psychiatric residents and psychology interns as well as direct patient care. This position requires that the applicant have a Ph.D. from an APA-approved clinical program and be eligible to be fully licensed in the State of Michigan. Submit curriculum vitae, reprints, preprints and/or manuscripts, and three letters of reference to: **Howard Shevrin, Ph.D., Chairman, Search Committee, Department of Psychiatry, Riverview, Box 001, University of Michigan Medical Center, Ann Arbor, Michigan 48109.** Salary is competitive and commensurate with appointment level. *The University of Michigan is an Affirmative Action Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR, D.V.M. with Ph.D. degree in anatomy/associated field and/or specialty Board-certification/eligibility. Candidate must have demonstrated interest, aptitude, and experience in teaching undergraduate, professional, graduate levels in areas of anatomy basic to candidate's specialty. Candidate must have demonstrated interest and achievement in basic and clinic research. Position available 1 July 1984; salary dependent upon qualifications/experience. Send curriculum vitae, bibliography, and three references to: **Dr. C. G. Plopper, Chair, Department of Anatomy, School of Veterinary Medicine, University of California, Davis, Davis, Calif. 95616.**

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ASSISTANT PROFESSOR. The Department of Medicine at the Beth Israel Hospital and Harvard Medical School in Boston is seeking applicants for an assistant professor position within the Infectious Disease Division. The position requires a Ph.D. or equivalent degree and several years of research experience in the area of the immunobiology of eosinophils. The individual would be encouraged to conduct independent research, but will be expected to expend a portion of his or her research effort in collaborative studies within the division. Send curriculum vitae and references to: **Dr. Dennis Kasper, Department of Medicine, Beth Israel Hospital, 330 Brookline Avenue, Boston, Mass. 02215.** *Women and members of minority groups are encouraged to apply.*

ASSISTANT/ASSOCIATE PROFESSORS OF ANATOMY AND CELL BIOLOGY, UNIVERSITY OF CINCINNATI. The Department of Anatomy and Cell Biology, University of Cincinnati, College of Medicine, invites applications for two positions at the assistant/associate professor level. Candidates are expected to establish productive research programs at the molecular or cellular level in neurobiology or metabolic biology (emphasis on muscle cell biology). The candidates should have 2 to 3 years of postdoctoral experience. Please respond to: **Dr. Robert R. Cardell, Professor and Chairman, Department of Anatomy and Cell Biology, University of Cincinnati Medical College, 231 Bethesda Avenue, Cincinnati, Ohio 45267-0521.** *An Equal Opportunity Employer.*

ASSISTANT PROFESSOR, tenure-track, BEHAVIORAL NEUROCHEMISTRY: To participate in an interdisciplinary program in the Nancy Pritzker Laboratory of the Department of Psychiatry at Stanford. The program has a major research emphasis directed at the biochemical substrates of mental illness. We are seeking a scientist with experience in establishing model systems in experimental psychopathology relevant to affective disorders. Candidate must have broad background in behavioral neuroscience with experience in animal behavioral processes. Further, the applicant should be experienced in the biochemistry and pharmacology of neurotransmitter systems with emphasis in peptide biochemistry and pharmacology. Applicants who have demonstrated multifaceted neurobiological approaches in examining such problems are preferred. Applicants should have demonstrated evidence of first-rate past research and skill in presentation of results in written and oral formats. Further, the applicant must be able to collaborate effectively within the program and with other faculty, have abilities relevant to successful grant applications, and be able to work with pre- and postdoctoral persons in a teaching and/or collaborative mode. Position requires an advanced degree with postdoctoral experience. Salaries are competitive. *Stanford University is an Equal Opportunity Employer and welcomes nominations of women and minority group members and applications from them.* Please send résumé with list of publications, a one- or two-page summary of future research goals, and the names of four reference individuals to: **Edna Dorles, Administrative Assistant, Department of Psychiatry, Stanford University School of Medicine, Stanford, California 94305.**

ASSISTANT PROFESSOR DEVELOPMENTAL BIOLOGY

Baruch College/The City University of New York has a tenure-track opening for an assistant professor to teach courses in developmental biology, microbiology, ecology/environmental sciences/public policy. Must have interest in developing science education program. Ph.D. and publications required. Send curriculum vitae with three references by 31 May 1984 to: **Chair, Natural Sciences Department, Baruch College, Box 502, 17 Lexington Avenue, New York, N.Y. 10010.** *Baruch College is an Equal Opportunity/Affirmative Action Employer.*

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ASSISTANT PROFESSOR, CHEMICALS/PESTICIDES—Tenure-track position. Duties cover major program responsibilities in cooperative extension (70 percent) and applied research (30 percent) related to the chemicals/pesticides program. Qualifications include a Ph.D. in agricultural toxicology, with strong training in plant/animal protection, for example, entomology, pesticide technology, pesticide regulation, integrated pest management. Send curriculum vitae, post-secondary transcripts, names of three or four referees to: **M. J. Tauber, Chair, Department of Entomology, Cornell University, Ithaca, N.Y. 14853.** Application deadline: 31 July 1984. *Cornell University is an Equal Opportunity/Affirmative Action Employer.*

The Department of Veterinary Pathobiology, University of Minnesota, College of Veterinary Medicine, invites nominations and applications for an **ASSISTANT OR ASSOCIATE PROFESSOR** position in **VETERINARY PATHOLOGY**. Duties include teaching pathology to undergraduate veterinary students and graduate students, development of program area of immunopathology, development of funded research program, and supervision of graduate students. D.V.M. degree or foreign institution equivalent, Ph.D. degree and eligibility for Minnesota licensure are required. Assistant professor: zero years experience required, 1 to 3 years desired. Associate professor: 3 years experience required, 3 to 5 years desired plus ACVP Board-certification or -eligibility. Nominations or applications including curriculum vitae and names of three references should be sent by 1 June 1984 to: **Dr. Mary Walser, Department of Veterinary Pathobiology (G), College of Veterinary Medicine, University of Minnesota, 1971 Commonwealth Avenue, St. Paul, Minn. 55108.** Appointment begins 1 September 1984. *The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.*

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BIOCHEMISTS/MOLECULAR BIOLOGISTS

Oak Ridge National Laboratory (ORNL) Biology Division, is seeking Ph.D. applicants for initial 2-year temporary staff positions, with salaries up to \$27,000 per year. These positions are available immediately in a new program on site-directed mutagenesis. The program will be directed by Dr. Fred Hartman, head of the Molecular Genetics Section. The successful candidates will work in collaboration with a number of staff members in the Biology Division on alteration of sequences of cloned genes and characterization of the expressed mutant enzymes. Applicants should have strong backgrounds in DNA cloning techniques and/or experience in enzymology.

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PROFESSORIAL APPOINTMENTS

SCHOOL OF BIOLOGICAL SCIENCES

Applications are invited for the following professorial appointments in the School of Biological Sciences. The positions have become available following a review of the School carried out in the light of the pending retirement of Professor C. Burdon-Jones, professor of marine biology and head of the School of Biological Sciences, on 31 December 1984.

The School consists of the Departments of Botany, Marine Biology, and Zoology. Professor D. J. Griffiths is the current head of the Department of Botany. In future the headship of the School will be rotated among the professorial heads of the Departments.

PROFESSOR OF MARINE BIOLOGY

The teaching and research emphasis of the School lies in the field of tropical marine biology. Accordingly, the University seeks to appoint a person with appropriate qualifications and a proven research record who will continue with and enhance the University's work in this field.

The appointee will also be head of the Department of Marine Biology.

Reference number 84044.

PROFESSOR OF ZOOLOGY

Applications are sought from suitably qualified persons in any field of zoology but particularly from persons sympathetic to the University's existing studies in marine, freshwater, and terrestrial biology. The tropical location of the University presents outstanding opportunities for research in fields such as taxonomy, terrestrial, fresh water and marine ecology, physiological ecology, and population biology.

The appointee will also be head of the Department of Zoology.

Reference number 84045.

Salary for the position of professor is currently A\$48,997 per annum. In addition, a locality allowance will be payable at the rate of A\$498 per annum for a staff member with dependents (as defined) or A\$249 per annum for a staff member without dependants.

Further information may be obtained from: The Registrar, James Cook University, Townsville, Queensland 4811, Australia, with whom applications close on 11 May 1984. In reply, please quote appropriate reference number.

The International Laboratory for Research on Animal Diseases (ILRAD), Nairobi, Kenya, is an internationally funded institution with the mandate to develop improved methods of control for two major diseases of livestock, trypanosomiasis and theileriosis. The multidisciplinary research programme includes biochemistry, molecular biology, immunology, cell biology, pathology, and parasitology with appropriate supporting units. Applications for the following positions are invited:

IMMUNO-PARASITOLOGIST, REFERENCE: SC/L1/84/1

A scientist to conduct comparative investigations on mechanisms of resistance to African pathogenic trypanosomes in susceptible and naturally resistant vertebrate hosts. Applicants should have a first degree in biology, medicine, or veterinary medicine and a doctorate in immunology or parasitology with at least 5 years of postdoctoral research experience in the field of host-parasite interactions, preferably in the area of protozoology. Experience of research in wildlife and/or domestic livestock would be an advantage.

CELL BIOLOGIST/BIOCHEMIST, REFERENCE: PD.L1/84/1

A postdoctoral fellow to study biochemical characterisation of salivarian trypanosome populations. Applicants should have completed a Ph.D. in a relevant research area of biological science, preferably with recent experience in the use of isoenzyme biochemistry or related techniques for characterising cells and their products. Knowledge and experience of protozoan parasite biochemistry, would be an advantage.

The above positions are international staff positions and salaries will be paid in U.S. dollars. Initial salary level will be determined by qualification and experience. Moving, housing, commutation, and education allowances are paid and there are medical and retirement benefits. Applications should include current curriculum vitae and the names and addresses of three referees. Applications, citing the reference number, should be sent by 31 May 1984 to:

Chief Personnel Officer
ILRAD
P.O. Box 30709
Nairobi
Kenya

RESEARCH ASSOCIATE

A private non-profit organization seeks research associate for a study of the effects of technological change on employment. Responsibilities will include preparation of background materials, library research, report writing, and interviewing. Masters' degree in public policy/engineering or related field with 5 years' experience in socioeconomic research including examination of employment-related consequences of new technology. Please respond to:

Research Associate
Technology and
Employment Programs
P.O. Box 57140
Washington, DC 20418

EOE M/F/H

POSITIONS OPEN

ASSISTANT OR ASSOCIATE PROFESSOR (CHS) OF PATHOLOGY to direct autopsy service. Applicant should have M.D. and Boards in anatomic pathology and 4 years of postdoctoral training. Applicant is expected to participate in department teaching and to conduct own research program in pathology-related discipline. Contact: **Frank C. Larson, M.D., Acting Chairman, Department of Pathology and Laboratory Medicine, University of Wisconsin, B4/251, Clinical Science Center, 600 Highland Avenue, Madison, Wis. 53792.** *The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.*

An **ASSOCIATE OR ASSISTANT PROFESSOR** tenure-track position is available in the Department of Physiology and Pharmacology, Purdue University, School of Veterinary Medicine. Preferred starting date is summer 1984. The primary responsibility of the person who fills the position is to establish a strong program in cancer drug research and development. Expertise in biochemistry, pharmacology, toxicology, or clinical oncology is sought. Some teaching of medical, veterinary, or graduate students is included. *Purdue University is an Equal Opportunity/Affirmative Action Employer and applications from women and minorities are encouraged.* The deadline for receipt of all materials is 2 May 1984. Applicants should send a letter stating their interest in the position, curriculum vitae, and names and telephone numbers of three references to:

**Chairman of Faculty Search Committee
Department of Physiology and Pharmacology
School of Veterinary Medicine
Purdue University
West Lafayette, Indiana 47907**

BENTHIC MICROBIAL ECOLOGIST: Tenure-track position at advanced assistant/beginning associate professor level for September 1984. The appointee will be expected to develop a vigorous research program; to advise and support graduate students and actively engage in graduate and undergraduate teaching. Preference will be given to candidate with demonstrated interest and experience in microbial biogeochemistry and/or interactions of sediment microbiota and environmental pollutants in the coastal zone. By 1 June 1984 send résumé and have three letters of recommendation sent to: **Dr. Edward J. Carpenter, Marine Sciences Research Center, State University of New York (SUNY) at Stony Brook, Stony Brook, N.Y. 11794.** *SUNY Stony Brook is an Affirmative Action/Equal Opportunity Employer and Employer. AK Number 61-84.*

JPL BIOCHEMICAL ENGINEER

A challenging career opportunity exists for a biochemical engineer with interest in biological process design problems to conduct research on advanced bioprocesses for both space and terrestrial applications. The successful candidate will have a Ph.D. in biochemical engineering or applied microbiology, preferably awarded within the last 10 years. In addition, the candidate should possess an in-depth understanding of current molecular biology.

Please submit résumé to: **Professional Staffing, Department L67, Jet Propulsion Laboratory, California Institute of Technology, 4800 Oak Grove Drive, Pasadena, Calif. 91109.** *An Equal Opportunity Employer, M/F.*

DEPARTMENT OF OPHTHALMOLOGY AND VISUAL SCIENCE Yale University School of Medicine

CELL BIOLOGIST—Tenured position. Send curriculum vitae and bibliography along with a statement of your research interests to: **Dorothy Weiland, Department of Ophthalmology and Visual Science, Yale University School of Medicine, P.O. Box 3333, New Haven, Conn. 06510.** *Affirmative Action/Equal Opportunity Employer.*

CELLULAR IMMUNOLOGIST position available at Center for Laboratories and Research/Health Research, Inc. Applicants must possess a Ph.D./M.D. degree and have postdoctoral experience and research interest in immunology. Candidate will be expected to maintain strong, independent research program. Experience with flow cytometry preferred. Send résumé and names of references to: **Dr. Lorraine Flaherty, Chief, Laboratory of Immunology, Center for Laboratories and Research, New York State Department of Health, Empire State Plaza, Albany, New York 12201.**

POSITIONS OPEN

BIOTECHNOLOGIST

Applications are invited from qualified persons with a Ph.D. in biotechnology, bioengineering, or a related field, and proven ability to conduct independent research in the areas of fermentation, microbial transformations, and biomass processing. The successful candidate will be expected to pursue a vigorous program, including proposal development. Annual salary is \$29,000 with funds provided by grant or contract (50 percent) and state support (50 percent). Please send curriculum vitae, list of publications, statement of research interests, and three letters of recommendation to: **Dr. Joseph J. Hoffmann, Director, Bioresources Research Facility, University of Arizona, 250 East Valencia Road, Tucson, Ariz. 85706.** Deadline for application is 15 May 1984. *Women and members of minority groups are urged to apply.*

Equal Opportunity/Affirmative Action Employer

INGENE POSITIONS IN BIOTECHNOLOGY

INGENE is a dynamic, growing research enterprise creating pharmaceutical, agricultural and industrial products through genetic engineering technologies. We are seeking scientists with significant records of achievement who are interested in applying their skills to the following areas of research:

SCIENTISTS OR SENIOR SCIENTISTS. To join or direct groups involved in protein purification and characterization, bacterial and yeast genetic engineering, immunogenetic engineering, agricultural microbiology, and mammalian gene isolation and characterization. Ph.D. degree required.

RESEARCH TECHNICIANS. To participate in the cloning and expression of foreign DNA's, protein and peptide purification, amino acid sequence analysis, immunological detection techniques, and monoclonal antibody production. B.S. or M.S. degree required.

INGENE has attractive laboratory facilities in coastal Santa Monica, California, one of the most desirable commercial and residential sections in the Los Angeles area.

Please send a résumé and list of three references to:

**Dorothy Daum
Director of Personnel
INGENE
1701 Colorado Avenue
Santa Monica, Calif. 90404**

DIRECTOR, DIVISION OF MEDICAL TECHNOLOGY

The Department of Laboratory Medicine and Pathology, University of Minnesota Medical School is seeking applicants for the position of director of the Division of Medical Technology. Twelve-month appointment at rank of associate or full professor, depending on qualifications of the successful candidate. Applicant must be certified medical technologist with M.S. or Ph.D. in relevant field, Ph.D. preferred.

Candidates should present a strong record of leadership, experience in administration, teaching, and research. Responsibilities include directing an approved university 2 + 2 program, teaching in B.S. and M.S. programs, and conducting research. Submit letter of application, curriculum vitae, and names of three references by 15 June 1984 to: **Dr. Michael Steffes, Department of Laboratory Medicine and Pathology, Box 198 Mayo Memorial Building, University of Minnesota, Minneapolis, Minn. 55455.**

The University of Minnesota is an Affirmative Action Employer and specifically invites and encourages application from women and minorities.

FACULTY POSITION: The Department of Pharmacology, East Carolina University, School of Medicine, invites applications for tenure-track position at the assistant professor level. Responsibilities include the teaching of medical and graduate students and maintaining an independent research program. Preference will be given to applications from individuals interested in the central nervous control of cardiovascular function, neuropharmacology, or cardiovascular pharmacology. Interested individuals should submit curriculum vitae, the names of three individuals who may be contacted as references, and an outline of future research goals. Please submit to: **Dr. W. R. Wooley, Department of Pharmacology, School of Medicine, East Carolina University, Greenville, North Carolina 27834.** The deadline for receipt of applications is 30 June 1984. *An Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

DEVELOPMENTAL GENETICIST: Individual with Ph.D. degree and background in developmental genetics of *Drosophila*, *Caenorhabditis*, or *Mus* to teach course in developmental genetics, fall 1984 (17 September to 8 December). Salary negotiable depending upon qualifications. Research facilities may be available for person planning a sabbatical leave. Send résumé by 31 May to: **S. R. Snow, Chair, Department of Genetics, University of California, Davis, Calif. 95616.** *Equal Opportunity/Affirmative Action Employer.*

A tenure-track faculty position for an experienced **CYTOGENETICS LABORATORY DIRECTOR**, Ph.D. or M.D., in a medical school medical genetics unit is available. Candidates with American Board of Medical Genetics certification or eligibility will be given preference. Applicants should submit curriculum vitae to: **Theodore Kushnick, M.D., Professor of Pediatrics and Director of Medical Genetics, East Carolina University School of Medicine, Greenville, North Carolina 27834.** *East Carolina University is an Equal Opportunity/Affirmative Action Employer.*

A tenure-track position is available as early as 1 September 1984 for a **FACULTY MEMBER** in eukaryotic molecular genetics and gene expression. The applicant should have two or more years of postdoctoral experience and have a record of research productivity. The candidate will be expected to establish a rigorous research program and teach at the undergraduate and graduate levels. Qualified applicants should send their curriculum vitae, a description of their research goals, and three letters of reference by 1 May 1984 to:

**Dr. Jeff MacCabe
Department of Zoology
University of Tennessee
Knoxville, Tenn. 37996**

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

FACULTY POSITION IN LIFE SCIENCES

The School of Science of National Tsing Hua University, Taiwan, Republic of China, invites applications for faculty positions in the associate or full professor level. Applicants must have a Ph.D. degree and at least 1 year of postdoctoral or research experience in life science-related areas. Highly qualified candidates in all basic areas of life sciences will be considered. Individuals whose research program involving the application of recombinant DNA techniques to the study of gene expression and regulation in prokaryotic or eukaryotic organisms are preferred. Successful applicants are expected to develop independent research program and to participate in the teaching of graduate students. Send curriculum vitae, a synopsis of past research experiences, a summary of the proposed research program, and names of three persons who can be contacted for letters of references to: **Dr. C. S. Liu, Dean of School of Science, National Tsing Hua University, Hsinchu, Taiwan, Republic of China.**

FACULTY POSITION Assistant Professor (Temporary)

The Department of Reproduction, College of Veterinary Medicine, University of Florida, is seeking applications/nominations for a temporary, nontenure-accruing faculty position at the assistant professor level. Funding currently is available only through 30 June 1986.

The successful candidate will develop a research program in reproductive immunology. Interact in an ongoing project involving uterine defense mechanisms and occasionally consult with faculty, residents and veterinary students on basic and applied research. Qualifications include the Ph.D. degree and research experience with reproductive immunology. Evidence of research productivity is desirable.

Application information should include curriculum vitae outlining citizenship, academic training, teaching and research experience, and present professional activities. Also needed are a list of publications, a statement of professional goals, and names of three persons who can provide letters of reference. Salary will be commensurate with training and experience. Application deadline is 15 May 1984. *The University of Florida is an Equal Opportunity/Affirmative Action Employer.* Correspondence should be addressed to:

**Dr. A. C. Asbury
Search Committee Chairman
College of Veterinary Medicine
J-135 JHMH
Gainesville, Florida 32610**

BIOGEN

one of the world's leading genetic engineering companies with laboratories in the United States, Belgium and Switzerland, has a vacancy in Geneva for an

ASSOCIATE DIRECTOR OF RESEARCH ADMINISTRATION

reporting directly to the Director of the research division.

The successful candidate will have responsibility for the administration of research and laboratory functions in Biogen's Geneva laboratories.

The position requires leadership in an appropriate scientific research discipline and demonstrated administrative experience. Of utmost importance is the ability to combine a creative approach to science with sound business principles. Experience in the field of process development would be an asset.

If you are looking for a new challenge and career opportunity and meet the above requirements, please send complete resume to:

Personnel Manager, **BIOGEN S.A.**, route des Acacias 46, 1227 **Geneva, Switzerland**. All replies will be evaluated in confidence.

PRESIDENT

THE SCIENCE MUSEUM OF MINNESOTA

Nominations and applications are invited for the presidency of The Science Museum of Minnesota. The Museum is an organization of ten scientists and two hundred staff, with a budget of \$6.5 million and an annual audience of 750,000, serving Minnesota and the Upper Midwest. The president is the Museum's chief executive officer, responsible for its staff, program, fundraising and financial management, and for expanding the Museum's local, national and international ties.

Preferred qualifications:

- distinction, as scientist or social scientist in the scientific, academic or museums sphere, providing background for leading the Museum's scientific and scholarly programs;
- administrative and entrepreneurial experience appropriate to managing a complex institution including its exhibits and outreach to the community and other museums;
- sufficient knowledge of financial procedures to oversee the Museum's financial management and guide its financial planning;
- experience in selecting and guiding scientific, professional and artistic staff;
- interest in arts and other cultural institutions.

Nominations close April 30, 1984; the target date for an appointment is July 1, the new president to take office in the fall. Salary is competitive and comparable with that of senior academic administrative posts.

Nominations and applications should be sent to:

Mr. Robert H. Edwards, Search Committee Chairman
c/o **Mrs. Nilda Weber, Assistant Secretary of the Board of Trustees**
The Science Museum of Minnesota
30 East Tenth Street
Saint Paul, Minnesota 55101

An equal opportunity employer

Senior Research Immunologist

SDS Biotech Corporation, an established Agricultural Chemicals and Animal Health Company with a new name, has an opening for a Senior Research Immunologist to work in the Biotechnology Group at its World Headquarters, located in the Eastern Suburbs of Cleveland, Ohio in Concord Township.

The candidate selected for this position must have a PhD in Molecular Immunology with at least two years post doctoral experience in basic research related to cell culture, in vitro cell assays, and lymphokine characterization with particular expertise in macrophage function. This individual will assist in the design, screening, evaluation and research on potential new products from Biotechnology.

Excellent Salary and Benefits package. Interested candidates should send resumes and salary history, in strictest confidence, to:

A.H. Brooks
Human Resources Supervisor
SDS Biotech Corporation
P.O. Box 348
Painesville, Ohio 44077



An Equal Opportunity Employer M/F/H/V



National Research
Council Canada

Conseil national
de recherches Canada

Senior Plant Molecular Biologist (Saskatoon, Saskatchewan)

The Plant Biotechnology Institute carries out research in plant molecular biology, plant cell technology, microbial and plant biochemistry, industrial biotechnology and bio-organic chemistry. The current staff of 110 will expand to 120 during 1984.

An experienced Scientist is required to lead NRC's research project in plant molecular biology at the Plant Biotechnology Institute in Saskatoon. Project emphasis will be on molecular genetics and genetic engineering of higher plants. Responsibilities will include: assisting in building up and co-ordinating a full-time research group of at least 10 staff, plus some visiting research workers and graduate students from Canadian universities; participation in the research studies; and other normal responsibilities of NRC staff members.

The successful candidate will have a doctoral degree in some branch of biological sciences, many years of experience in plant molecular biology research with an internationally recognized record of publication in his/her field, and proven teamwork abilities. Knowledge of the English language is essential for this position.

Salary will be commensurate with qualifications.

Apply in writing to the Employment Officer, National Research Council of Canada, Ottawa, Canada, K1A 0R6. In reply, please quote PBI-83-11-SC.

Canada

CSIRO

PLANT AND SOIL SCIENTISTS

Divisions of Plant Industry and Soils
Perth WA Australia

CSIRO conducts scientific and technological research in laboratories located throughout Australia and employs about 7,500 staff, of whom some 2,900 are professional scientists. The Organization's research activities are grouped into five Institutes: Animal and Food Sciences, Biological Resources, Energy and Earth Resources, Industrial Technology and Physical Sciences.

GENERAL: The Divisions of Plant Industry and Soils, in the Institute of Biological Resources, are establishing a new research group based at Floreat Park, Perth, Western Australia to extend their programs in soil and plant research in crop/pasture systems. The research areas will include aspects of soil/plant, water/nutrient interactions as they affect wheat and lupin production on the sand plain and texture-contrast soils in the semi-arid zone of western and southern Australia dominated by wet winters and dry summers. It is expected that the research group will develop collaborative projects with the Western Australian Department of Agriculture, the University of Western Australia and other CSIRO groups in Western Australia. There will be a strong field component to the research. The Research Leader is Dr N C Turner, a crop physiologist with an interest in plant water relations.

SOIL SCIENTIST

\$A31,092 — \$A42,210

Position A0848

DUTIES: To undertake and direct research into the availability of water and nutrients in uniformly coarse textured and texture-contrast soils in semi-arid areas. The appointee will be expected to investigate some of the following: (i) water and solute movement in soils; (ii) nutrient (especially nitrogen) availability and cycling; (iii) water availability in relation to root exploration of the soil profile; (iv) the role of tillage in water and nutrient availability.

QUALIFICATIONS: A PhD degree or equivalent qualifications in soil science together with a record of considerable research experience and achievement in relevant research. Preference will be given to applicants with demonstrable field, as well as laboratory experience.

TENURE: Indefinite with Australian Government superannuation benefits available.

ROOT BIOLOGIST

\$A31,092 — \$A42,210

Position A0905

DUTIES: To undertake and direct research on: (i) the influence of soil properties (physical, mechanical and

chemical) on the exploration of soil by roots, and (ii) the effect of root activity on crop growth and yield, in uniformly coarse textured and texture-contrast soils.

QUALIFICATIONS: A PhD degree or equivalent qualifications in plant or soil science together with a record of considerable field and laboratory research experience and achievement in soil/root/shoot research.

TENURE: Indefinite with Australian Government superannuation benefits available.

RESEARCH FELLOWS

(3 positions)

\$A24,344 — \$A30,038

Position A0957

FIELD: Plant Water Relations.

DUTIES: In collaboration with the Research Leader, undertake research in a field and laboratory research program on the water relations of wheat and lupins, under semi-arid conditions. Applicants are sought with skills in (i) root/water relations, (ii) the influence of water deficits on leaf gas exchange, or (iii) the influence of water deficits on growth through the hormonal balance of the plant.

Position A0958

FIELD: Soil Science.

DUTIES: As a member of a collaborative research program, undertake research on (i) water and solute movement in soils; (ii) nutrient (especially nitrogen) availability and cycling; (iii) water availability in relation to root exploration of the soil profile; (iv) the role of tillage in water and nutrient availability.

Position A0998

FIELD: Root Biology.

DUTIES: As a member of a collaborative research program, undertake research on (i) the influence of soil properties on the exploration of soil by roots, or (ii) the effect of root activity on crop growth and yield.

QUALIFICATIONS: A PhD degree or equivalent qualifications in an appropriate field.

TENURE: A term of three years. Australian Government superannuation benefits are available.

APPLICATIONS: Stating full personal and professional details, the names of at least two referees, and the appropriate reference number, should be directed to:

The Chief
CSIRO Division of Plant Industry
GPO Box 1600
CANBERRA ACT 2601
AUSTRALIA

By May 11, 1984.

POSITIONS OPEN

CELL BIOLOGIST, research faculty position, University of Nebraska Medical Center. Ph.D. cell biologist or biochemist with at least 2 years of postdoctoral experience. Individual will play a major role in an ongoing, broad research program in membrane biogenesis and the role of the cytoskeleton in the liver. Salary competitive and flexible depending on qualifications. Curriculum vitae to: Dean J. Tuma, Ph.D., Liver Study Unit, VA Medical Center, 4101 Woolworth Avenue, Omaha, Neb. 68105. An Equal Opportunity/Affirmative Action Employer.

FACULTY POSITIONS IN BIOMEDICAL ENGINEERING, BOSTON UNIVERSITY COLLEGE OF ENGINEERING, at the assistant/associate/full professor levels in expanding Department of Biomedical Engineering for September 1984 or January 1985. Applicants should have an earned doctorate, be committed to quality teaching at both undergraduate and graduate levels, and have the desire to develop strong research programs. Collaboration with the Boston University School of Medicine or other engineering departments may be facilitated through a joint faculty appointment. Candidates with backgrounds in image processing, computer science, chemical engineering, mechanical design, electronics, computer engineering, biomechanics and materials, or robotics are especially welcome. Opportunities for part-time (adjunct) faculty positions and for collaborative arrangements with nearby institutions involved in biomedical research and development are also available. Candidates should send résumé, list of publications, names and addresses of five references, and a brief statement of teaching and research interests to: Dr. Eugene Smithberg, Chairman, Engineering Search Committee, College of Engineering, Boston University, 110 Cummings Street, Boston, Mass. 02215. Boston University is an Equal Opportunity/Affirmative Action Employer.

UNIVERSITY OF WASHINGTON FACULTY POSITION IN CLINICAL NUTRITION (Department of Medicine)

An internist with experience in clinical nutrition is being sought at the starting assistant professor level in the Division of Metabolism, Endocrinology and Nutrition. One of his/her main responsibilities will be to be in charge of the University of Washington Home TPN Service. The applicant should be Board-certified in general medicine (and preferably also in metabolism and endocrinology) and should have clinical experience in metabolic disorders in addition to clinical nutrition.

The applicant should be capable of developing an independent research program which should preferably include both clinical investigation and basic scientific research.

Submit applications to: The Division of Metabolism, Endocrinology and Nutrition, Department of Medicine (RG-26), University of Washington, Seattle, Wash. 98115. The University of Washington is an Equal Opportunity Employer.

The University of Michigan Medical School, Department of Radiology, has on occasion open **FACULTY POSITIONS** within the department and its affiliated hospitals. Physicians filling these positions will take part in the programs of patient care, teaching, and research in the Department of Radiology. They will supervise the activities of house officers and aid in the teaching of house officers and medical students. Qualified applicants must be American Board of Radiology-certified or Board-eligible. Previous training or work experience in an academic institution as well as demonstration of previous academic research and teaching experience are desirable. Academic rank will depend on qualifications and experience.

Interested applicants should contact: William Martel, M.D., Chairman, Department of Radiology, The University of Michigan Medical School, Ann Arbor, Michigan 48109. A nondiscriminatory, Affirmative Action Employer. Code 47FO.

University of Michigan Medical School, Department of Internal Medicine, Division of Hematology/Oncology, has one academic position available for a **HEMATOLOGIST** or **HEMATOLOGIST/ONCOLOGIST** with an interest in basic research or clinical research. The program has 18 faculty with both University Hospital and VA Medical Center components. Position available 1 July 1984. M.D., Board-certified in internal medicine. Please send curriculum vitae and letter outlining research interests to: Max Wicha, M.D., Simpson Memorial Institute, 102 Observatory Drive, Ann Arbor, Michigan 48109-0010. The University of Michigan is a nondiscriminatory, Affirmative Action Employer. Code 313HO.



ZymoGenetics

DIRECTOR OF RESEARCH

ZymoGenetics is a biotechnology company specializing in the cloning and expression of human plasma proteins, antibodies, growth factors, industrial enzymes, and other valuable gene products in yeast, other fungi, and animal expression systems.

We are actively recruiting a **DIRECTOR OF RESEARCH** with a Ph.D. in molecular biology, biochemistry, or an allied field, plus at least 7 to 10 years of experience in academic laboratory research and research management. The individual should be an accomplished and well-recognized leader and contributor in a relevant field of research.

The **director** will have major responsibilities in such areas as project identification, selection, management, and evaluation. Responsibilities will also include planning and implementation of facilities and manpower expansion in response to company growth.

The **director** will be the chairman of the Science Board and will report to the company president. Ideally, the individual selected will have had some product development experience in the biotechnology or pharmaceutical industry, and will have some responsibility for the identification of commercial opportunities.

ZymoGenetics offers an excellent opportunity for professional growth, competitive salary, equity participation, usual benefits, and assistance with relocation.

Respond with your résumé, including recent publications, and a letter stating career objectives to:

Administrative Manager
ZymoGenetics, Inc.
2121 North 35th
Seattle, Wash. 98103

Research Scientist Skin Care

American Cyanamid Company, an international leader in consumer products, is at the forefront of skin care research.

Our Consumer Products Research Division presently offers biological scientists the opportunity to conduct basic studies on the mechanisms of, and remedies for, skin aging. You will also develop new assays, in-vitro and animal models to assess the effects of various agents on the skin aging process. We prefer an MS or PhD in Biochemistry, Cell Biology or related discipline and one to three years' experience.

This position affords a competitive salary, a full complement of company benefits and outstanding potential for career advancement. Kindly submit your credentials in confidence to:



American Cyanamid Company

Consumer Products Research Division

Attn: Ms. S.L. Johnson
Manager Administration, Dept. (S13)
697 Rt. 46, Clifton, New Jersey 07015
An Equal Opportunity Employer M/F

HEAD/CHAIR DEPARTMENT OF BASIC SCIENCE

The **UNIVERSITY OF ILLINOIS COLLEGE OF MEDICINE AT PEORIA** is soliciting applications and/or nominations for the position of professor and head/chair of the Department of Basic Science. A pharmacologist or scientist in a related discipline (Ph.D. and/or M.D.) is sought who has an outstanding record of accomplishments in research and teaching with evidence of experience in administration. The multidisciplinary department has seven full-time faculty with responsibility for basic science instruction in undergraduate and graduate medical programs. Faculty are actively engaged in research programs with extramural support. The modern research facilities of approximately 22,000 square feet are superbly equipped.

The salary is highly competitive with the position available 1 September 1984. There are available two or three additional tenure-track appointments at the assistant professor level. A letter of application detailing qualifications should include research plans, curriculum vitae, and names of three or more references. The letter should be received by 1 May 1984 for full consideration. Send materials to: **Jean C. Aldag, Ph.D., University of Illinois College of Medicine at Peoria, Box 1649, Peoria, Illinois 61656.**

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

PHARMACOLOGISTS/ PHYSIOLOGISTS

Participate In DuPont's Drug Discovery And Development Program

Major expansion of our pharmaceutical research has created two outstanding career opportunities for experienced pharmacologists/physiologists. Working in our Drug Discovery and Development Program, you will be responsible for applying practical and conceptual knowledge to the development of novel therapeutic approaches to cardiovascular diseases. Assignments are in the following areas of responsibility:

THROMBOSIS RESEARCH

You must have a PhD in Pharmacology/Physiology with at least 1-3 years' industrial or post-doctoral experience. Expertise in both IN VITRO and IN VIVO techniques associated with the discovery of new thrombolytics is essential as well as excellent oral and written communications skills.

CARDIAC FUNCTION RESEARCH

You must have a PhD in Pharmacology/Physiology and at least 3 years' industrial or post-doctoral experience. Expertise is essential in cardiac function with emphasis on myocardial infarction techniques and methods to assess resultant damage/protection. You must also be expert in fluid volume displacement, blood gas analysis, and animal models of shock.

We offer a highly competitive compensation and benefits package. Interested candidates should send their resume with salary requirements and references to: **Dr. S.T. Toy, Employee Relations Dept., E.I. du Pont de Nemours & Co., Inc., Room X40925, Wilmington, DE 19898.**



An Equal Opportunity
Employer M/F

POSITIONS OPEN

SEARCH REOPENED

Faculty Position at Assistant or Associate Professor rank available in the Department of Biochemistry and Biophysics and the Environmental Health Sciences Center at Oregon State University. The 12-month, tenure-track appointment could start after 1 July 1984; salary is commensurate with experience. Position requires: (i) research emphasis in cellular and/or molecular carcinogenesis, repair processes, and cellular toxicology; (ii) expertise to develop and maintain a cell and tissue culture research support facility being established by the EHS Center; and (iii) Ph.D. in a biological science. Qualifications required for associate professor rank: minimum of 3 years as principal investigator in mammalian cell culture research, and significant publications. Application should include: (i) letter stating interest in position, (ii) curriculum vitae, and (iii) two- to three-page statement summarizing research plans. Letters of recommendation from three people who can evaluate the applicant's professional qualifications, accomplishments, and potential must be submitted by application closing date of 1 May 1984. Send applications and letters of recommendation to:

Dr. Donald J. Reed, Chairman of Search Committee
Department of Biochemistry and Biophysics
Oregon State University
Corvallis, Oregon 97331-6503

Oregon State University is an Equal Opportunity/Affirmative Action Employer and complies with section 504 of the Rehabilitation Act of 1973.

Visiting **FACULTY POSITION** in organic chemistry, starting August 1984. The position will entail teaching undergraduate organic and bio-organic chemistry. Research with resident faculty members will be encouraged. Send letter of application with résumé to: **Dr. Edward Baum, Chairman, Department of Chemistry, Grand Valley State College, Allendale, Mich. 49401.** *An Equal Opportunity/Affirmative Action Employer.*

The University of Michigan Medical School, Department of Pediatrics, has **THREE OPEN FACULTY POSITIONS** at the instructor through professor level. Individuals should be Board-qualified, patient care, teaching, and research-oriented in fields of cardiology, immunology, or general pediatrics. Direct inquiries to: **Robert P. Kelch, M.D., Department of Pediatrics, F2438 Mott Hospital, Ann Arbor, Mich. 48109.** *The University of Michigan is a nondiscriminatory, Affirmative Action Employer. Code 09BO.*

University of Michigan Medical School, Department of Otorhinolaryngology, has a position available at the rank of **INSTRUCTOR THROUGH PROFESSOR.** Must have M.D. degree and be eligible for or certified by the American Board of Otolaryngology. Must be competent in all phases of clinical otorhinolaryngology. Contact: **Charles J. Krause, M.D., C6055 Outpatient Building, Box 61, University of Michigan Hospital, 1405 East Ann Street, Ann Arbor, Mich. 48109.** *A nondiscriminatory, Affirmative Action Employer.*

The Department of Neurology at the University of Michigan is seeking applications for tenure-track, university-based faculty positions at the **INSTRUCTOR TO ASSISTANT PROFESSOR** level. Applicants should be Board-qualified or -eligible in neurology. Curriculum vitae and three letters of recommendation should be sent to: **Kenneth L. Casey, M.D., Chairman, Neurology Recruitment Committee, Neurology Service, VA Medical Center, 2215 Fuller Road, Ann Arbor, Michigan 48105.** *The University of Michigan is an Equal Opportunity/Affirmative Action Employer.*

INSTRUCTOR POSITIONS

Six special 1-year positions as instructor to gain experience in patient care, education, and research in one of the various sub-specialties of ophthalmology. Contact: **Paul R. Lichter, M.D., Chairman, Department of Ophthalmology, University of Michigan, W. K. Kellogg Eye Center, 1000 Wall Street, Ann Arbor, Mich. 48105.** *An Affirmative Action Employer.*

The Geography Department, University of California, Los Angeles, has a **VISITING LECTURER** position open 1984-1985. Applicants should be able to teach a variety of environmental courses in our ecosystems major. Ph.D. required. Salary commensurate with experience. Send curriculum vitae and three letters of reference to: **Dr. C. F. Bennett, Chair, Department of Geography, University of California, Los Angeles, Calif. 90024.** Application deadline: 15 May 1984.

POSITIONS OPEN

FERMENTATION MICROBIOLOGIST

The University of Wisconsin is seeking applicants with a Ph.D. in agricultural chemistry and 1 year of postdoctoral experience with non-conventional bacteria including thermophiles and chemotrophic bacteria that consume single carbon substrates as energy sources. Proficiency in growth, enzymatic and mutant analysis is required, as evidenced in publications. The work will involve comparison of the physiology, biochemistry, and genetics of anaerobic bacteria that consume single carbon substrates with an emphasis on metabolic regulation. The initial appointment is for a period of 3 years, with a beginning salary of \$17,000. Résumés and three letters of recommendation should be directed to the attention of: **William Janek, Wisconsin Job Service, 206 North Broom Street, Madison, Wis. 53706.** *An Equal Opportunity Employer.* This ad not paid for by Job Service Funds.

GENETICIST, with an interest in exploiting restriction fragment length polymorphisms and other molecular genetic characters, to establish a new laboratory in our Genetics Department. We maintain over 2700 baboons and 1000 marsupials in addition to standard laboratory animals. Major collaborative projects among our existing biochemical genetics, population genetics, and immunogenetics laboratories involve genetic influence on predisposition to atherosclerosis in baboons; regulation of immune functions and of X-chromosome inactivation in marsupials; and organization of genes in and near the major histocompatibility complexes of mice, rats, marsupials, baboons, and humans. The successful applicant will be expected to develop a strong independent research program and will have the opportunity to collaborate in any of the above projects. Academic affiliation is possible. This is an excellent opportunity for a creative scientist in a young, expanding department. Send résumé, statement of research interests, and names and addresses of three references to: **Personnel Manager, Southwest Foundation for Biomedical Research, P.O. Box 28147, San Antonio, Texas 78284.** *An Equal Opportunity/Affirmative Action Employer.*

Ph.D.—GEOCHEMIST/HYDROGEOLOGIST

Research Planning Institute, Inc., a growing scientific consulting company, will hire a geochemist/hydrogeologist to work on terrestrial and marine pollution projects starting 15 May 1984. Necessary skills include strong field experience as well as knowledge of organic and metallic pollutants. Experience in pollutant transport modeling highly desirable. Good communication skills imperative. Send résumé and examples of previous work, published papers, and so forth, to:

Jacqueline Michel, Ph.D.
Research Planning Institute, Inc.
925 Gervais Street
Columbia, S.C. 29201

The Department of Comparative Medicine, Bowman Gray School of Medicine, Wake Forest University, has a new faculty position available at the rank of **INSTRUCTOR OR ASSISTANT PROFESSOR.** The applicant must possess the D.V.M. degree with experience in medical primatology and/or comparative pathology. The position will involve research on the comparative aspects of atherosclerosis in nonhuman primates and responsibilities for the operation and coordination of a national nonhuman primate resource for atherosclerosis research. Qualified individuals should send a statement of interest in the position accompanied by curriculum vitae to: **Dr. Thomas B. Clarkson, Chairman, Department of Comparative Medicine, Bowman Gray School of Medicine, Wake Forest University, Winston-Salem, North Carolina 27103.**

Affirmative Action/Equal Opportunity Employer

FULBRIGHT LECTURESHIP IN ORGANIC CHEMISTRY, at University of the West Indies, Cave Hill, Barbados, September 1984 to June 1985. Ten hours per week teaching first- to fourth-year students, tutorials, laboratory, and research on natural products chemistry. Applicants must be U.S. citizens, have Ph.D., and at least 3 years of teaching experience. Ability to work with students of varying levels of training and preparation, flexibility in adapting to unfamiliar teaching conditions, and willingness to participate in all aspects of Cave Hill campus life, will be factors in selection of grantee. Application forms and terms of award available from: **Council for International Exchange of Scholars, 11 Dupont Circle, Washington, D.C. 20036.** Telephone: 202-833-4956. Application deadline: 27 April 1984.

POSITIONS OPEN

MOLECULAR BIOLOGISTS

IPRI, a pioneer in plant biotechnology, has positions available in molecular biology at the following levels:

Senior Scientist: Ph.D. with five plus years of experience in eukaryotic gene regulation or plant molecular biology;

Scientists (two): Ph.D. with zero to 3 years of experience in plant or eukaryotic molecular biology;

Research Associates (three): M.S./B.S. with experience in one or more of the following: DNA sequencing, vector construction, cDNA and genomic libraries, nucleic acid and protein analysis.

Persons with experience in related areas of molecular biology are encouraged to apply. Please send academic and employment history to:

Personnel
International Plant Research Institute
830 Bransten Road
San Carlos, Calif. 94070



MOLECULAR BIOLOGIST. NPI, a plant research and product company established in 1973 and based in Salt Lake City, Utah, invites applications for a Ph.D.-level position in the molecular biology group. A strong background in the application of recombinant DNA methodology to gene regulation and structure in prokaryote or eukaryote systems is desired. Research will focus on the characterization and modification at the molecular level of a prokaryotic protein product. Opportunities exist for interaction with our research groups in plant tissue culture, microbiology, phytochemistry, and entomology. Applicants should send curriculum vitae, names of three references, and a statement of interests to: **Dr. Tom Ulrich, NPI, 417 Wakara Way, Salt Lake City, Utah 84108; telephone: 801-582-0144.**

The **Department of Animal and Poultry Science**, University of Guelph, seeks a faculty member at the assistant/associate rank for a tenure-track position in **MOLECULAR GENETICS.**

The successful applicant will be expected to develop a strong research program in gene transfer and the expression of genes in developing avian and/or mammalian embryos. Major emphasis will include mediation of gene transfer by retroviral transduction, recombinant DNA techniques, gene cloning, splicing, and transfer. The appointee will be expected to be an integral part of a university team approach to genetic engineering of farm animals.

In addition to establishing a vigorous laboratory, the incumbent will also be expected to participate in the ongoing undergraduate and graduate teaching programs of the department.

A Ph.D. degree with demonstrated expertise in molecular genetics or a related field is required. Applicants should submit curriculum vitae, bibliography, recent reprints, transcripts, the names and addresses of at least three references to: **Dr. R. R. Hacker, Chairman, Department of Animal & Poultry Science, University of Guelph, Guelph, Ontario, Canada N1G 2W1.**

Closing date for receipt of applications is 15 May 1984 or until the position is filled.

Citizenship is not a factor for consideration.

Position subject to final budgetary approval.

POPULATION AND COMMUNITY ECOLOGIST

The Department of Biology of Princeton University seeks applicants for a position at the senior professorial level. Candidates should work at the interface between population biology and community ecology, and should have a firmly established program of research involving both conceptual advances and field and/or laboratory work. Their interests should overlap and complement those of existing members of Princeton's population biology group: Gould, Hoogland, Horn, May, Rubenstein, and Terborgh. Applicants should send curriculum vitae to: **Dr. John Terborgh, Department of Biology, Princeton University, Princeton, New Jersey 08540.**

Princeton University is an Equal Employment/Affirmative Action Employer.

MANAGEMENT OPPORTUNITY

The Applied Science Division seeks a Division Administrator at the Management I level. The Administrator reports to the Division Head and is responsible for management of all administrative functions in the Division including: preparation, coordination, and monitoring of budgets; personnel administration; and property management. The Administrator also supervises the Division Office administrative staff, provides managerial assistance to the Division's scientific and administrative leadership, and frequently represents the Division within the Laboratory and in contacts with external organizations such as the Department of Energy.

The Applied Science Division has approximately 120 research staff, 50 technical support persons, 70 graduate students, 30 University of California faculty, and 50 administrative and clerical staff. Research areas include: electrochemical energy storage, fossil energy, energy conservation in buildings, solar energy, environmental research, and energy policy.

A technical background in one of the Division's areas of research, in addition to a strong business education and background, is preferred. For additional information on, and the detailed requirements for the position, please contact: Janet Smith, Building 90, Room 3026, Lawrence Berkeley Laboratory, Berkeley, CA 94720, (415) 486-5270. An Equal Opportunity Employer M/F/H.



**LAWRENCE
BERKELEY
LABORATORY**

Staff Positions

SDS Biotech Corporation, an established Agricultural Chemicals and Animal Health Company with a new name, has several openings in the Animal Health Research Department at its World Headquarters, located in the Eastern Suburbs of Cleveland, Ohio in Concord Township.

Veterinary Parasitologist to conduct and supervise basic and applied research programs and develop new programs as needed in the areas of Anthelmintic, Antiprotozoan and Insecticide Chemotherapy. Research will be conducted in a well-equipped laboratory and at the Animal Health Research Farm. The candidate must have a DVM/PhD or PhD in Veterinary Parasitology and two to five years experience with parasitic infections in laboratory and food-producing animals.

Veterinary Microbiologist to develop, conduct and supervise basic and applied research programs and develop new programs as needed in the areas of bacterial diseases of domestic animals. Research will be conducted in a well-equipped laboratory and at the Animal Health Research Farm. The candidate must have a DVM/PhD or PhD in Veterinary Microbiology and two to five years experience with bacterial infections in laboratory and food-producing animals.

Excellent Salary and Benefits package. Interested persons should send resumes and salary history to:



An Equal Opportunity Employer M/F/H/V

A.H. Brooks
Human Resources Supervisor
SDS Biotech Corporation
P.O. Box 348
Painesville, Ohio 44077

POST DOCTORAL SCIENTISTS IN IMMUNOLOGY

Corning has moved its Biomedical Research Laboratories from Corning, N.Y. to Cambridge, Mass., to support its growing commitment to health and biological sciences.

We are currently seeking Post Doctoral Scientists to work in the area of Human Immunology.

The successful candidates should possess a Ph.D. in Immunology and have 0-2 years of related post doctoral experience.

Corning encourages publication of findings in learned journals, and close interaction with the scientific community.

The post doctoral appointments will be effective July 1, 1984 and will be for one year, but renewable for a second year by mutual agreement.

Send CV, list of patents, publications, names of three professional references to:

Gordon McPherson
Manager, Personnel Administration
Research & Development Division
Corning Glass Works
Sullivan Park
Corning, New York 14831

CORNING

An Equal Opportunity Employer

Opportunities in the Application of Biotechnology to Agriculture SCIENTISTS

Cetus Corporation is currently seeking Scientists who have the demonstrated skills and experience in one or more of the following disciplines: PLANT PATHOLOGY, WEED SCIENCE, SOIL SCIENCE, and SOIL MICROBIOLOGY. Successful candidates should have a Ph.D. and post doctoral experience, field experience is desirable.

RESEARCH ASSISTANT/ASSOCIATES

Openings are also available for self-motivated individuals with B.S./M.S. and experience in the areas of: PLANT TISSUE CULTURE, RECOMBINANT DNA, and BIOCHEMISTRY. This is an opportunity to join a dynamic company offering unique opportunities to participate in an exciting interdisciplinary team effort.

Send your resume in confidence to:

CETUS MADISON CORPORATION
P.O. Box SC-413
8520 University Green
Middleton, WI 53562



An equal opportunity employer m/f/handicapped

IMMUNOCHEMIST

Corning has moved its Biomedical Research Laboratories from Corning, New York to Cambridge, Mass. to support its growing commitment to health and biological sciences.

We seek an experienced hands-on Immunochemist with a proven research record in the fundamentals of antigen-antibody reactions, monoclonal antibodies and non-radio immunoassay. Experience with allergic models is desired but not required.

The successful candidate will possess a Ph.D., have strong physical chemistry training and analytical skills, and will have at least two year's related post doctoral experience.

The position is available immediately.

Send CV, list of patents, publications, names of three professional references to:

Gordon McPherson
Manager, Personnel Administration
Research & Development Division
Corning Glass Works
Sullivan Park
Corning, New York 14831

CORNING

An Equal Opportunity Employer

Senior Research Veterinary Pathologist/ Virologist

SDS Biotech Corporation, an established Agricultural Chemicals and Animal Health Company with a new name, has an opening in its Biotechnology Group for a DVM with advanced degrees in Pathology and Virology. This position requires hands on experience in Virology and at least two years experience as a practitioner in a large animal practice. Training in Statistics and Trial Design would be helpful.

Excellent Salary and Benefits package. Interested candidates should send resumes and salary history, in strictest confidence to:

A.H. Brooks
Human Resources Supervisor
SDS Biotech Corporation
P.O. Box 348
Painesville, Ohio 44077



An Equal Opportunity Employer M/F/H/V

POSITIONS OPEN

VACANCY ANNOUNCEMENT U.S. ENVIRONMENTAL PROTECTION AGENCY RESEARCH TRIANGLE PARK, NORTH CAROLINA

Applications are invited for a developmental **NEUROANATOMIST**. This position is located in the Neurotoxicology Division, **HEALTH EFFECTS RESEARCH LABORATORY**. It is a Federal Civil Service term position not to exceed 2 years although subsequent career opportunities are a distinct possibility. Salary range \$30,402 to \$39,514 depending upon experience.

The successful candidate will be expected to (i) develop a program of research to evaluate the morphological consequences of perinatal exposure to toxic chemicals on the developing nervous system, and (ii) closely collaborate with other scientists similarly evaluating biochemical, behavioral, and electrophysiological processes.

The candidate (i) should possess a Ph.D. in neuroanatomy or a closely related field, (ii) have postdoctoral research experience, and (iii) have a demonstrated research ability as evidenced by publications in peer-review journals.

Further information about the position and detailed qualification requirements may be obtained from: the **Office of Personnel Management, Raleigh Area Office, P.O. Box 25069, Raleigh, N.C. 27611; telephone 919-755-4361**. Applications (SF-171, Personal Qualifications Statement), accompanied by current curriculum vitae and bibliography, must be submitted to the Raleigh Area Office prior to 1 May 1984, citing Announcement Number AR-4-087.

An Equal Opportunity Employer

PEPTIDE CHEMIST, assistant professor, tenure-track: To participate in an interdisciplinary program in the Nancy Pritzker Laboratory of the Department of Psychiatry at Stanford. We are seeking a scientist with extensive training in peptide chemistry for a program involving characterization of neuropeptides potentially relevant to issues in mental health. Applicants should have experience in isolation and characterization of peptides from nervous tissue. A working knowledge of HPLC, protein sequencing, and peptide synthesis are mandatory as is knowledge of the use of immunohistochemistry and radioimmunoassay for the characterization of endogenous peptides. Applicants should have demonstrated evidence of first-rate past research and skill in presentation of results in written and oral formats. Further, the applicant must be able to collaborate effectively within the program and with other faculty, have abilities relevant to successful grant applications, and be able to work with pre- and postdoctoral persons in a teaching and/or collaborative mode. Position requires an advanced degree with postdoctoral experience. Salaries are competitive. *Stanford University is an Equal Opportunity Employer and welcomes nominations of women and minority group members and applications from them.* Please send résumé with list of publications, a one- or two-page summary of future research goals, and the names of four reference individuals to: **Edna Dorles, Administrative Assistant, Department of Psychiatry, Stanford University School of Medicine, Stanford, California 94305.**

PHYSIOLOGY. A tenure-track position is anticipated for 1 September 1984 to teach human physiology, pathophysiology, and other courses in area(s) of expertise. Apply by 30 May 1984 with résumé and three letters of recommendation to: **James R. Rastorfer, Department of Biological Sciences, Chicago State University, 95 Street at King Drive, Chicago, Ill. 60628.** *An Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION IN DEPARTMENT OF PATHOLOGY

The Uniformed Services University of the Health Sciences (USUHS) invites applicants for a postdoctoral position in the Department of Pathology to work with Dr. Esther H. Chang and Dr. Robert M. Friedman on the modulation of human oncogene expression by interferons. Candidates should have a Ph.D. or related professional degree with training and experience in molecular biology and recombinant DNA technology. Level of salary will be commensurate with training and experience. Interested candidates should submit curriculum vitae, bibliography, and names of three professional references by 27 April 1984 to: **Dr. Robert M. Friedman, Chairman, Department of Pathology, c/o Personnel Division, USUHS, 4301 Jones Bridge Road, Bethesda, Md. 20814.** *The Uniformed Services University of the Health Sciences is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

NEUROBIOLOGY POSTDOCTORAL POSITION available to study neuronal growth, development, and transmitter phenotypic expression. Research will involve the study of peptide neurotransmitter metabolism in sympathetic and striatal neurons. Background in biochemistry or immunohistochemistry desirable. Send résumé and two references to: **Dr. John Kessler, Departments of Neurology and Neuroscience, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, New York 10461.**

PHYSIOLOGIST

St. Lawrence University has a temporary position open (sabbatical replacement) for the 1984-1985 academic year. Ph.D. or equivalent experience required. Teaching responsibilities include general animal physiology, advanced vertebrate physiology, and two seminars. Send résumé and three letters of recommendation by 4 May 1984 to: **Dr. David Horning, Department of Biology, St. Lawrence University, Canton, N.Y. 13617.**

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

PLANT PATHOLOGIST—Ph.D. full-time, tenure-track position as assistant professor with research (65 percent) and teaching (35 percent) duties. Coordination of undergraduate program in plant health management, develop and teach two undergraduate courses, and conduct research on ecology/physiology of soilborne plant pathogens. For full consideration, submit current résumé, transcripts of grades, and three letters of reference to: **Dr. W. L. Klarman, Professor and Head, Department of Plant Pathology, Oklahoma State University, Stillwater, Okla. 74078,** by 1 June 1984. Telephone: 405-624-5643.

An Affirmative Action/Equal Opportunity Employer

Position immediately available for **POSTDOCTORAL FELLOW**. Studies involve cell biology of pulmonary type II cells and P450 isozyme studies. Position may lead to full-time tenure-track position in the department. Send curriculum vitae to:

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

POSTDOCTORAL POSITION IN PHYSICAL OCEANOGRAPHY OR METEOROLOGY

Available for research on the oceanic or atmospheric aspects of climate in collaboration with CIMAS fellows and using the facilities of the Rosenstiel School of Marine and Atmospheric Science (RSMAS) and NOAA's Atlantic Oceanographic and Meteorological Laboratory. One-year appointment, extendable to 2 years. Salary to \$27,300, based on experience. Applicants should submit a résumé, a statement of research interest, and the names of three references to:

Dr. William W. Fox, Jr., Director
Cooperative Institute for Marine and
Atmospheric Studies
RSMAS/University of Miami
4600 Rickenbacker Causeway
Miami, Florida 33149
Telephone: 305-361-4185

An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL POSITIONS IN MOLECULAR NEUROBIOLOGY available immediately. Research projects involve the analysis of gene expression in brain and cells of neuroectodermal origin using recombinant DNA technology. Applicants should have a strong background in molecular biology or biochemistry. Experience in cell culture would be helpful. Send curriculum vitae and three references to: **Dr. B. B. Kaplan, Program Director, WESTERN PSYCHIATRIC INSTITUTE AND CLINIC, 3811 O'Hara Street, Pittsburgh, Pa. 15213.** *The University of Pittsburgh is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION

A position is available immediately with attractive funding for at least 2 years for research in biological psychiatry to investigate the benzodiazepine binding sites in platelets and lymphocytes of patients with anxiety disorders. The candidate should be Ph.D. in pharmacology or biochemistry and have carried out research using receptor binding techniques. Send curriculum vitae with names and addresses of three references to: **Department of Neurosciences, Room 4N-52 (R.R.), Health Sciences Centre, 1200 Main Street West, Hamilton, Ontario, Canada L8N 3Z5.**

POSITIONS OPEN

POSTDOCTORAL FELLOW position available immediately to study and develop techniques assaying short-term effects of ultraviolet radiation in skin of human and experimental animals. Previous experience in photobiology or photochemistry desirable, but not necessary. Send curriculum vitae with names of three references to: **Dr. Vincent A. DeLeo, Department of Dermatology, Columbia University, 630 West 168 Street, New York, N.Y. 10032.** *An Affirmative Action/Equal Opportunity Employer*

POSTDOCTORAL POSITION available 1 September 1984 for research on regulation of sulfur metabolism and transmethylation in human cells. Ph.D. and 1 year of postdoctoral training. Emphasis on elements of the immune system requires experience in immunology as well as in enzyme purification and kinetics. Salary: \$16,000 to \$20,000. Send letter of intent, curriculum vitae, three letters of recommendation, and reprints of previous work to: **Nicholas M. Kredich, Box 3100, Duke University Medical Center, Durham, N.C. 27710.** Applications must be complete by 1 May 1984. *An Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION available immediately to study several enzymes expressed during human hemopoietic cell differentiation. Major experimental techniques include monoclonal antibodies and cDNA probes. Recent Ph.D. in biochemistry, molecular biology, immunology, or chemistry desirable. Please send curriculum vitae and summary of research experience along with the names of three references to: **Dr. Mary Sue Coleman, Department of Biochemistry, University of Kentucky, Lexington, Ky. 40536-0084.** *An Equal Opportunity Employer.*

POSTDOCTORAL POSITIONS available immediately for individuals interested in the enzymology of DNA repair mechanisms. Those experienced in protein purification/nucleic acid biochemistry and a background in the use of HPLC are urged to apply. Salaries to be consistent with NIH guidelines. Please send curriculum vitae and names of three references to: **Dr. W. A. Deutsch, Department of Biochemistry, Louisiana State University, Baton Rouge, La. 70803-1806.** *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITION available for recent Ph.D.'s in biochemistry or pharmacology to study the role of phosphoinositides in receptor function in smooth muscle. Send curriculum vitae and names of two references to: **Dr. Ata Abdel-Latif, Cell and Molecular Biology, Medical College of Georgia, Augusta, Ga. 30912.** *An Equal Opportunity/Affirmative Action Employer. J1597.*

POSTDOCTORAL POSITION IN INTESTINE METHANOGENESIS is available immediately at Health Research, Inc., to study the mechanism of establishment and maintenance of methane-producing bacteria in the large intestine of the rat. A background in microbial ecology and microbial biochemistry is essential. Send résumé to: **Dr. M. J. Wollin, Center for Laboratories and Research, New York State Department of Health, Empire State Plaza, Albany, New York 12201.**

POSTDOCTORAL POSITION available for study of the enzymology and regulation of RNA processing [PNAS 80, 3301 (1983); Mol. Cell. Biol. 3, 1711 (1983)] or of the structural organization and cellular localization of the eukaryotic aminoacyl-tRNA synthetase complex [JBC 258, 11846 (1983)]. Applicants should have experience either in enzymology, cell structure, or molecular genetics. Send curriculum vitae, reference letters, and availability date to: **Dr. Murray Deutscher, Department of Biochemistry, University of Connecticut Health Center, Farmington, Conn. 06032.**

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

REPRODUCTIVE BIOLOGIST—M.S. or Ph.D. with experience in RIA, microbiology, human cytogenetics, immunology. Position involves bench work and laboratory aspects of human IVF. Must be able to communicate and work with physicians, scientists, technicians, and staff. Salary: \$25,000 to \$30,000 per annum, depending on background. Excellent potential for professional and financial growth. Send curriculum vitae to: **G. L. Gaunt, Jr., M.D., Ph.D., Center for Reproductive Medicine, 2313 Randolph Road, Charlotte, N.C. 28207.**

POSITIONS OPEN

TWO POSTDOCTORAL POSITIONS available immediately for biochemist and molecular biologist to study (i) glial-specific antigens and (ii) gene expression in developing retina. U.S. citizenship or permanent residency required. Send curriculum vitae and references to: **P. Vijay Sarthy, Ph.D., Department of Ophthalmology, RJ-10, University of Washington, Seattle, Wash. 98195.** *An Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION—A position is available immediately to investigate neural and hormonal control of cellular metabolism. The applicant should have a strong background in biochemistry and/or pharmacology. Submit curriculum vitae and list of three references to: **Dr. John C. Lawrence, Jr., Department of Pharmacology, Washington University School of Medicine, 660 South Euclid, St. Louis, Missouri 63110.**

POSTDOCTORAL RESEARCH ASSOCIATE

Applications are invited from students with backgrounds in molecular biology and biochemistry. Our research is focused on the alteration of gene expression by chemical carcinogens. Mechanisms under investigation include mutations and DNA methylation. To apply send curriculum vitae and two or more letters of recommendation to: **Dr. Thomas Meehan, Michigan Molecular Institute, 1910 West St. Andrews Road, Midland, Mich. 48640.** *An Equal Opportunity Employer.*

POSTDOCTORAL—RESEARCH ASSOCIATE available immediately for studies on nuclear structures and functions in erythroid differentiation and lymphocytic blastogenesis. Project area concerns with primary transcripts, heterogeneous nuclear RNA, small nuclear RNA, and nuclear protein. Background in biochemistry, molecular biology, and some training in tissue culture are desirable. The applicant will join an active research program in recombinant DNA technology. Send curriculum vitae and letters of reference to: **Dr. Oscar Pogo, Head, Department of Cell Biology, Kimball Research Institute, The New York Blood Center, 310 East 67 Street, New York, N.Y. 10021.** *An Equal Opportunity Employer.*

IMMUNOLOGY

Program Director National Cancer Institute

The National Cancer Institute is seeking candidates for the position of Program Director (Health Scientist Administrator) in the Immunology program of the Cancer Biology Branch, Division of Cancer Biology and Diagnosis. The incumbent will be responsible for the scientific administration of research grants and contracts. Duties will include overseeing active and competing research grants and contracts in the Molecular Immunology Section, evaluating and integrating knowledge in the area of immunology, developing and recommending plans for funding of research grants and contracts, initiating actions for support of targeted research including the development of workshops, and projecting the scientific and budgetary needs of this program area.

Applicants must have a Ph.D., M.D. degree or equivalent; minimum of three years of independent research experience as either a principal investigator or co-principal investigator on a grant or contract or equivalent experience in the management of a research laboratory at the advanced post-doctoral level; and knowledge of molecular immunology. Experience in one or more of the following areas is preferable: immunogenetics; transplantation genetics; molecular aspects of the synthesis, structure and function of lymphokines, antibodies and other soluble immune factors; molecular mechanisms of cytotoxicity, including mechanisms of cell-mediated and antibody-mediated lysis, and characterization of cell-surface target structures.

This is a Career Civil Service position starting at GS-13 (\$36,152-\$46,997) with potential for advancement to GS-14 (\$42,722-\$55,538). Letters of interest, Personal Qualifications Statement (Form SF-171), curriculum vitae and bibliography should be sent by May 4, 1984 to: Dr. Faye C. Austin, National Cancer Institute, National Institutes of Health, Westwood Building, Room 10A07, Bethesda, Maryland 20205. (For additional information, call 301-496-7815.) An Equal Opportunity Employer.

National Institutes of Health

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- ☐ \$158 air-surface delivery via Holland

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POSITIONS OPEN

POSTDOCTORAL POSITION available to study the structure and metabolism of complexes containing hnRNA and snRNA, including the characterization of the genes for the protein components. Monoclonal antibodies and DNA cloning techniques are employed and candidates should have research experience in the molecular biology of proteins or nucleic acids. Send curriculum vitae and names of three references to: **Dr. Terence Martin, Department of Biology, University of Chicago, Chicago, Ill. 60637.**

PROJECT ASSOCIATE

A project associate position will be available 1 September 1984 for a Ph.D. in biochemistry to carry out mechanistic studies of enzyme-catalyzed reactions. Candidate should have a relevant background in organic synthesis including the use of isotopically labeled compounds and chromatographic techniques. Experience in handling light- and oxygen-sensitive compounds and experience in membrane-bound enzyme purification are required. Candidate should have the ability to interpret scientific data and prepare manuscripts for publication. Beginning salary: \$14,580 per year. Submit curriculum vitae and the names/addresses of three references to: **William Janek, Wisconsin Job Service, 206 North Broom Street, Madison, Wis. 53703, by 12 May 1984. An Equal Opportunity Employer.** This ad not paid for by Job Service funds.

UNIVERSITY OF CALIFORNIA, IRVINE DEPARTMENT OF PSYCHOBIOLOGY

Two tenure-track faculty positions are available for persons using modern techniques to study synaptic transmission. Successful applicants will be expected to interact with and contribute to a developing group on molecular mechanisms of transmission. Applications, including curriculum vitae, reprints of pertinent publications, and the names of three referees should be sent to: **Chair, Department of Psychobiology, University of California, Irvine, Calif. 92717, by 1 May 1984.**

An Equal Opportunity/Affirmative Action Employer

The Department of Psychology, Columbia University, has undertaken a search for a **SENIOR PSYCHOLOGIST** at the level of professor with tenure. The person we seek is an outstanding teacher with a recognized record of significant scientific contributions and an ongoing program of research. Our preferences as to area are for cognitive and physiological psychology, in that order. But we will consider applications from outstanding individuals whose specialties are not presently represented in the department, as long as they are consistent with the department's overall orientation. *We are especially interested in considering applications from women and minority group members.* Applicants should submit their curriculum vitae along with the names of at least three individuals who are willing to write letters of recommendation to: **Personnel Search Committee, Department of Psychology, Box 29 Schermerhorn Hall, Columbia University, New York, N.Y. 10027. Columbia University is an Affirmative Action/Equal Opportunity Employer.**

RESEARCH ASSOCIATE OR SENIOR RESEARCH ASSOCIATE STANFORD SYNCHROTRON RADIATION LABORATORY (SSRL)

A position will be available in the coming months for an appointment to the SSRL scientific staff. Candidates with interests and experience in x-ray absorption spectroscopy and x-ray diffraction (preferably with biological molecules) are particularly being sought. It is expected that about 50 percent of the research associate's effort will be devoted to research and 50 percent to facility development. Facility responsibilities include user support, beam line improvements, software improvements and documentation, and x-ray instrumentation development projects related to the EXAFS and diffraction stations at SSRL. Candidates with two or more years of experience beyond the Ph.D. are preferred. The level of appointment and term (typically 3 years) are flexible depending on applicable experience. *Stanford University is an Affirmative Action/Equal Opportunity Employer.* Candidates interested in applying should send curriculum vitae, a brief statement of research experience (especially noting that related to the use of synchrotron radiation) and future research objectives, a list of publications, and the names, addresses, and telephone numbers of three references to: **Professor Keith Hodgson, Stanford Synchrotron Radiation Laboratory, Stanford Linear Accelerator Center, Bin 69, Stanford University, Stanford, Calif. 94305.**

POSITIONS OPEN

POSTDOCTORAL POSITION available 1 July for molecular biologist to study antigenic variation in parasitic protozoa. Research will focus on the organization and expression of variant surface glycoprotein genes in African pathogenic trypanosomes. Experience in recombinant DNA essential. Supported by NIH training grant in parasitology; traineeships limited to U.S. citizens and permanent residents. Salary: \$14,000 to \$16,000 commensurate with experience. Send résumé and names of three references by 1 June to: **Dr. Robert A. Zimmermann, Department of Biochemistry, University of Massachusetts, Amherst, Mass. 01003. An Affirmative Action/Equal Opportunity Employer.**

RECEPTOR RESEARCH: Postdoctoral position in diabetes and metabolism available June 1984 to study mammalian beta-adrenergic receptor structure/function [see *J. Biol. Chem.* 259, 1344 (1984)] using biochemical immunological approaches, experience in protein purification, cell culture, or phospholipid chemistry desirable. Salary: \$15,000 to \$18,000. Send résumé and three references to: **Dr. Craig C. Malbon, Diabetes and Metabolism Research Group, Department of Pharmacology, Health Sciences Center, State University of New York (SUNY) Stony Brook, Stony Brook, N.Y. 11790-8651. SUNY, Stony Brook, is an Affirmative Action/Equal Opportunity Educator and Employer. AK Number 70-84.**

UNIVERSITY OF PENNSYLVANIA DEPARTMENT OF MEDICINE

The Cardiovascular-Pulmonary Division has a position for a **RESEARCH ASSISTANT PROFESSOR OF MEDICINE**, Ph.D., with a proven record of accomplishment in biochemistry of proteoglycans. Candidate should be capable of isolating structural components of lung and conducting independent physiological experiments on intact animals and isolated lung preparations. Experience in carbohydrate structural analysis and chemical synthesis is required.

Available 1 July 1984. Salary commensurate with experience. *University of Pennsylvania is an Affirmative Action/Equal Opportunity Employer, M/F.*

Send résumés and names of three references to: **Michael McNicholas, Cardiovascular-Pulmonary Division, Department of Medicine, Hospital of the University of Pennsylvania, 874 Maloney Building, 3600 Spruce Street, Philadelphia, Pa. 19104.**

RESEARCH ASSOCIATE

A Ph.D. **neuropharmacologist** to join an active research program aimed at exploring the neurochemical basis of specific neurologic and/or psychiatric disorders. A strong interest and postdoctoral experience in the area of neuropeptides in synaptic transmission is preferred. The individual will be given the opportunity to design and conduct neurochemical studies within the framework of the ongoing neurotransmitter research program. Salary is competitive at the research assistant professor level. Available 1 July 1984. Send curriculum vitae and the names of three references to: **Phyllis Nash, Chair, Faculty Selection Committee, Department of Behavioral Medicine and Psychiatry, West Virginia University Medical Center, Morgantown, West Virginia 26506.** Deadline date for submission of application is 1 May 1984. *Equal Opportunity Employer.*

SENIOR SCIENTISTS. The Department of Ophthalmology, Emory University School of Medicine, Atlanta, Georgia, will have a position open for a professor level M.D. or Ph.D. in January 1985. Major interests: genetics and biochemistry of ocular tissue.

Applicant should be senior level scientist with a minimum of 10 years of involvement in ophthalmic research. Send curriculum vitae to: **Department of Ophthalmology, Emory University School of Medicine, 1339 Clifton Road, NE, Atlanta, Georgia 30322. An Affirmative Action/Equal Opportunity Employer.**

STAFF SCIENTIST OR POSTDOCTORAL FELLOW—BIOLOGY. You will characterize DNA from lymphocytes and cell lines in laboratory. Keep records, design and perform experiments, calculate data, write manuscripts for publication, assist in supervising technical staff, and attend and present research seminars. **Qualifications:** Ph.D. in biochemistry or related area. Extensive experience in nucleic acid biochemistry. **Salary range:** Negotiable. Please send résumé to: **Dr. Phyllis Strauss, 109 Lake Hall, Northeastern University, 360 Huntington Avenue, Boston, Mass. 02115. Northeastern is an Equal Opportunity/Affirmative Action/Title IX Employer.**

POSITIONS OPEN

VISITING RESEARCH ASSISTANT PROFESSOR/POSTDOCTORAL, nontenure-track position available 1 September 1984 for molecular biologist interested in working on cell-specific gene expression in *Caenorhabditis elegans*. Individual must have a Ph.D. and expertise in DNA cloning and sequencing. Salary: \$18,000 to \$20,000, commensurate with experience and qualifications. Minimal teaching is required, full benefits, renewable yearly up to 5 years.

Send résumé and three letters of recommendation to: **Dr. Michael Klass, Biology Department, University of Houston, Houston, Texas 77004. Equal Opportunity Employer.**

RESEARCH ASSOCIATE. Ph.D. in biochemistry with experience in protein purification and chemistry and adept in biochemical techniques, including radioimmunoassays, HPLC, and affinity chromatography. Some experience in tissue culture desirable. Write to: **Adel A. Yunis, M.D., Department of Medicine (R-38), University of Miami School of Medicine, P.O. Box 016960, Miami, Florida 33101.**

An Equal Opportunity Employer

RESEARCH ASSOCIATES. Two positions available immediately. Research involves the study of novel human glycosyltransferases. Background in glycoproteins, glycolipids, and enzymology is desired. Experience in structural study of glycoconjugates, HPLC, and tissue culture helpful. Send curriculum vitae and two letters of reference to: **Dr. Khushi L. Matta, Roswell Park Memorial Institute, 666 Elm Street, Buffalo, New York 14263.**

RESEARCH ASSOCIATE/RESEARCH ASSISTANT PROFESSOR for grant-funded study of neuronal excitability, O₂ and ion homeostasis, and neuronal damage during seizures. Candidates preferred who have broad training in neuroscience or microcirculation; experience with any of these methods: microelectrode recording, measurement of metabolism or blood flow, or histopathology; and can begin before winter 1984. Rank/salary negotiable. Send curriculum vitae, interests, reprints, and references to: **Norman R. Kreisman, Ph.D., Associate Professor, Department of Physiology, Tulane University School of Medicine, 1430 Tulane Avenue, New Orleans, La. 70112.**

RESEARCH PHYSICIST—NATIONAL BUREAU OF STANDARDS. The Reactor Radiation Division at the National Bureau of Standards (NBS) in Gaithersburg, Maryland, has an opening for a research physicist in the area of condensed matter research using cold neutrons. Candidates must demonstrate broad experience in the design, construction, and use of neutron-scattering instrumentation using cold neutrons and neutron guide tubes, with special emphasis on time-of-flight and back-reflection spectrometers. This position will be at the GS-14 level, with a starting salary of approximately \$42,722 per year. Interested persons should send Personal Qualifications Statement (SF-171) or résumé to: **U.S. Department of Commerce, National Bureau of Standards, Personnel Division, Washington, D.C. 20234; attention: John Hanson. NBS is an Equal Employment/Affirmative Action Employer. U.S. citizenship required.**

YALE UNIVERSITY: VERTEBRATE PALEONTOLOGY. The Department of Geology and Geophysics is soliciting applications for a senior professorial appointment in the field of vertebrate paleontology. Letters of application should be accompanied by curriculum vitae and publication list and the names of three referees. *Yale University is an Equal Opportunity Employer and solicits applications from all qualified scientists, including women and members of minority groups.* Send all materials to: **Karl K. Turekian, Chairman, Department of Geology and Geophysics, Yale University, Box 6666, New Haven, Conn. 06511.**

VETERINARY VIROLOGIST/IMMUNOLOGIST

Leading animal vaccine manufacturer has an excellent opportunity for individual with an M.S. or Ph.D. in veterinary virology. Duties include designing, scheduling, coordinating, supervising, and participating in development of new animal virus vaccines. The candidate should be experienced in animal virology, immunology, and cell-culture techniques. To apply, send résumé, including salary requirements, to:

**Personnel Director
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2621 North Belt Highway
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Responsibilities: Conduct Pharmacokinetic research related to the new drug development and discovery process. Prepare clinical and nonclinical protocols, evaluate the resulting data and prepare final reports and manuscripts to disseminate study results. Participate in a team approach to the development of compounds under study and prepare information for IND and NDA submissions to the FDA.

Qualifications: PhD in Pharmacokinetics or related field with 1-3 years pharmaceutical industry experience desirable.

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of Engineers**



SUPERVISORY RESEARCH ENGINEER, GM-15

Incumbent serves as chief of Experimental Engineering Division, reporting to the Technical Director as a member of the senior management team. Has responsibility for Division management, including development of plans and programs, review of progress toward goals, maintenance of technical excellence, furtherance of EEO goals, and supervision of subordinate branch chiefs. Included in the Division are Applied Research, Civil Engineering Research, Geotechnical Research and Ice Engineering Research Branches.

The U.S. Army Cold Regions Research and Engineering Laboratory (CRREL) is the Army laboratory which conducts research on the nature and effects of cold on military and civil works activities. CRREL is the Nation's foremost laboratory in cold regions science and technology, conducting contract research for the entire Department of Defense and other federal agencies.

CRREL employs approximately 300 persons, has a physical plant valued at sixty million dollars, and currently executes an annual research program with a budget of approximately twenty million dollars on a national and international scale.

QUALIFICATIONS: Education and/or experience equivalent to that of Ph.D. in the field of civil and/or mechanical engineering. Demonstrated managerial competence. Knowledge/experience in cold regions science and engineering is highly desirable.

SALARY: \$50,252-\$65,327 per annum.

Send resume by May 31, 1984 to:

U.S. Army Cold Regions Research and Engineering Laboratory
ATTN: CRREL-AP-Ms. Raposa
72 Lyme Road, Hanover, New Hampshire 03755

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POSITIONS OPEN

SALES REPRESENTATIVE BIOCHEMICAL RESEARCH INSTRUMENTS

We seek bachelor's and master's of science currently working in a laboratory or in sales. Candidates must have experience with electrophoresis and chromatography. Overnight travel required; Chicago, Boston, and Houston areas available.

We will interview candidates at the ASBC meeting in St. Louis in June. Please send résumés with cover letters demonstrating adequate laboratory experience and an understanding of sales work to:

Box 90, SCIENCE

Wanted: RESEARCH PHYSIOLOGIST IN GAS-TRONTEROLOGY. The candidate should have a Ph.D. degree in physiology, pharmacology, or biochemistry and be familiar with intestinal transport studies, HPLC, tight junctions and preferably familiar with prostaglandins and lipid chemistry. Send curriculum vitae to: **D. Hollander, M.D., Room C340 Med Sci I, University of California, Irvine, Calif. 92717.**

SENIOR SCIENTIST TO DEVELOP NON-ISOTOPIC DNA PROBE KITS

Molecular Biosystems, Inc., is a 3-year-old, publicly traded company developing products employing DNA probes. We seek a creative individual with at least 3 years of experience in independent research projects related to non-isotopic enzyme-linked amplification systems such as FIA, EIA, and so forth. This person will further develop our non-isotopic detection/amplification system for use in clinical diagnostic test kits. Industry background would be helpful.

We offer a competitive salary, new facilities, and San Diego. We seek a zealous, results-oriented individual who will be an integral participant in the future of the company. Respond to: **Martin Nash, Molecular Biosystems, Inc., 11180 Roselle Street, Suite A, San Diego, Calif. 92121.**

SUPERVISOR, CYTOGENETICS LABORATORY

Position available for a supervisor of a Cytogenetics Laboratory engaged in general and prenatal chromosomal studies. Opportunity to conduct original research at The Milton S. Hershey Medical Center of the Pennsylvania State University.

Requirements include a B.S. in biology, genetics, or equivalency (master's preferred), plus 2 to 3 years of experience in tissue culture, cytogenetics, and research. Send résumé with salary requirements to:

Department of Personnel Services
**THE MILTON S. HERSHEY MEDICAL CENTER
OF THE PENNSYLVANIA STATE UNIVERSITY
P.O. Box 850
Hershey, Pennsylvania 17033
Telephone: 717-534-8440**

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VIROLOGISTS CENTERS FOR DISEASE CONTROL

The Division of Viral Diseases, Centers for Disease Control (CDC), invites applications and nominations for three research scientist positions. We seek candidates with demonstrated ability to develop research programs; programs are to be centered on AIDS with specific projects on retroviruses, herpesviruses, and other agents of chronic disease. Candidates should have a broad background in modern virologic techniques. Qualifications include a Ph.D. (or M.D. or equivalent degree) and postdoctoral experience. Rank and salary negotiable and competitive. Submit curriculum vitae and names of three references to: **Louise Griggs, Personnel Management Office, Centers for Disease Control, Atlanta, Ga. 30333;** for scientific questions, address correspondence to: **Dr. F. A. Murphy, Director, Division of Viral Diseases, Centers for Disease Control, Atlanta, Ga. 30333.** Applicant evaluations begin 1 May 1984. *CDC is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

RESEARCH POSITION IN FEEDING BEHAVIOR to study carbohydrate appetite and obesity in laboratory animals. Two-year position available July 1984; salary: \$14,000. Background/experience in feeding/nutrition research, brain and visceral surgery desirable. Send curriculum vitae and names of three references to: **Dr. Anthony Scalfani, Department of Psychology, Brooklyn College, Brooklyn, N.Y. 11210.** *Equal Opportunity/Affirmative Action Employer.*

TRAINING PROGRAM

NEUROBIOLOGY OF AGING TRAINING for M.D.'s and Ph.D.'s. Several fellowships, supported by the National Institute on Aging, are now available for Ph.D.'s and post-residency M.D.'s who are interested in research training in the neurobiology of aging. We particularly encourage applicants with diverse backgrounds who wish to apply their past training to problems of the aging CNS. Such backgrounds include molecular biology, biochemistry, pharmacology, neurology, psychiatry, medicine, gerontology, neural sciences, and others. The training program offers an intense research apprenticeship, brief circulation through a variety of laboratories, seminars, and clinical correlations. Twenty potential preceptors are in the Departments of Anatomy, Brain Research, Medicine, Neurology, and Psychology. Apply to: **Dr. Paul D. Coleman, Department of Anatomy, University of Rochester, Medical Center, Rochester, N.Y. 14642.**

ASSISTANTSHIPS

TEACHING ASSISTANTSHIPS are available for M.S. and Ph.D. students seeking training in molecular biology, neurobiology, or radiation biology. Stipends range from \$5150 to \$6700 per 9-month periods. Texas Woman's University is a state supported university near Dallas, Texas. For information and application forms, write to: **Dr. F. Schwalm, Chairman, Biology Department, P.O. Box 23971-S, Texas Woman's University, Denton, Texas 76204,** or telephone: 817-566-6400.

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIPS at University of Southern California/Los Angeles Orthopaedic Hospital. Fellowships for research in physiology, biochemistry, biomechanics, endocrinology, and electron microscopy related to orthopaedics. Candidates with Ph.D. or M.D. degrees should send their curriculum vitae and references to: **Director of Research, Orthopaedic Hospital, P.O. Box 60132, Terminal Annex, Los Angeles, Calif. 90060.** Deadline: 1 May 1984.

TRUDEAU INSTITUTE

POSTDOCTORAL FELLOWSHIP IN INFECTIOUS DISEASE. A position is currently available to study the effects of immunosuppression on defense of the lung against opportunistic bacterial pathogens in a mouse model of acquired immune deficiency. Studies will be concerned with the expression and modulation of delayed hypersensitivity and cell-mediated immunity in chronically infected mice. Current research is directed toward understanding the role played by T cells in the modulation of antituberculous immunity in infected and immunosuppressed animals. Candidates should have a strong background in infection-immunity and cellular immunology.

The Trudeau Institute is a private, not-for-profit basic medical research institution situated on the shores of Lower Saranac Lake, about a mile from the village of Saranac Lake and 10 miles from Lake Placid, N.Y. On-campus housing is available. Salary is at appropriate NIH levels.

Send curriculum vitae and names of three references to: **Dr. Frank M. Collins, Trudeau Institute, P.O. Box 59, Saranac Lake, N.Y. 12983.** *An Equal Opportunity Employer.*

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP available to study the genetic and biochemical basis of cell differentiation of skeletal muscle tissue. Experience in recombinant DNA techniques preferred. Send letter of application, résumé, and names of references to:

**Dr. Frank E. Stockdale
Stanford School of Medicine, S-025
Stanford, California 94305**

POSTDOCTORAL FELLOWSHIP to study the metabolism and cellular localization of proteins associated with pulmonary surfactant, in collaboration with Dr. Jacqueline L. Coalson and Dr. Richard J. King. The project will require the coordinated use of morphological and biochemical techniques, and the candidate should have a background in one of these disciplines. Additional experience in one or more of the following areas would be helpful: the development and use of monoclonal antibodies, purification of proteins, metabolic or structural studies on lipoproteins, and immunohistochemical methods. Position available 1 July 1984. Send curriculum vitae and the names of three references to:

**Richard J. King, Ph.D.
Professor, Department of Physiology
University of Texas Health Science Center
at San Antonio
7703 Floyd Curl Drive
San Antonio, Texas 78284**

The University of Texas Health Science Center is an Affirmative Action Employer.

POSTDOCTORAL FELLOWSHIPS IN VIROLOGY

The Division of Viral Diseases, Centers for Disease Control (CDC), invites applications for four post-doctoral positions. We seek candidates to join a multidisciplinary team organized to identify, characterize, and develop diagnostic systems for viral agents associated with AIDS. Candidates should have experience in molecular virology research (DNA-recombinant technology, sequencing, protein chemistry, immunology); experience with retroviruses or herpesviruses is preferred. CDC staff fellows are appointed for an initial 2-year term, with an extension possible for a third year. Salary range is from approximately \$20,000 to \$25,000, depending upon experience. Submit curriculum vitae and names of three references to: **Louise Griggs, Personnel Management Office, Centers for Disease Control, Atlanta, Ga. 30333;** for scientific questions, address correspondence to: **Dr. F. A. Murphy, Director, Division of Viral Diseases, Centers for Disease Control, Atlanta, Ga. 30333.** Applicant evaluations begin 1 May 1984. *CDC is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL FELLOWSHIPS available immediately. Biochemical characterization of polypeptide hormone receptor and development of monoclonal antibody. Background in biochemistry desirable. U.S. citizenship or permanent resident status required. Curriculum vitae with two letters of reference should be sent to: **Richard L. Soffer, M.D., Departments of Biochemistry and Medicine, Cornell University Medical College, 1300 York Avenue, New York, N.Y. 10021.**

WORKSHOPS

The **COMMITTEE ON MODELS FOR BIOMEDICAL RESEARCH** (Commission on Life Sciences/National Research Council), chaired by H. Morowitz, is holding a series of **WORKSHOPS** to explore the use of invertebrates, microorganisms, in vitro techniques, and mathematical approaches to the development of models for biomedical research.

Model Systems in Cellular Immunology. 27 April. G. Sato, organizer.

Models for the Investigation of Learning. 30 May. M. Bennett, organizer.

Nonmammalian Models for the Study of Biological Regulation. 15 June. L. Gilbert, organizer.

Models to Study Diseases and Aging. 27 June. S. Ward, organizer (date tentative).

Studies of Development Using Nonmammalian Models. 16 August. G. Streisinger, organizer.

The first three workshops will be held at the National Academy of Sciences, Washington, D.C. The last two will be held at the Academy's Woods Hole Study Center. Observers are welcome but space is limited. Those wishing to attend any of the workshops should contact: **Walter Rosen, telephone: 202-334-2483.**

Research Laboratory Director

Battelle's Columbus Division has an immediate opening for an individual to manage all program and business activities for the Charles F. Kettering Research Laboratory in Yellow Springs, Ohio. The Charles F. Kettering Research Laboratory was established in 1953, and conducts research on the fundamental processes of nitrogen fixation, photosynthesis, and symbiosis as a means to impact on world food supply.

The successful applicant should have a Ph.D. in an appropriate area of plant sciences and a working knowledge of molecular genetics. This position will require 5 or more years of applicable management experience and a demonstrated ability to attract quality research staff and research funds. The ability to develop and implement a long-range research plan for the development of the laboratory is also an essential requirement.

Battelle offers a competitive salary, excellent employee benefits and career growth opportunities. Interested individuals should send resumes to Dick Shaw, Employment, Department Z-1.



Battelle

Columbus Division
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Postdoctoral Positions

Two postdoctoral positions are available in the Molecular Biophysics Groups of the Division of Biological and Medical Research, Argonne National Laboratory.

Successful applicants will participate in studies on protein structure and function under the direction of Dr. Marianne Schiffer. Research will focus on biophysical characterization of the interactions between antibodies and antigens. Model systems include anti-idiotypic antibodies and rheumatoid factors. One position will emphasize protein crystallographic work, for which instrumentation and computer skills are essential. The other position focuses on the study of the dynamics of antibody/antigen interaction, and requires training in protein biochemistry and/or immunochemistry.

Qualified applicants must have received their doctorate within three years of the appointment. Competitive salary is commensurate with experience.

Applications should include curriculum vitae and the names of three references. They should be forwarded to:



Rosalie L. Bottino
Box D-BIM-55
Argonne National Laboratory
9700 South Cass Avenue
Argonne, IL 60439

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Senior Research Pharmacologists

The LILLY RESEARCH LABORATORIES, a world leader in pharmaceutical research, is seeking candidates for Senior Research Pharmacologists positions in the area of:

Drug Disposition

Applicants must have a doctoral degree in Pharmacology or Bio-chemistry with training in pharmacokinetics/pharmacodynamics. Postdoctoral experience in the analysis of biological fluids for endogenous and/or exogenous compounds is essential. The Senior Scientists will interact with multidisciplinary research groups seeking drug candidates with superior bioavailability and pharmacokinetic properties.

Cardiovascular Pharmacology

Applicants must have a doctoral degree in Pharmacology and a strong background using *in vivo* models of cardiovascular disease. Postdoctoral experience involving studies on the basic mechanisms of cardiovascular function and disease is essential. The Senior Scientist will join a multi-disciplinary research group studying cardiovascular control mechanisms and their response to disease states.

Qualified candidates should send their curriculum vitae to:

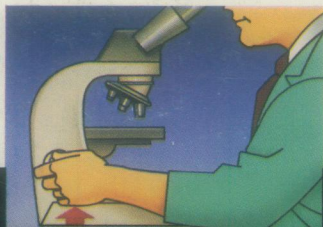


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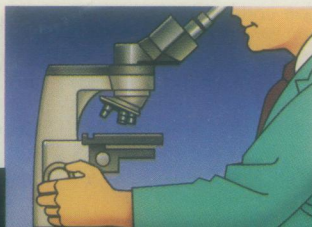
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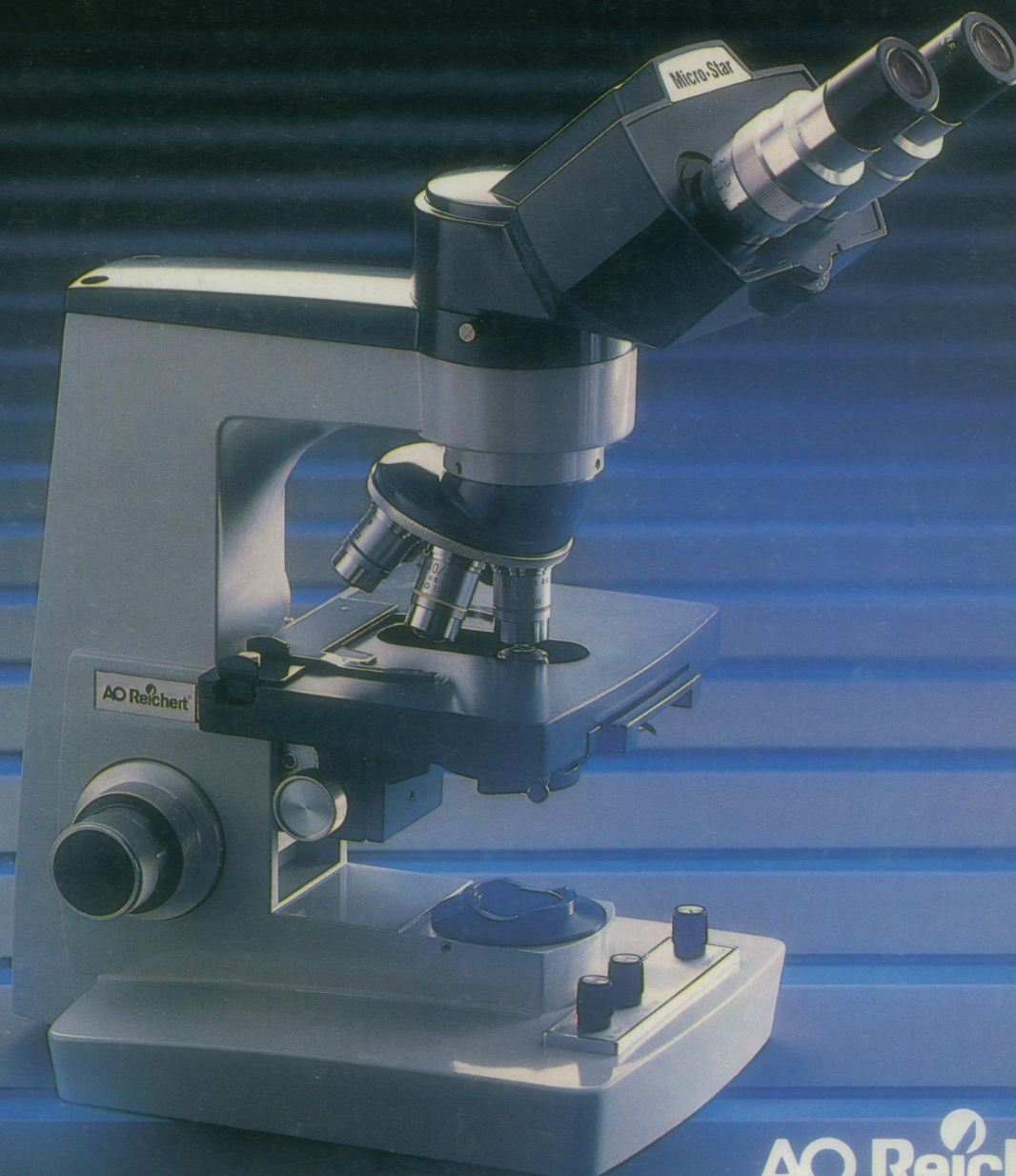
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