

established tracks (Wegener, rejection, specialization, paleomagnetism in two roles, sea-floor spreading, continental drift, plate tectonics, the evolution of ocean basins, geology at plate boundaries, and mountain building), Allègre carries the scientific developments arising from the revolution into more recent times, with discussion of topics that I have not seen covered in other popular historical treatments.

The essence of the sociology is contained in the preface and epilogue. The writing is flavorful throughout. An example is this passage on Harry H. Hess, who introduced the theory of sea-floor spreading, and J. Tuzo Wilson, who supported it:

The scientific community tends to distrust anyone who changes his opinions too often or who appears to be attracted by novelty above all else. . . . Like Wilson, Hess had often entertained daring theories. . . . The agreement between these two scientific adventurers did nothing to reassure the conservative scientific community. After years of wandering in the wilderness, however, the two had finally stumbled upon a promising path and were moving in the right direction [p. 63].

The historical treatment is exciting but uneven. It was planned that way: "Certain chapters are very personalized, while others mention few names" (p. 245). One of the detailed sections covers the familiar events of 1966–68—events that led to the formulation of the theory of plate tectonics in conversations, public lectures, and published abstracts or articles—with considerable attention to the topic of priority.

In 1986 in his Crafoord Lecture on isotope geodynamics Allègre discussed in technical detail the work done by him and his group, noting that "mathematically, the earth's behavior can be described as a set of distributions of chemical elements constantly modified by a set of operators which characterize the principal geological functions." Readers will not find language like this in *The Behavior of the Earth*, but some of Allègre's far-reaching conclusions about convection in the earth's interior, the formation of the oceanic crust, the extraction of the continents, and the degassing of the earth and formation of the fluid envelopes are embedded in the historical developments described in the last two chapters on the continental crust and the dynamics of plate movement, which present earth sciences as a global system.

Readers exposed to this story for the first time will find it fascinating. Those who are more knowledgeable will find statements about history that differ from those in other published accounts. Some may question who really did pronounce "for the first time" the expression "plate tectonics" (p. 108), and others may wonder what happened to

the eclogite sinker in figure 35 (p. 89), derived from Holmes's 1944–45 textbook without reference to the original ideas and figure from the Glasgow Proceedings of 1928–29, which Holmes reproduced in his 1965 revised edition. Such subtleties will not matter to the general reader to whom the book is addressed—who may, however, find too much of the vocabulary of traditional geology that Allègre says was "as barbarous as it was esoteric" (p. viii). There is a nicely written glossary, but many of the esoteric words in the text are not listed. Despite this, I am sure that the general reader can enjoy the story.

The book deserves to be a popular success, and it includes much of interest to the professional as well. I particularly enjoyed the insights it provided into French contributions and reactions to the revolution, as well as the description of subsequent developments in geochemistry and global systems. Finally, this book should spark the interest of potential students of the earth sciences.

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Reprints of Books Previously Reviewed

From Maxwell to Metaphysics. Aspects of Electromagnetic Theory in the Last Quarter of the Nineteenth Century. Jed Z. Buchwald. University of Chicago Press, Chicago, 1988. Paper, \$17.95. *Reviewed* 232, 532 (1986).

The Propagation of Radio Waves. The Theory of Radio Waves of Low Power in the Ionosphere and Magnetosphere. K. G. Budden. Cambridge University Press, New York, 1988. Paper, \$37.50. *Reviewed* 232, 1448 (1986).

The Shaky Game. Einstein, Realism, and the Quantum Theory. Arthur Fine. University of Chicago Press, Chicago, 1988. Paper, \$10.95. *Reviewed* 238, 409 (1987).

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Activation, Deactivation, and Poisoning of Catalysts. John B. Butt and Eugene E. Petersen. Academic Press, San Diego, CA, 1988. x, 495 pp., illus. \$95.

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Analytic Properties of Automorphic L-Functions. Stephen Gelbart and Freydoon Shahidi. Academic Press, San Diego, CA, 1988. viii, 131 pp. \$18.75. Perspectives in Mathematics, vol. 6.

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Neural Mechanisms and Biological Significance of Grooming Behavior. Deborah L. Colbern and Willem H. Gispen, Eds. New York Academy of Sciences, New York, 1988. x, 438 pp., illus. Paper, \$110. Annals of the New York Academy of Sciences, vol. 525. From a conference, New York, Oct. 1986.

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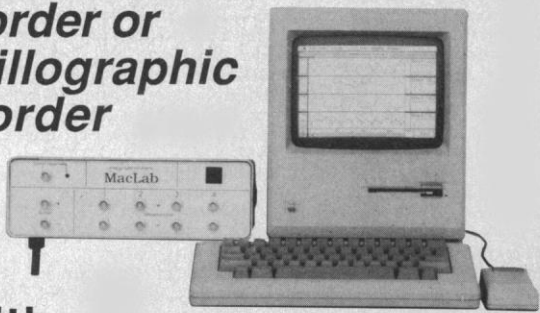
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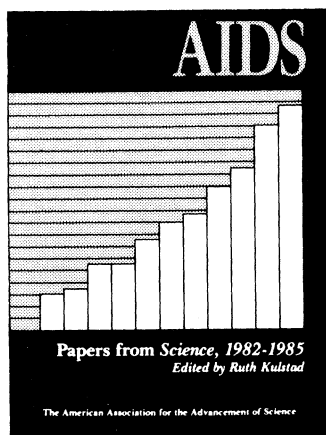
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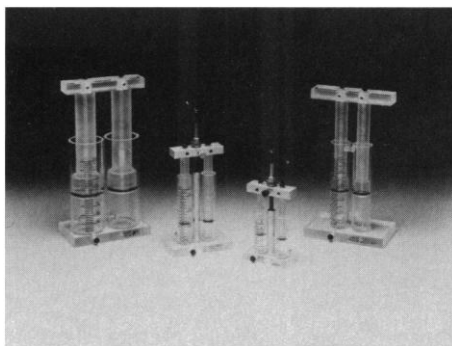
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Model 80-650 is an isocratic high-performance liquid chromatograph for routine applications. All components except the pump are housed in a single cabinet. The sample injection system consists of a six-port rotary valve with a 3000-psi limit. The 254-nm single-wavelength ultraviolet detector has an 8- μ l volume and a 10-mm path. Because model 80-650 has a reversed-phase column, a range of polarities and aqueous mobile phases is possible. A single-piston reciprocating pump with a built-in pulse dampener suppresses more than 90% of pump pulsations. GOW-MAC Instrument. Circle 542.

Gradient Formers

Four dual-piston acrylic gradient formers are available for electrophoresis, centrifugation, and chromatography applications. The dual-piston assembly dispenses fluid in each chamber at the same rate; linear gradients are formed uninfluenced by fluid viscosity



and density. Gradients can be poured in less than 2 min. The gradient formers may be operated manually or by a peristaltic pump and are available in sizes of 5, 17, 50, and 200 ml. Jule, Biotechnology Division. Circle 514.

Premixed Sequencing Gel Solution

Gel-Mix 8 is a premixed 8% polyacrylamide sequencing gel solution. To prepare a gel, add ammonium persulfate to the bottle, mix the solution, and pour between the glass plates of the sequencing apparatus. Gel-Mix 8 comes in single-application bottles with flip-top nozzles; one bottle yields a 31-cm by 39-cm by 0.04-cm gel. The solution contains 7.6% (w/v) acrylamide, 0.4% (w/v) *N,N'*-methylenebisacrylamide, 7M urea, 100 mM trisborate, 1 mM Na₂ ethylenediaminetetraacetate, and 3 mM *N,N,N',N'*-tetramethylethylenediamine. Bethesda Research Laboratories. Circle 539.

MSDSs on CD-ROM

More than 24,000 printable Material Safety Data Sheets (MSDSs) with chemical structures are available on a compact disk (CD-ROM). Updated every three months, the disk is searchable by catalog number, Chemical Abstracts Service (CAS) number, or molecular formula. The disk is compatible with IBM PC or Apple Macintosh computers equipped with a CD-ROM drive and a cable and interface kit. Aldrich Chemical. Circle 543.

Ray-Tracing Software

LazerRays is a software program for creating realistic images on IBM PC, XT, AT, or 80386 computers, with or without coprocessors. Scenes can be modeled with accurate reflections, refractions, transparency, sharp shadows, and soft shadows. Objects can be textured with two- and three-

dimensional textures of waves, wood, marble, pebbles, snow, fractals, or checkerboards. All objects can be in focus, or the user can define a focal point. Objects can be grouped, as can groups themselves. Objects and groups can be rotated and translated in the three axis directions and scaled. The user can control anti-aliasing and the reflection level. LazerRays operates with EGA, VGA, TARGA, VISTA, and LAZERUS graphics boards. \$399 (PC-family version); \$699 (80386 version). Lazerus. Circle 517.

Cell Transfer System

The microprocessor-controlled Quixell 42 transfers cells between vessels under either sterile or nonsterile conditions. The user, working at a remote console with a joystick, keypad, and liquid-crystal display, positions a nanovolume pipette over the selected cell or cells, which are then drawn into the pipette. The system comprises a phase-contrast microscope, a twin-station *x-y* motorized stage, and a robot arm to hold the pipette. The pipette is located under the optical axis of the microscope, where the user can always see it. A single keystroke raises the pipette, and the cell is transferred from the petri dish or other source vessel to a well in a microtiter tray. C. Squared. Circle 545.

Literature

Model 270 Electrochemical Analysis System is an electronic brochure that simulates on an IBM PC electrochemical experiments such as cyclic voltammetry, square-wave voltammetry, and chronoamperometry. EG&G Princeton Applied Research, Electrochemical Instruments Division. Circle 532.

A Review of Techniques for Electrochemical Analysis is an application note that explains how electrochemistry works, what differentiates it from spectroscopy and other techniques, and what the most common techniques of electrochemistry are. EG&G Princeton Applied Research. Circle 567.

The 732-page *CHEMALOG 89/90* catalog lists more than 10,000 biochemicals, organic chemicals, and laboratory reagents. Chemical Dynamics. Circle 568.

Nuclear Supplies & Accessories is a catalog of dose calibrators, positioners, survey meters, syringes, shields, and products for decontamination, personal protection, and photography. Atomic Products. Circle 569.

Surge Protection Applications and Product Guide is a catalog of ac and data line lightning protection devices. MCG Electronics. Circle 570.

Newly offered instrumentation, apparatus, and laboratory materials of interest to researchers in all disciplines in academic, industrial, and government organizations are featured in this space. Emphasis is given to purpose, chief characteristics, and availability of products and materials. Endorsement by *Science* or AAAS is not implied. Additional information may be obtained from the manufacturers or suppliers named by circling the appropriate number on the Readers' Service Card and placing it in a mailbox. Postage is free.

Quantum Mechanics of Fundamental Systems 1. Claudio Teitelboim, Ed. Plenum, New York, 1988. xiv, 234 pp. \$55. Series of the Centro de Estudios Científicos de Santiago. From a meeting, Santiago, Chile, Dec. 1985.

Quantum Mechanics Versus Local Realism. The Einstein-Podolsky-Rosen Paradox. Franco Selleri, Ed. Plenum, New York, 1988. xviii, 461 pp., illus. \$95. Physics of Atoms and Molecules.

The Rape of Ma Bell. The Criminal Wrecking of the Best Telephone System in the World. Constantine Raymond Kraus and Alfred W. Ducrig. Stuart, Secaucus, NJ, 1988. 270 pp. \$19.95.

The Reader's Adviser. Vol. 5, The Best in the Literature of Science, Technology, and Medicine. Paul T. Durbin, Ed. 13th ed. Bowker, New York, 1988. xxxiv, 725 pp. \$75.

Recent Developments in Clustering and Data Analysis. Edwin Diday *et al.*, Eds. Academic Press, San Diego, CA, 1988. xvi, 452 pp., illus. \$49.50. From a seminar, Tokyo, Japan, March 1987.

Remembering Reconsidered. Ecological and Traditional Approaches to the Study of Memory. Ulric Neisser and Eugene Winograd, Eds. Cambridge University Press, New York, 1988. x, 390 pp., illus. \$44.50. Emory Symposia in Cognition, vol. 2. From a conference, Atlanta, GA, Oct. 1985.

Reproductive Biology of Invertebrates. Vol. 3, Accessory Sex Glands. K. G. Adiyodi and Rita G. Adiyodi, Eds. Wiley-Interscience, New York, 1988. xxiv, 518 pp., illus. \$148.

The Reticuloendothelial System. Vol. 10, Infection. Mario R. Escobar and John P. Utz, Eds. Plenum, New York, 1988. xviii, 357 pp., illus. \$69.50.

The Rise of Experimentation in American Psychology. Jill G. Morawski, Ed. Yale University Press, New Haven, CT, 1988. xx, 220 pp. \$24.50.

Steroid Hormone Action. Gordon Ringold, Ed. Liss, New York, 1988. xx, 284 pp., illus. \$96. UCLA Symposia on Molecular and Cellular Biology, vol. 75. From a symposium, Park City, UT, Jan. 1987.

Stevens' Handbook of Experimental Psychology. Richard C. Atkinson *et al.*, Eds. Wiley-Interscience, New York, 1988. Two volumes. Vol. 1, Perception and Motivation. xiv, 905 pp., illus. Vol. 2, Learning and Cognition. xiv, 1027 pp., illus. \$150.

Surfactants and the Lining of the Lung. Emile M. Scarpelli. Johns Hopkins University Press, Baltimore, MD, 1988. xvi, 126 pp., illus. \$42.50. Johns Hopkins Series in Contemporary Medicine and Public Health.

Technical Cooperation and International Competitiveness. Herbert I. Fusfeld and Richard R. Nelson, Eds. Center for Science and Technology Policy, Rensselaer Polytechnic Institute, Rensselaer, NY, 1988. viii, 320 pp. Paper, \$25. From a conference, Lucca, Italy, April 1986.

Thelma D. Sullivan's Compendium of Nahuatl Grammar. Wick R. Miller and Karen Dakin, Eds. University of Utah Press, Salt Lake City, 1988. xxxii, 324 pp. Paper, \$25. Translated from the Spanish edition (Mexico City, 1976) by Thelma D. Sullivan and Neville Stiles.

Transport Properties of Ions in Gases. Edward A. Mason and Earl W. McDaniel. Wiley-Interscience, New York, 1988. xvi, 560 pp., illus. \$54.95.

Upstream Processes. Equipment and Techniques. Avshalom Mizrahi, Eds. Liss, New York, 1988. xii, 241 pp., illus. \$64. Advances in Biotechnological Processes, vol. 7.

The U.S. in Space. Issues and Policy Choices for a New Era. Edmund S. Muskic, Ed. Center for National Policy Press, Washington, DC, 1988 (distributor, National Book Network, Lanham, MD). xii, 82 pp. \$16.75; paper, \$7.75.

Vegetation of the Soviet Polar Deserts. V. D. Aleksandrova. Cambridge University Press, New York, 1988. xii, 228 pp., illus. \$49.50. Studies in Polar Research. Translated from the Russian edition (Leningrad, 1983) by D. Löve.

Vitamins. Wilhelm Friedrich. De Gruyter, Hawthorne, NY, 1988. xii, 1058 pp., illus. \$211.60. A 60-page introduction consisting largely of tabular information about vitamins generally, followed by chapters summarizing what is known about each of the 13 recognized vitamins.

Wondering About Physics. Using Spreadsheets to Find Out. Dewey I. Dykstra, Jr., and Robert G. Fuller. Wiley, New York, 1988. x, 122 pp., illus. Paper, \$12.25.

Zoogeography of Caribbean Insects. James K. Liebherr, Ed. Comstock (Cornell University Press), Ithaca, NY, 1988. xii, 285 pp., illus. \$39.95. Based on a symposium, Hollywood, FL, Dec. 1985.

Personnel Placement

SCIENCE publishes each Friday, except the last Friday of the year. Advertising is accepted only in writing; no abbreviations. Any deadline in ad must be at least 2 weeks after date of issue in which ad appears. Also, personnel advertising is accepted only with the understanding that the advertiser does not discriminate among applicants on the basis of race, sex, religion, age, color, national origin, handicap, or sexual preference. **SCIENCE** reserves the right, in its discretion, to decline to publish advertisements submitted to it.

LINE CLASSIFIED ADVERTISING DEADLINES:

Thursday, 10 a.m., 2 weeks prior to issue date (mailed on issue date). For deadlines for display advertising, please contact Scherago Associates.

POSITIONS WANTED: 40¢ per word, plus \$4 for use of box number, per week. \$10 minimum, per week. Prepayment required. This rate is available only to individuals seeking jobs.

LINE CLASSIFIED (POSITIONS OPEN, COURSES, FELLOWSHIPS, MARKETPLACE, and so forth): \$38.00 per line; \$380 minimum, per week (minimum charge covers one inch on a single column; one inch equals 10 lines of 52 characters and spaces per line). No charge for use of box number. No agency commission for ads less than 4 inches. No cash discount. Prepayment required for all foreign ads. Purchase orders and/or cover letter including billing address required for all other advertising.

To ESTIMATE ad cost:

Structure ad copy on a separate page, on lines of 52 characters and spaces. Include any desired heading. Each line of heading, and/or extra line spaces, and all partial lines (including centered reply information) are counted as full lines. Ad titles located within the text are printed in boldface caps and are only 32 characters per line. In ESTIMATING the cost, multiply total lines \times \$38.00 = approximate cost of ad. (This is an approximate cost ONLY: Allow for variation between estimated lines and actual typeset lines and the resulting final cost. Purchase orders must allow for some degree of flexibility and/or adjustment.)

CANCELLATION POLICY:

NOTE: Ad cancellations made after Thursday, TWO weeks prior to issue date incur a 10% production charge. Final deadline for cancellations is 12 p.m. Tuesday, ONE week prior to issue date. Cancellations must be in writing.

Send copy for all **Positions Wanted** ads and **Line Classified** ads less than 1/6 page in size (39 lines) to:

SCIENCE Classified Advertising
1333 H Street, NW, Room 940
Washington, DC 20005
Telephone: 202-326-6555

Send copy for **Fractional Display** ads, 1/6 page and larger, and all **Marketplace** ads to:

Scherago Associates, Inc.
1515 Broadway
New York, NY 10036
Telephone: 212-730-1050

Blind ad replies should be addressed as follows:

Box (give number)
SCIENCE
1333 H Street, NW
Washington, DC 20005

POSITIONS WANTED

Flow Cytometry Expert with experience setting up, managing and operating flow cytometry facility for medical center and biomedical company available for employment. Box 7850, Stanford, CA 94305.

Immunologist Ph.D. December 1988. Experience: in vitro regulation of and bioassays for monokine and lymphokine production; EGF, PDGF growth factor bioassays; receptor biology; protein purification, column chromatography, SDS-PAGE, etc.; theory and experience with DNA and RNA manipulation; radiolabeled probes. Seeking postdoctoral position in productive, innovative lab utilizing molecular genetics in immune system ligand/receptor biology and structure-function; transgenic animal models; retroviral biology and transfection vectors; live vaccines; regulated gene expression. Box 181, SCIENCE.

POSITIONS WANTED

Japanese Life Sciences Translations: articles, patents, opposition statements, other documents translated from Japanese in cell biology, microbiology, mycology, plant pathology, immunology, pharmacology, and related fields. 1025 Laurel Street #3, Menlo Park, CA 94025. Telephone: 415-321-6317.

Medical Computer Specialist, M.D. Board-certified with 15 years of primary care clinical experience in hospital and ambulatory settings. Areas of interest include enhancement of health care productivity, quality assessment, database utilization and application. Seeks industry, government, or academic position in research, management consulting, or teaching. Prefer Arizona, Southwest. Box 187, SCIENCE.

Plant Pathologist (Ph.D., 1967). Twenty-one years of experience working in the Caribbean region on a wide range of crops, particularly tomato, bean, peanut, pigeon pea, cowpea, kenaf, citrus, yam, papaya. Considerable experience in: systems of fungicide application, bacterial wilt caused by *Ps. solanacearum*, disease diagnosis, teaching at extension agent to postgraduate levels, administration. Seeking position in academic, industry, or consultancy fields. Box 188, SCIENCE.

POSITIONS OPEN

ACADEMIC PHYSIOLOGIST

The Department of Anesthesiology of Loyola University Stritch School of Medicine, Maywood, Illinois, is recruiting a physiologist for a faculty position at the assistant professor level to work in a stimulating environment that includes excellent research laboratory. The candidates for this position are expected to have a strong commitment to innovative research in cardiovascular and respiratory physiology and ability to run large animal experiments in collaboration with the department's physician faculty and resident trainees. The salary is competitive and Loyola University is an Equal Opportunity Employer.

Please submit curriculum vitae, reprints, a statement of research interests, and arrange to have three letters of recommendations sent directly to:

Tadikonda L. K. Rao, M.D.
Department of Anesthesiology
Loyola University
2160 South First Avenue
Maywood, IL 60153

ACADEMIC SECRETARY, COMMITTEE FOR PROTECTION OF HUMAN SUBJECTS AND PROFESSOR UNIVERSITY OF CALIFORNIA

The Committee for Protection of Human Subjects is the institutional review board charged with the review of research protocols involving human subjects and the education of the campus community on the ethical bases for involvement of human subjects in research. The Academic Secretary will facilitate these efforts for the Committee in specific cases and take a leading role in providing information to all segments of the campus regarding individual responsibilities in the involvement of human subjects for research. The position will also include a part-time senior faculty appointment (pending budgetary approval) with the University of California Berkeley—University of California San Francisco Joint Medical Program (JMP) which will include teaching medical ethics and/or health policy, advising medical students in the program, and contributing to the continuing development of the JMP. To be considered, candidates must possess academic and research records of distinction in the area of research ethics and the formation of public policy, as well as established reputations for administrative and leadership skills in working with the academic research and scholarly community. Salary commensurate with experience. Nominations or applications with current résumés should be sent by 31 January 1989 to: CPHS-JMP Search Committee, c/o Provost for Research Office, 200 California Hall, University of California, Berkeley, CA 94720.

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

POSITIONS OPEN

ANATOMY/CELL BIOLOGY

The Department of Anatomy and Cell Biology in the Faculty of Medicine at the University of Alberta invites applications for up to six **FACULTY POSITIONS**. Applicants should have research expertise in cell or developmental biology, cellular neurobiology, or molecular biology. Scientists using innovative methods for analyzing cell structure are encouraged to apply. Applicants should have proven records of research achievement and will be eligible for funding by the Alberta Heritage Foundation for Medical Research. Candidates should be capable of teaching graduate courses in cell or developmental biology, or in medical school courses in histology or neuroanatomy. Appointments will be made at all faculty levels. Rank and salary will be determined according to University of Alberta guidelines. Successful candidates will be encouraged to carry on independent research programs, but will also have the opportunity for collaborative interactions with several multidisciplinary research groups within the University. Deadline for receipt of applications is 1 March 1989.

The University of Alberta is committed to the principle of equity in employment but, in accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents.

Please submit curriculum vitae, a summary of research interests, and the names of four referees to: **Dr. Richard A. Murphy, Professor and Chairman, Department of Anatomy and Cell Biology, Faculty of Medicine, University of Alberta, Edmonton, Alberta, Canada, T6G 2H7.**

ANALYTICAL CHEMIST—Immediate opportunity currently exists at Michael Reese Hospital and Medical Center, Chicago. This research position requires an analytical chemist for HPLC analysis of anti-cancer drugs. Qualifications include a Master's in either biology or chemistry, and a minimum of 3 years of HPLC experience. Qualified candidates are encouraged to submit their résumés to: **Michael Reese Hospital and Medical Center, Human Resources, Department CLK-8, Lake Shore Drive at 31st Street, Chicago, IL 60616.** Equal Opportunity Employer M/F.

Tulane University, Chemistry Department invites applications for a tenure-track **ASSISTANT PROFESSOR** appointment in bio-organic chemistry to begin 1 July 1989. Candidates must have a Ph.D.; postdoctoral experience is desirable. Duties will include teaching in the chemistry and biological chemistry curricula at the undergraduate and graduate levels and directing M.S. and Ph.D. research. The candidate is expected to develop an independent research program in bio-organic chemistry, but the Department also encourages cooperative research projects.

Applications should be sent to: **Professor William Alworth, Chairman, Bio-organic Search Committee, Department of Chemistry, Tulane University, New Orleans, LA 70118** before 1 February 1989. Applications should include curriculum vitae, three letters of reference, and a description of the candidate's research plans. Tulane wishes to increase the number of women and minority members on its faculty and especially welcomes applications from qualified individuals in such categories.

ASSISTANT PROFESSOR EVOLUTIONARY BIOLOGY

A tenure-track position is available in the newly-organized Department of Ecology and Evolutionary Biology at Rice University for an evolutionary biologist with strengths in both theoretical and empirical investigations of field problems. The successful applicant will be expected to develop a strong externally-funded research program and to participate in undergraduate and graduate instruction. An interest in interacting with faculty members outside the applicant's specialty is highly desirable. Interests in the department include global ecology, population and community ecology, and evolution of social behavior. Postdoctoral experience is required. A résumé, a brief outline of research plans, and three letters of recommendation should be sent to: **P. A. Harcombe, Chairman, Department of Ecology and Evolutionary Biology, Rice University, P.O. Box 1892, Houston TX 77251.** Applications should be received by 15 January 1989. Rice University is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

ANIMAL BIOLOGIST. Davidson College invites applications from broadly trained animal biologists with a concentration in neurobiology for a tenure-track appointment at the assistant professor level. Appointment requires a Ph.D. degree and postdoctoral experience is desirable. Teaching requirements will include shared duties in introductory courses and upper-level courses in animal physiology and neurobiology. An active research program involving students is expected. Interested persons should send curriculum vitae, a statement of teaching philosophy and research interests and three letters of references to: **Dr. John H. Williamson, Chairman, Department of Biology, Davidson College, Davidson, NC 28036,** by 1 February 1989. Davidson College welcomes applications from women and minorities.

ANIMAL PHYSIOLOGIST. The Department of Biology at the University of North Carolina at Charlotte (UNCC) invites applications for a tenure-track faculty position at the assistant professor level beginning the fall semester, 1989. Ph.D. required. The successful candidate will participate in teaching a nonmajor's course in human anatomy and physiology and undergraduate and graduate courses in physiology, and develop a strong research program in his/her specialty. Applications are welcome from individuals trained in any area of animal physiology. Send letter, curriculum vitae, transcripts, and names of three references by 1 February 1989 to: **Chair, Physiology Search Committee, Department of Biology, UNCC, Charlotte, NC 28223.** UNCC is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR—AQUATIC ECOLOGY: Tenure-track position beginning 14 August 1989. Applicant must have a Ph.D. in zoology or biology with an emphasis in zoology. Responsibilities include developing a strong research program, teaching biometry, an occasional assignment in general zoology, a course or courses in the individual's area of specialty, and participating in the Graduate Program. Southwest Missouri State University has a student body of 18,000. The Department of Biology consists of 17 faculty members who are committed to excellence in research and teaching. Please submit a letter of application, curriculum vitae, copies of transcripts, and names of three references to: **Dr. Lynn W. Robbins, Ecologist Search Committee, Department of Biology, Southwest Missouri State University, Box 148, 901 South National, Springfield, MO 65804-0095** by 30 January 1989. An Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR OF PHYSIOLOGY

The Department of Physiology is seeking candidates for a faculty (12-month, tenure-track) position at the assistant professor level. The Department has an orientation in the area of cardiopulmonary physiology. We seek an individual whose research interests relate to the microcirculation or vascular endothelial cell function, but encourage applications from individuals in other areas of cardiovascular or pulmonary physiology as well. Requirements include Ph.D. or M.D., completion of 2 years of postdoctoral training, a sound background in general physiology, and the ability to develop own research program. Will be responsible for teaching gastrointestinal and portions of cardiovascular physiology in the Medical Physiology Course. Opportunities exist for collaborative research and participation in graduate education. Submit curriculum vitae, statement of research interests, and names of three references by 15 January 1989 to: **Dr. Michael B. Maron, c/o The Office of Human Resources, Northeastern Ohio Universities College of Medicine, Rootstown, OH 44272.** An Affirmative Action/Equal Opportunity Employer.

ASSISTANT/ASSOCIATE MEMBER—Virginia Mason Research Center. Position available July 1989 to develop independent laboratory in molecular, cellular, or biochemical aspects of autoimmune disease, with current or potential application to studies of type I diabetes. Close interactions with existing programs in basic and clinical immunology and clinical endocrinology at Virginia Mason Medical Center and the University of Washington. Contact: **Gerald T. Nepom, M.D., Ph.D., Director, Diabetes Research Program, Virginia Mason Research Center, 1000 Seneca Street, Seattle, WA 98101.** VMRC is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

The Department of Biological Sciences, Dartmouth College, invites applications for a full-time, tenure-track position at the **ASSISTANT PROFESSOR** level in **CELL BIOLOGY**, beginning July 1989. Applicants should have completed at least 2 years of relevant postdoctoral experience. While applications from individuals in any area of cell biology are welcome, we are particularly interested in those using modern molecular techniques to address problems in cell division, chromatin structure, or molecular targeting. The successful candidate will initiate a vigorous, independent research program that will attract outside funding, enlist graduate student participation, and provide research experiences for exceptional undergraduates; participation in the undergraduate and graduate teaching programs of the department is also required. The College offers a generous start-up package of major equipment plus funds for expendable supplies, in addition to resources that include facilities for DNA and peptide synthesis, digital image processing, TEM, SEM, etc. Please send letters of application, curriculum vitae, reprints, a statement of research and teaching interests, and at least three letters of recommendation to: **Search Committee, Biological Sciences, Dartmouth College, Hanover, NH 03755.** Application review will begin on 10 January 1989. Dartmouth College is an Equal Opportunity/Affirmative Action Employer. Applications from women and members of minority groups are strongly encouraged.

ASSISTANT PROFESSOR: MOLECULAR EVOLUTION—The Department of Biological Sciences invites applications for an anticipated tenure-track position. Applicants must have training in molecular and evolutionary biology. The successful applicant will advise M.S. and Ph.D. level students and develop an extramurally funded research program. Outstanding candidates who are addressing evolutionary questions at the molecular level are encouraged to apply. Submit résumé, reprints, statement of research interests, and three letters of reference by 1 February 1989, to: **Chair, Department of Biological Sciences, Bowling Green State University, Bowling Green, OH 43403.** Affirmative Action/Equal Opportunity Employer.

ASSISTANT PROFESSOR—TENURE-TRACK EUKARYOTIC MOLECULAR GENETICS

Individuals interested in developing a program to study gene structure, expression, and function in a major Kansas crop species (wheat, sorghum, alfalfa, corn, soybean) or their fungal pathogens are encouraged to apply. Incumbent's program will complement existing research programs in fungal and plant genetics and molecular biology of host-pathogen interactions. Teaching responsibilities (10%) include a graduate-level course in area of expertise. Ph.D. required; postdoctoral experience preferred; available 1 April 1989.

Send curriculum vitae, transcripts and a statement of research interests, and have three letters of reference sent by 1 February 1989, to:

**Dr. Jan E. Leach, Search Committee Chair
Department of Plant Pathology
Throckmorton Hall
Kansas State University
Manhattan, KS 66506
Telephone: 913-532-6176**

An Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.

ASSISTANT PROFESSORS. Tenure-track positions available for outstanding candidates with training in cell physiology, biophysics or regulatory biology. Candidates who plan to establish an independent research program involving neurobiology, angiogenesis or growth factors are encouraged to apply, but outstanding candidates in other fields will be considered. The abilities of the applicants are more important than specific research areas. Candidates should submit curriculum vitae, description of future research program, and have three letters of reference sent to: **James T. Stull, Ph.D., Chairman, Department of Physiology, The University of Texas Southwestern Medical Center at Dallas, 5323 Harry Hines Boulevard, Dallas, TX 75235-9040.** An Affirmative Action/Equal Opportunity Employer.

COLLEGE OF AGRICULTURAL AND ENVIRONMENTAL SCIENCES

University of California, Davis

Inquiries are invited from qualified applicants for faculty positions (tenure track) available in these areas:

ASSISTANT PROFESSOR, GRAPE GENETICS AND BREEDING. Characterization and utilization of grape germplasm resources (e.g. evolutionary relationships, population structure, or genetic adaptation to natural selection pressures in *Vitis* species). Scion and/or rootstock cultivar development is also expected. Apply to C. P. Meredith, Department of Viticulture and Enology, by January 31, 1989. Position available July 1, 1989.

ASSISTANT PROFESSOR, MOLECULAR BIOLOGY RELATED TO FLORICULTURAL CROPS. Appointee will use molecular biological techniques to explore questions of interest to California's large floricultural industry. Apply to Michael S. Reid, Department of Environmental Horticulture, by January 31, 1989. Position available July 1, 1989.

ASSISTANT PROFESSOR, POMOLOGY, RELATED TO MINERAL NUTRITION. Mineral nutrition research of deciduous fruit and nut crops. Research areas include nutrient acquisition and utilization, rootstock development, mineral deficiencies and excesses in new crops, and ecologically sound nutrient delivery systems. Experience with woody perennial plants is advantageous. Apply to Robert Carlson, Department of Pomology, by January 31, 1989. Position available July 1, 1989.

ASSISTANT PROFESSOR OF WILDLIFE BIOLOGY. Develop a strong, independent research program in population/behavioral/or physiological ecology with an integration to pest ecology problems. Apply to Dr. Dennis G. Raveling, Chair of the Search Committee, Department of Wildlife and Fisheries Biology by January 31, 1989. Position available July 1, 1989.

These positions are to be filled at the Assistant Professor 11-month salary level (unless other rank is indicated above). The positions have responsibilities for teaching, advising and research (in the Agricultural Experiment Station). Candidates must have a Ph.D. in an appropriate field and teaching and research experience. Applicants should submit resume, transcripts (if within five years of graduation), statement of research and teaching experience, list and reprints of publications, and the names and addresses of at least three persons familiar with the applicant's qualifications, to individual and department as noted for position (department name), University of California, Davis, CA 95616. Please indicate the position in which you are interested. The completed application must be received by date indicated for each position.

THE UNIVERSITY OF CALIFORNIA IS AN EQUAL OPPORTUNITY AFFIRMATIVE ACTION EMPLOYER.

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An editorial position at *Science* is available for a PhD biomedical scientist with a broad range of interests and research experience in one or more of the following areas: molecular pharmacology and physiology, pre-clinical sciences, structural biology, or eucaryotic molecular biology. We are seeking someone with at least two or three years of post-doctoral experience in quantitative aspects of the life sciences and publications in the refereed literature. Editors have varied responsibilities in manuscript selection ranging from solicitation to editing for clarity. Previous editorial experience is not required. This is a full-time position in our Washington offices.

Please send resume and list of publications with cover letter and salary requirements to:

**Mr. Gregory Stokes
AAAS**

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EOE

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ImClone Systems Incorporated, an innovative, rapidly growing biotechnology company has several positions available.

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ImClone is seeking experienced individuals for vaccine development, generation of monoclonal antibodies, diagnostic assay development, clinical studies and development of its DNA probe technology.

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**M. Satterlee
ImClone Systems Incorporated
180 Varick St.
New York, New York 10014**



ImClone Systems Incorporated

RESEARCH SCIENTIST/ GROUP LEADER

San Diego

GEN-PROBE, INC. is a leading pioneer in the application of DNA probe technology to IN VITRO diagnostic testing. We are currently seeking a Research Scientist for our expanded facilities in the La Jolla community of San Diego. You will lead an assay development team in the application of nucleic acid hybridization recombinant DNA procedures, and other modern molecular genetic techniques to the study of viruses.

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An Equal Opportunity Employer

POSITIONS OPEN

ASSISTANT PROFESSOR BIOLOGICAL OCEANOGRAPHY

The Department of Oceanography at Old Dominion University announces a new tenure-track position for an assistant professor in biological oceanography. The research area is open, but preference will be given to those whose research examines mesoscale biological processes (e.g., primary/secondary production, biogenic fluxes), includes a field component, and is interdisciplinary. The successful candidate will be expected to maintain an active, funded research program, and teach graduate courses in her/his discipline. The position will be available in August 1989. Applicants must have a Ph.D.; postdoctoral experience is preferred.

The Department of Oceanography has been selected by University for special emphasis and is growing rapidly: we currently have 18 faculty members, with 60 graduate students pursuing M.S. and Ph.D. degrees in oceanography. Within the Department, research programs range from studies of coastal processes to examinations of the chemical and physical dynamics of the world's oceans.

Send curriculum vitae, the names of three references, and a detailed statement of research interests by 15 February 1989 to:

Dr. Gregory A. Cutter
Department of Oceanography
Old Dominion University
Norfolk, VA 23529-0276

Old Dominion University is an Equal Opportunity/Affirmative Action Employer which requires compliance with the Immigration Reform and control Act of 1986.

ASSISTANT PROFESSOR MOLECULAR VIROLOGY

The Department of Ophthalmology, Baylor College of Medicine, seeks an innovative scientist to develop an independent research program on herpes virus infections of the eye. Joint faculty appointment is also available in the Department of Molecular Virology. Applicants for this tenure-track position should have a Ph.D. with at least 2 years of productive postdoctoral experience in molecular virology. Negotiable starting date. Send curriculum vitae, names of at least three references, and a statement of research interests to: **Dr. K. R. Wilhelmus, Chairperson—Search Committee for Molecular Virologist Position, Department of Ophthalmology, Cullen Eye Institute, Baylor College of Medicine, One Baylor Plaza (NC200), Houston, TX 77030.** *Equal Opportunity Employer.*

ASSISTANT/ASSOCIATE PROFESSOR (TENURE-TRACK). The Emory University Department of Pediatrics, Division of Hematology/Oncology, **Abdel Ragab, M.D.,** Director, is seeking an accomplished molecular biologist/biochemist with experience in cellular growth factor identification, purification and translation. The candidate will be expected to conduct relevant independent research and collaborate with expanding studies on leukemia and natural killer cell growth factors in new facilities. Candidates will be recruited for joint appointment in their basic science discipline. Salary and rank will be commensurate with experience. Deadline for receipt of application is 1 February 1989 and qualified applicants should send their curriculum vitae to: **George W. Brumley, M.D., 2040 Ridgewood Drive NE, Atlanta, GA 30322.** *Emory University is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.*

ASSISTANT OR ASSOCIATE PROFESSOR:

Tenure-track faculty position is available in:
Systems Ecology (computer simulation) of terrestrial organisms. Knowledge of applied ecology is desirable, Ph.D. required. Teach general biology as well as specialty, develop strong research program with undergraduate and graduate students (M.S.-level). Solicit outside funding to support research.

This university has multicultural enrollment of about 30,000 students, and is an Equal Opportunity/Affirmative Action, Title IX, Section 504 employer. *Minorities and women are encouraged to apply.*

Send letter, résumé, and three letters of recommendation to: **Dr. Warren Furumoto, Chair, Biology Department, California State University, Northridge, CA 91330** by 1 February 1989 but not later than 1 April 1989.

POSITIONS OPEN

ASSISTANT PROFESSOR OF PHYSIOLOGY

Applications are invited for a tenure-track position at the assistant professor level in the Department of Physiology, University of Florida College of Medicine. We are seeking an individual with excellent training in physiology, and expertise in either central control of blood pressure or electrophysiology of neuronal cultures. The successful candidate is expected to establish an independent research program, and to participate in teaching physiology to medical and graduate students. We encourage applications from persons having at least a Ph.D. plus 2 years of postdoctoral experience, and anticipate a starting date of 1 September 1989. Applications, including curriculum vitae, a summary of present and future research directions, teaching experience and the names and addresses of three references should be sent by 15 January 1989, to: **Dr. Colin Sumners, Search Committee Chairman, Department of Physiology, University of Florida College of Medicine, Box J-274 JHMC, Gainesville, FL 32610.**

Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR OR ASSOCIATE PROFESSOR OF PHARMACOLOGY. Applications are invited for a faculty tenure-track position in the Department of Pharmacological Sciences at the rank of assistant or associate professor. Applicants holding a Ph.D. and/or M.D. degree and having a strong commitment to basic interests in chemical biology and molecular toxicology are especially encouraged; scientist working in related fields of molecular or cellular pharmacology will also be considered. Successful candidates will be expected to establish well-funded, independent research programs and to participate in graduate and professional educational activities of the Department. Applications, including curriculum vitae, synopsis of current research interest, list of publications and the names of five references should be sent by 15 March 1989 to: **Arthur P. Grollman, M.D., Professor and Chairman, Department of Pharmacological Sciences, School of Medicine, Health Sciences Center, SUNY Stony Brook, Stony Brook, NY 11794-8651.** *Women and minorities are encouraged to apply. SUNY Stony Brook is an Affirmative Action/Equal Opportunity Educator and Employer. AK #321*

ASSOCIATE VICE PRESIDENT RESEARCH AND FACULTY AFFAIRS CALIFORNIA STATE UNIVERSITY, HAYWARD

Responsibilities: (i) fostering campus research and faculty development, providing information and aid in grants and contracts, coordinating campus research policy and administering faculty personnel policies. The Associate Vice President is assisted by a half-time Assistant Vice President. Qualifications: Doctorate and significant teaching, administrative and research experience at the university level and related to the requirements of the position. A record of successful professional activity and research and a knowledge of funding mechanisms are expected. Salary and fringe benefits are competitive. Expected appointment date is July, 1989. Applications and/or nominations concerning this position will begin to be considered 15 January 1989. Applications received after 15 February 1989 cannot be assured consideration. Please direct all correspondence to: **Chair, Selection Committee for the Associated Vice President, Research and Faculty Affairs, c/o The Provost, California State University, Hayward, Hayward, CA 94542-3007.** *Affirmative Action/Equal Opportunity Employer. Women and ethnic minority faculty are encouraged to apply.*

BIOMEDICAL TECHNICIAN

Cedars-Sinai Medical Center has an immediate biomedical technician position available in its Medicine Department. Requires 2 years of prior experience in molecular genetics lab, tissue culture, RNA and DNA probes, Southern blot analysis and a relevant bachelor's degree.

For immediate consideration, please send résumé to:

Mark W. Schmitz
Cedars-Sinai Medical Center
8700 Beverly Boulevard
Brown Building, 1st Floor
Los Angeles, CA 90048
Telephone: 213-855-5538

POSITIONS OPEN

ASSISTANT/ASSOCIATE PATHOLOGIST

The Miriam Hospital, a teaching affiliate of the Brown University Program in Medicine, is seeking an assistant/associate pathologist who must qualify for a faculty position at the rank(s) of assistant or associate professor in the Department of Pathology and Laboratory Medicine. The minimum requirements are: Board certification in anatomic pathology, postgraduate training in surgical pathology, experience and demonstrated capability in anatomic pathology, teaching and administration. Sub-specialty interests in oncology and/or cytopathology are desirable. *The Miriam Hospital is an Equal Opportunity/Affirmative Action Employer and encourages applications from protected and minority groups.* Applications must be received by 30 December 1988. Please send letter and curriculum vitae to: **The Chairman of the Search Committee, Abby L. Maizel, M.D., Ph.D., Pathologist-in-Chief, The Miriam Hospital, 164 Summit Avenue, Providence, RI 02906.**

ASSOCIATE PROFESSOR—tenure-track position is available for a molecular immunologist active in tumor immunology research with a current funding record. The individual will be a full-time member of the Department of Microbiology and Immunology, College of Medicine and will be involved in the academic program of the department including training of medical students and graduate students. Laboratory facilities will be provided in the new Arkansas Cancer Research Center (ACRC) scheduled to open 1 July 1989. The ACRC has been constructed adjacent to the College of Medicine and the University Hospital on the campus of the University of Arkansas for Medical Sciences in Little Rock. Support will include endowed funds for the position, start up funds for the laboratory and direct access to special facilities supporting molecular biology research such as sequencing equipment, etc. Applicants should send a copy of their curriculum vitae and the names of three references to: **Dr. Almen L. Barron, Professor and Chairman, Department of Microbiology and Immunology, University of Arkansas for Medical Sciences, 4301 West Markham, Little Rock, AR 72205.** *The University of Arkansas for Medical Sciences is an Equal Opportunity Employer.*

BEHAVIORAL NEUROSCIENTIST/BIOPSYCHOLOGIST: Williams College, Department of Psychology, anticipates an opening for an assistant professor beginning July 1989. In exceptional circumstances senior level appointments are considered. We will consider applications across a broad spectrum of sub-specialties. We seek a gifted teacher able to involve talented undergraduates in research. Send curriculum vitae, sample reprints, and three letters of reference to: **Search Committee, Department of Psychology, Williams College, Williamstown, MA 01267.** 15 January 1989 application deadline. *An Equal Opportunity/Affirmative Action Employer.*

BIOLOGY: The Department of Biological and Environmental Sciences at Georgia College invites applications for a tenure-track position at the level of **ASSISTANT PROFESSOR** in vertebrate zoology starting September 1989. Applicants should have a strong commitment to teaching and research. Responsibilities include teaching ichthyology, herpetology, and introductory biology and geology, directing undergraduate and graduate student research, and curation of lower vertebrate collections. This position is pending subject to final budgetary approval. Applicants should send curriculum vitae, official transcripts, description of research interests, and three letters of recommendation by 30 January 1989 to: **Dr. William P. Wall, Search Committee Chairman, Department of Biological and Environmental Sciences, Georgia College, Milledgeville, GA 31061.** *Georgia College is an Affirmative Action/Equal Opportunity Employer.*

CELL BIOLOGIST

The Division of Cardiovascular Disease of the University of Alabama at Birmingham invites applications for a faculty member to work with hypertension research group. Must be expert in cell biology and culture of smooth muscle and endothelial cells. Apply to: **Hypertension Program of the Division of Cardiovascular Disease, University of Alabama at Birmingham, UAB Station, Birmingham, AL 35294, Attention: Donna Cline.** *An Equal Opportunity/Affirmative Action Employer.*

IMMUNOLOGISTS/IMMUNOCHEMISTS/ TUMOR AND CELL BIOLOGISTS CENTER FOR MOLECULAR MEDICINE AND IMMUNOLOGY

The **CENTER FOR MOLECULAR MEDICINE AND IMMUNOLOGY**, a specialized cancer research and treatment center, is recruiting for **senior and junior researchers**. The Center is devoted to basic and applied multidisciplinary research aimed at improving the management and control of cancer and allied diseases. Potential candidates should be experienced in biochemical, genetic, and molecular biological techniques to study problems in the areas of molecular immunology, immunobiology, and molecular genetics. Special consideration will be given to those individuals with interest in tumor immunity, immunochemistry, tumor imaging and therapy, tumor biology, and tumor genetics. Excellent laboratory facilities are available to successful candidates expected to develop independent and vigorous research programs. Applicants must hold a Ph.D. or M.D. degree and have demonstrated excellence in research. The levels of appointment and salary are commensurate with qualifications and experience. Junior research candidates will be expected to indicate evidence of their potential by a publication record appropriate to their experience, as well as letters of recommendation. Senior research candidates must show evidence of a strong research accomplishment and grant support. **Postdoctoral candidates** are invited to apply.

The Center is located on the Newark campus of the University of Medicine and Dentistry of New Jersey (UMDNJ) and is closely affiliated with several of UMDNJ's clinical research and educational programs. In close proximity are excellent opportunities for educational, research, and cultural exchange among the many outstanding institutions within the greater New Jersey-New York Metropolitan area. Ample housing exists in several adjacent communities and within short commuting distances of both the Center and New York City.

Applications, to include curriculum vitae, bibliography, a statement of career and research goals and the names of three references should be sent to:

David M. Goldenberg, Sc.D., M.D.
President

Center for Molecular Medicine and Immunology
at the University of Medicine and Dentistry of New Jersey
1 Bruce Street, Newark, New Jersey 07103

An Equal Opportunity Employer

Tumor Immunobiologist

The University of Tennessee Medical Center at Knoxville, Department of Pediatrics is seeking a Ph.D. level candidate to direct a laboratory with a research technologist in support of a pediatric/adult bone marrow transplantation program. Experience in cellular immunology, flow cytometry, clonogenic assays and cryopreservation is desired. Salary is commensurate with both qualifications and experience. Interested applicants are invited to send their curriculum vitae along with three (3) references to:

Thomas D. Miale, M.D., Director
Pediatric Hematology/Oncology Section

UT THE UNIVERSITY OF TENNESSEE
Medical Center at Knoxville

1924 ALCOA HIGHWAY
KNOXVILLE, TENNESSEE 37920
(615) 544-9520

EEO/An Affirmative Action/Title IX/Section 504 Employer

Bioprocess and Bioengineering R&D

The Upjohn Company, a worldwide leader in the research, production and marketing of pharmaceuticals, chemicals, and agricultural products is expanding its bioprocess and bioengineering staff and manufacturing capabilities. This is part of Upjohn's on-going commitment to research and development which will approach \$400 million for 1988. We are offering challenging career opportunities for BS, MS and Ph.D. level candidates with training and laboratory experience in the areas described. Multi-disciplinary groups with exceptional and innovative problem-solving skills will develop new and improved processes for producing commercially important biotechnology products.

CELL BIOLOGY

Develop processes for optimal expression of proteins from transfected cell lines and hybridoma cultures. Work cooperatively in translating laboratory processes to large-scale production. Expertise in somatic cell genetics, gene amplification, cell physiology and kinetics, electroporation and microinjection techniques highly desirable.

PROTEIN CHEMISTRY

Develop procedures for purification of heterologous proteins produced through recombinant DNA and mammalian cell culture technology. Work cooperatively in translating laboratory processes to large-scale production. Knowledge of protein folding, modern protein purification techniques, gel electrophoresis, affinity, low pressure, ion exchange, and size exclusion chromatographies highly desirable.

MICROBIAL PHYSIOLOGY

Develop processes for improving expression of proteins from recombinant microorganisms using microbial physiology and molecular biology approaches. Knowledge of regulation in intermediary metabolism, gene expression host development, and construction of recombinant genes desirable.

BIOCHEMICAL/CHEMICAL ENGINEERING

Develop scale-up procedures for mammalian cell culture and fermentation. Work cooperatively in translating laboratory procedures to the pilot plant and production scale operations. Experience at pilot plant scale, knowledge of equipment design and operation, and a good knowledge of biology, biochemistry or microbiology is desirable.

These positions are challenging career opportunities for qualified BS, MS and Ph.D. candidates.

Upjohn is located in Kalamazoo, a medium-sized southwestern Michigan community, offering an excellent quality of life with immediate access to a rich mix of cultural, educational, and recreational pursuits including numerous lakes and a four-season climate. Upjohn offers the opportunity for personal and career growth, a highly competitive salary commensurate with experience, a comprehensive benefits program, and relocation assistance. You are encouraged to send your CV/resume and a copy of transcripts to: Corporate Employment/Biochemical, The Upjohn Company, Kalamazoo, MI 49001 and refer to advertisement number 5612-CA in your correspondence. We are an Equal Opportunity Employer M/F.

Our Commitment to Scientific
Excellence Continues...

Upjohn

POSITIONS OPEN

BIOLOGICAL SCIENCES

Three tenure-track **ASSISTANT PROFESSOR** positions are anticipated for fall 1989. Successful candidates will be expected to maintain a vigorous research program, actively seek extramural funding, direct M.S. and Ph.D. students, and teach the equivalent of one course per semester with periodic involvement in introductory courses. A Ph.D. and postdoctoral experience are required. Candidates in the following areas will be considered:

MICROBIOLOGY—Preference will be given to candidates using molecular techniques in the study of pathogenic or industrial microbiology. Teaching duties will include general microbiology and a course in his/her area of expertise.

MOLECULAR EVOLUTION—Conduct research using molecular techniques to address questions in evolutionary biology. Teaching duties will include undergraduate and graduate courses in evolution.

EVOLUTIONARY BIOLOGY—Preference will be given to candidates studying plant/insect interactions. Teaching duties will include entomology and a course in his/her area of expertise.

Send curriculum vitae, statement of research goals, representative reprints, and three letters of reference by 15 January 1989 to: **Dr. Marvin J. Starzyk, Chairman, Department of Biological Sciences, Northern Illinois University, DeKalb, IL 60115-2861. Telephone: 815-753-1753. The University is an Affirmative Action/Equal Opportunity Employer.**

CARBOHYDRATE SCIENTISTS

A newly-formed biotechnology company in the San Francisco bay area is employing recent advances in carbohydrate chemistry to uncover and develop novel carbohydrate-based pharmaceuticals. The company is actively recruiting carbohydrate chemists and biochemists with experience in the following areas:

- Carbohydrate Separation Science including HPLC Glycolipid Chemistry
- Synthetic Carbohydrate Chemistry
- Mass Spectrometry and NMR of Carbohydrates
- Carbohydrate Immunology and Receptorology
- Carbohydrate Cell Biology
- Molecular Cloning of Carbohydrate Enzymes

The company wishes to build a scientific staff consisting of outstanding academic carbohydrate chemists of international repute. We offer an exciting research and development environment of the highest quality for scientists wishing to pursue carbohydrate research in a multidisciplinary environment. Salaries and benefits are highly competitive. Please send résumé in confidence to: **Box 185, SCIENCE.**

CHAIR, Department of Food and Nutrition, College of Family and Consumer Sciences, Iowa State University. Doctorate in food science, nutrition, or closely related discipline. Evidence of administrative ability and excellence in teaching and research required. Application deadline 20 January 1989 or until the position is filled. Respond to: **Dr. Elizabeth Elliott, 128 MacKay Hall, Ames, IA 50011. Telephone: 515-294-7244. Equal Opportunity/Affirmative Action Employer.**

CLINICAL PSYCHOPHARMACOLOGIST: The Department of Psychiatry at Duke University Medical Center and the Durham Veterans Administration Medical Center (VAMC) seek applications for an experienced clinical psychopharmacologist to direct a new program addressing the needs of treatment-refractory patients. Based primarily at the Durham VAMC with a joint Duke University faculty appointment and a commitment to the research and educational activities of the Duke University Department of Psychiatry. Laboratory facilities are available and extensive opportunities for interaction with other faculty in clinical neuroscience. Applicants are expected to be capable of developing both clinical and investigative components in the program and to compete successfully for external funding. Salary, faculty rank, and tenure to be negotiated depending on experience. Send letter and curriculum vitae to: **Charles B. Nemeroff, M.D., Ph.D., Head, Division of Biological Psychiatry, Box 3859, Duke University Medical Center, Durham, NC 27710. Duke University and the Durham Veterans Administration Medical Center are Equal Opportunity Employers. Women and minorities are encouraged to apply.**

POSITIONS OPEN

CELL BIOLOGIST to teach undergraduate courses in the area of cell biology and to participate in introductory courses. Tenure-track appointment at assistant professor level starting 1 July 1989. Research involving students is encouraged and expected. Dickinson is a highly selective undergraduate institution with a biology faculty of seven. Complete résumé, transcripts, and three letters of reference must be received prior to 15 January 1989 by: **Dr. Thomas Brennan, Chairman, Department of Biology, Dickinson College, Carlisle, PA 17013-2986. Affirmative Action/Equal Opportunity Employer.**

CELL IMAGING SCIENTISTS. Postdoctoral positions available for imaging research on new laboratory systems at the Mayo Foundation (**S. R. Taylor**) and UCLA School of Medicine (**K. P. Roos**). Applicants should have a career interest in bioengineering and research interests that complement those of existing members of a group studying contraction and excitation-contraction coupling in isolated living muscle cells. The Mayo site is the administrative base, and has a primary interest in acquisition and analysis of data from skeletal muscle (**S. R. Taylor**). The Los Angeles site has the same analytical tools and a primary interest in cardiac muscle (**K. P. Roos**). Possible areas of interest for an applicant include: (i) development of mathematical methods for image processing and analysis, (ii) artificial intelligence, (iii) pattern recognition, and (iv) hardware design for high-speed CCD acquisition of bright field or low-light level intensified images. Skill in communication with scientists from different disciplines as well as the ability to work independently major factors. Send application letter, résumé, and addresses and telephone numbers of three references to: **S. R. Taylor, Ph.D., Mayo Foundation, 711D Guggenheim Building, Rochester, MN 55905. An Equal Opportunity/Affirmative Action Institution.**

CHAIR, DEPARTMENT OF PHARMACOLOGY. The University of North Dakota invites applications and nominations for a chairperson of the Pharmacology Department in its School of Medicine. Candidates should have a Ph.D. or an M.D. degree, and strong credentials in research, grantsmanship at a national level, teaching in pharmacology, as well as an aptitude for effective administration. Selection will depend on professional qualifications and the potential to provide the talent and judgment to foster an effective research and educational program in Pharmacology. Review of applications will begin on 15 February 1989 and continue until a candidate is appointed. Applicants are to provide a letter of application, curriculum vitae, a statement of research and representative publications, and cause three letters of recommendation to be forwarded to: **Dr. James J. Kelleher, Chair, Pharmacology Search Committee, Office of Academic and Research Affairs, University of North Dakota, School of Medicine, 501 North Columbia Road, Grand Forks, ND 58201. UND is an Equal Opportunity/Affirmative Action Employer.**

CHAIR— MICROBIOLOGY AND IMMUNOLOGY

The Oregon Health Sciences University School of Medicine is seeking applicants for the position of Chair of the Department of Microbiology and Immunology. The faculty of this university-based department are engaged in research and in the instruction of medical students, graduate students and fellows. The position requires strong scientific, organizational and administrative skills. Submit curriculum vitae and references to: **Bruce Magun, Ph.D., Chairman, Microbiology Search Committee, L 215, Oregon Health Sciences University, Portland, OR 97201. An Affirmative Action/Equal Opportunity Employer.**

COMPARATIVE VERTEBRATE PHYSIOLOGIST. Tenure-track position at the assistant professor level. Starting date 1 July 1989. Applicants should have a Ph.D. and a strong commitment both to teaching and research. Salary will be commensurate with qualifications and experience. Send curriculum vitae, names, addresses, and telephone numbers of three referees to: **Dr. R. J. F. Smith, Head, Department of Biology, University of Saskatchewan, Saskatoon, SK, S7N 0W0, Canada by 31 January 1989. In accordance with Canadian immigration requirements, applications from Canadian citizens and landed immigrants will be given priority.**

POSITIONS OPEN

CHAIRPERSON, DEPARTMENT OF PHYSIOLOGY (search extended): Quillen-Dishner College of Medicine, East Tennessee State University, Johnson City, Tennessee, is seeking applicants for the position of Professor and Chairman of the Department of Physiology. Applications are invited from individuals with outstanding achievement in research, demonstrated leadership ability, and appreciation for the continuing role of a department of physiology in educating both medical and graduate students. We are seeking candidates from a broad spectrum of disciplines related to physiology who hold the Ph.D. and/or M.D. degree. *The University is an Equal Opportunity/Affirmative Action Employer and employs only U.S. citizens and aliens authorized to work in the United States.* Interested applicants should send curriculum vitae, a summary of research goals, and the names of references to:

**Robert Stout, Ph.D., Chair
Physiology Search Committee
Quillen-Dishner College of Medicine
East Tennessee State University
P.O. Box 19870A
Johnson City, TN 37614**

CYTOGENETICIST. Associate director, University of Pittsburgh Clinical Cytogenetics Laboratory and tenure-stream assistant professor of human genetics. Responsibilities include shared supervision of the laboratory, initiation of independent research in cancer cytogenetics, and training of graduate students. The laboratory is primarily focused on cancer cytogenetics, including diagnosis of hematologic and other malignancies, monitoring of bone marrow transplants and chemotherapy, and the assessment of radiation exposure. Candidates should have a Ph.D. and/or M.D. in genetics or related field; ABMG Board eligibility or certification in clinical cytogenetics preferred. Please send curriculum vitae, research plans, and three references to: **Niel Wald, M.D., A510 Graduate School of Public Health, University of Pittsburgh, Pittsburgh, PA 15261. Telephone: 412-624-2732. Affirmative Action/Equal Opportunity Employer.**

DEPARTMENT OF BIOLOGY SOUTHWEST MISSOURI STATE UNIVERSITY

The Department of Biology invites nominations and applications for the position of **DEPARTMENT HEAD** to begin on 1 August 1989. Qualifications: administrative experience, a well-established research record in biology and demonstrated leadership.

The Department offers a broad program of study in the biological sciences to 375 majors and 30 master's students in the areas of zoology, botany, microbiology, cell biology, and physiology at a university of 18,000 students. The department consists of 16 faculty members who are committed to excellence in teaching, research and service.

Interested individuals should send a letter of application, curriculum vitae, and the names of three references, by 31 January 1989, to: **Dr. Richard L. Myers, Search Committee, Department of Biology, Box 148, 901 South National, Springfield, MO 65804-0095. An Equal Opportunity/Affirmative Action Employer.**

DIRECTOR, NCRI, chartered by an Act of Congress to conduct research, education, and extension work to promote efficient and responsible development of ocean and coastal resources nation-wide. A chief goal of NCRI is to translate academic advances into economic gains. Director fosters cooperation among academic institutions and private sector. Candidates must have earned doctorate or equivalent experience in discipline normally associated with economic and/or resource development; long-term experience in research and administration; superior skills in interpersonal relations and leadership, including ability to interact effectively with leaders at highest echelons of government and private sector; experience developing and administering funding proposals. Request application packages from: **Chair, Search Committee, NCRI, HMSC, Newport, OR 97365.** Nominations and applications accepted through 2 January 1989. *The Oregon State System of Higher Education is an Equal Opportunity Employer.*

POSITIONS OPEN

DEAN COLLEGE OF VETERINARY MEDICINE WASHINGTON STATE UNIVERSITY

Applications and nominations are invited for the position of Dean of the College of Veterinary Medicine, Washington State University. The Dean is the chief administrative and academic officer of the College. The Dean must provide effective and dynamic leadership within the College and University. The Dean's responsibilities include academic and administrative planning, faculty recruitment and development, budgeting, resource acquisition and allocation, periodic program review and fund-raising and development.

Qualifications include a D.V.M. degree; demonstrated record of scholarly achievement commensurate with the rank of professor in one of the departments of the College; experience in administration with responsibility for personnel, programs and resources; and demonstrated ability to communicate effectively at local, state, national and international levels; experience in veterinary medical education and/or prior service as a faculty member of an accredited College of Veterinary Medicine.

Application deadline is 31 January 1989, or until position is filled.

Letters of nomination or application; a current résumé; and names, addresses and telephone numbers of five references should be addressed to:

**Dr. Mahmoud M. Abdel-Monem, Chair
Veterinary Medicine Dean Search Committee
Washington State University
Pullman, WA 99164-6510**

WSU is an Equal Opportunity/Affirmative Action Educator and Employer. Protected group members are encouraged to apply.

DEAN, COLLEGE OF PHARMACY, University of Utah. A distinguished educator/scientist is sought to provide educational, scientific and fiscal leadership for the College. The Dean is the chief administrator of the College, reporting directly to the Vice President for Health Sciences. The College of Pharmacy is research-intensive and committed to excellence in professional and graduate education. Applications will be accepted until 6 January 1989 or until a suitable candidate has been identified. Please send curriculum vitae and names, addresses, and telephone numbers of three or more referees to: **Dr. Douglas E. Rollins, Chairman of the Search Committee, Center for Human Toxicology, College of Pharmacy, University of Utah, Salt Lake City, UT 84112.** *The University of Utah is an Equal Opportunity/Affirmative Action Employer; applications from qualified female/minority candidates are encouraged.*

DIRECTOR, INSTITUTE FOR SOCIAL RESEARCH. The University of Michigan. In February 1989, Philip Converse will step down as Director of the Institute for Social Research. A search committee has been established for the position and is now accepting nominations and applications. Expected qualifications include national distinction in scholarship and social research, substantial administrative experience, and a demonstrated commitment to the values of interdisciplinary university-based research and affirmative action.

Résumés and letters of nomination or application should be sent to: **Sue L. Meyer at the Institute for Social Research, Post Office Box 1248, Ann Arbor, MI 48106-1248.** Review of applications will begin on 15 November 1988. *A non-discriminatory, Affirmative Action Employer.*

EVOLUTIONARY BIOLOGIST

Emory University, Department of Anthropology and Department of Biology, seek two joint positions in evolutionary biology. Candidate's research may be in any aspect of evolutionary biology. Ability to interact effectively with faculty in both anthropology and biology programs essential. Both positions are tenure-track at the assistant professor level; for exceptional candidates, appointment as associate or full professor possible. Successful candidates must have a strong research record and a commitment to quality teaching. Review of applications will begin 16 January 1989. Send curriculum vitae and names of references to: **Peter J. Brown and Gray Crouse, Search Committee Chairs, Department of Anthropology, Emory University, Atlanta, GA 30322.** *Emory University is an Affirmative Action/Equal Opportunity Employer.*



CLEMSON UNIVERSITY COLLEGE OF AGRICULTURAL SCIENCES CLEMSON, SOUTH CAROLINA

DEAN AND DIRECTOR OF RESIDENT INSTRUCTION

POSITION DESCRIPTION: The Dean and Director of Resident Instruction is a leadership position in the administration of the College of Agricultural Sciences at Clemson University and is directly responsible to the Vice President/Vice Provost for Agriculture and Natural Resources, Dr. Milton B. Wise. This position requires coordination of program efforts with the Dean and Director of Agricultural Research and with the Dean and Director of the Cooperative Extension Service. The Dean and Director of Resident Instruction must cooperate closely with department heads, faculty, and students to provide the highest quality academic programs consistent with the mission of the College of Agricultural Sciences.

Specific areas of responsibility include the following:

(1) Administration of Educational and General Fund Budget—departmental budget preparation, faculty recruitment and motivation, salary adjustment, tenure and promotion; (2) Curricula Supervision—curricula development, interdepartmental program development; (3) Student Relations—student advising, career planning and student placement; (4) External Relations—recruitment of students, solicitation of scholarship funds, promotion of agricultural sciences.

QUALIFICATIONS: Candidates should have an earned doctorate degree and be fully qualified for tenure and a full professorship in an appropriate academic department. Excellent organizational abilities, demonstrated effectiveness in communication and teaching, and a strong commitment to continued development of excellent academic programs are requirements. Candidates also must understand and support the essential relationship with research and extension that is required to implement effective academic programs.

AVAILABILITY: Position will be available May 1, 1989. Applications accepted until February 1, 1989, or until a suitable candidate is located and installed.

APPLICATION AND NOMINATION PROCEDURES: Both nominations and applications are encouraged. Letters of nomination should include a brief statement of the nominee's background and qualifications. Applications should include a cover letter, detailed resume, and names, addresses and telephone numbers of five (5) references.

ADDRESS CORRESPONDENCE TO:

**Dr. George E. Carter, Jr.
Chairman, Search Committee
120 Long Hall, Clemson University
Clemson, SC 29634-0377**

Confidentiality will be honored upon request.

CLEMSON UNIVERSITY IS AN AFFIRMATIVE ACTION/EQUAL OPPORTUNITY EMPLOYER.

RESEARCH INVESTIGATOR BIOCHEMISTRY

The Squibb Institute For Medical Research is recognized internationally as a leader in the research and development of novel therapeutic agents for the treatment of infectious diseases. We currently have an exceptional opportunity for an experienced biochemist to join our Department of Microbial Biochemistry and Genetics.

You will be engaged in biosynthetic and mode of action studies of novel natural products working closely with molecular biologists, microbiologists and chemists. Additionally, you will be studying new anti-infective and pharmacologic targets and exploring them through structure activity relationship studies of selected compounds.

Qualified candidates will have a Ph.D. in Biochemistry or Molecular Biology and a minimum of 2 years post doctoral experience in a relevant area of research.

For consideration, please submit your curriculum vitae to: **The Squibb Institute for Medical Research, Human Resource Department 118, P.O. Box 4000, Princeton, NJ 08543-4000.**



SQUIBB

POSITIONS OPEN

ENVIRONMENT/ENERGY. ENERGY RESOURCE ADMINISTRATOR. State of Maryland, Power Plant and Environmental Review Division. Unclassified position. Performs engineering, economic, and environmental evaluations of existing and future power plants. Advanced degree required (Ph.D. preferred, Master's degree plus experience equivalent to doctorate may be acceptable) in a physical or life science or engineering discipline. Training or experience in one of the following areas is desirable: energy supply, applied ecology, engineering, physics, mathematics, and earth sciences as it relates to the power or energy industry. Candidates should demonstrate substantial administrative or managerial experience and detailed familiarity with relevant environmental regulations. Complete State Benefit Package; location: Annapolis, Maryland. Salary: \$37,868 to \$49,790, commensurate with qualifications. Apply (with résumé, technical writing sample, and names and current telephone numbers of three references) before 15 January 1989 to: **James M. Teitt, Director, Power Plant and Environmental Review Division, Tawes State Office Building (B-3), Annapolis, MD 21401.** *Minority applicants are encouraged to apply. The State of Maryland is an Equal Opportunity Employer.*

FACULTY APPOINTMENT

The Biochemistry Department of the University of Missouri, Columbia, invites applications for a tenure-track faculty position at any level of seniority in plant molecular biology or plant biochemistry. We seek candidates with strong individual research programs in any area of plant molecular biology. *Applications from qualified members of minority groups and women are strongly encouraged.* All applications must be received no later than 1 February 1989 in order to receive full consideration. Please send curriculum vitae, a statement of research interests, and three letters of reference to: **Dr. R. O. Morris, Chairman, Search Committee, Biochemistry Department, 322A Chemistry Building, University of Missouri, Columbia, MO 65211. Telephone: 314-882-5168.** *The University of Missouri is an Affirmative Action/Equal Opportunity Employer.*

FACULTY OPENING IN PHYSICS UNIVERSITY OF CALIFORNIA AT BERKELEY

The Department of Physics at the University of California at Berkeley expects to make an appointment at the assistant, tenured associate, or full professor level, effective 1 July 1989, and pending budgetary approval. We encourage applications from both experimentalists and theorists in condensed matter physics, (including low-temperature physics), astrophysics and space physics, particle physics, atomic physics, and newly emerging subfields of physics.

Please send curriculum vitae, bibliography, statement of research interests, and list of references to: **Professor P. Buford Price, Chairman, Physics Department, University of California, Berkeley, CA 94720,** before 15 February 1989. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

FACULTY OPENING IN PHYSICS (NUCLEAR PHYSICS) UNIVERSITY OF CALIFORNIA AT BERKELEY

The Department of Physics at the University of California at Berkeley and the Lawrence Berkeley Laboratory (LBL), pending budgetary approval, expect to make a joint appointment in nuclear physics at the assistant professor, tenured associate professor, or full professor level, effective 1 July 1989; candidates in either theoretical or experimental nuclear physics are encouraged to apply. The appointee will teach in the Physics Department and have research facilities in the Nuclear Science Division at LBL. Summer research salary will be provided by LBL.

Applicants should send curriculum vitae, bibliography, statement of research interests, and list of references to: **Professor P. Buford Price, Chairman, Department of Physics, University of California, Berkeley, CA 94720,** before 15 February 1989. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

FACULTY FOR EUROPE AND ASIA

The University of Maryland anticipates openings for faculty to teach undergraduate science courses on U.S. military bases overseas. Requirements include the Ph.D. or two master's degrees, recent college teaching experience, U.S. citizenship, and competence to teach in two of the following fields: astronomy, biology, chemistry, computer studies, geology, mathematics, and physics. Renewable annual appointments begin August 1989. Frequent travel and the cost of schooling make these positions difficult for those with children. Send résumé to: **Dr. Ralph E. Millis, The University of Maryland University College, College Park, MD 20742-1642.** *Affirmative Action/Equal Employment Opportunity.*

FACULTY OPENING IN PHYSICS (STATISTICAL PHYSICS-THEORY) UNIVERSITY OF CALIFORNIA AT BERKELEY

The Department of Physics at the University of California at Berkeley expects to make one appointment in statistical physics (theory) at the assistant, the tenured associate, or full professor level, effective 1 July 1989, and pending budgetary approval. There is a possibility of an additional future appointment in this field. All subareas of application of modern statistical methods, including condensed matter, particle physics, and nonlinear dynamics will be considered.

Please send curriculum vitae, bibliography, statement of research interests, and list of references to: **Professor P. Buford Price, Chairman, Physics Department, University of California, Berkeley, CA 94720,** before 15 February 1989. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION DEPARTMENT OF BIOCHEMISTRY STANFORD UNIVERSITY SCHOOL OF MEDICINE

Application or nominations are invited for a faculty position in the Department of Biochemistry at the level of full professor.

Stanford University is committed to increasing representation of women and members of minority groups on its faculty and particularly encourages applications from such candidates.

Applicants should have an established record of excellence in original research and in teaching. Candidates should submit curriculum vitae, including a list of publications, a description of their research interests, and names, address and telephone numbers of three references to: **Dr. Ronald Davis, Search Committee Chairman, Department of Biochemistry, Stanford University School of Medicine, Stanford, CA 94305-5307.**

FACULTY POSITION: PHARMACEUTICAL SCIENCES/ CANCER CENTER

Applications are invited for a tenure-track position at the assistant or associate professor level in the Lucille Markey Cancer Center with a primary academic appointment in the College of Pharmacy at the University of Kentucky. The position is available immediately and individuals with research experience in cancer pharmacology are encouraged to apply. Research interests in one of the following cancer therapy-related areas is desirable: drug delivery, drug targeting, pharmacokinetics, pharmacodynamics or drug resistance. The successful candidate will establish an independent research program and participate in teaching in graduate and professional programs. The Cancer Center and the College of Pharmacy are located in modern well-equipped facilities in an academic health sciences center. Substantial opportunities exist for collaborative multidisciplinary research in cancer pharmacology and therapeutics. Interested candidates should submit curriculum vitae, a statement of research objectives and the names of three references no later than 1 February 1989 to:

**Dr. Patrick J. McNamara
Chairman, Search Committee
College of Pharmacy
University of Kentucky
Lexington, KY 40536**

The University of Kentucky is an Equal Opportunity/Affirmative Action Employer. Qualified minorities, women, and handicapped applicants are encouraged.

POSITIONS OPEN

THE UNIVERSITY OF CALIFORNIA AT SAN FRANCISCO FACULTY POSITION IN DEVELOPMENTAL BIOLOGY

Candidates are sought for a tenure-track faculty position at the assistant professor level, but appointment at a more senior level will be considered. The successful applicant will be expected to conduct a research program that combines classical, genetic and/or molecular approaches to problems in developmental biology. In addition, participation in the teaching activities of the Graduate Program in Developmental Biology and the Anatomy Department will be expected. Applicants should send curriculum vitae, bibliography with copies of publications and a summary of research plans, and should arrange to have three letters of recommendation sent to: **Chairperson, Developmental Biology Search Committee, Department of Anatomy, University of California, CA 94143-0452.** Applications should be received by 31 January 1989. *Affirmative Action/Equal Opportunity Employer.*

SENIOR/JUNIOR FACULTY POSITIONS DENTAL RESEARCH CENTER COLLEGE OF DENTISTRY UNIVERSITY OF TENNESSEE, MEMPHIS

The Dental Research Center invites applications for tenure-track senior or junior level faculty positions. Applicants must have a Ph.D. and/or D.D.S. Senior faculty must have strong record of research accomplishment; junior faculty should demonstrate ability to develop independent research with long-term growth potential. Applicants should have strong academic training and research experience in the area of: (i) molecular biology of connective tissue (soft or mineralized tissues), or (ii) calcium metabolism and bone mineralization with basic and clinical research experience at the molecular level involving biochemistry/pharmacology/or physiology of intracellular calcium regulation in pathologic conditions. Experience in the area of clinical nutrition as applicable in dentistry is also highly desirable. Submit curriculum vitae, brief description of research goals, and the names of at least three references to: **Dr. Mustafa Dabbous, Chairman of Search Committee, University of Tennessee, Memphis, College of Dentistry, Memphis, TN 38163.**

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

FACULTY POSITIONS DREXEL UNIVERSITY COLLEGE OF INFORMATION STUDIES

Applications and nominations are invited for two anticipated tenure-track positions, September 1989, in the College of Information Studies, Drexel University. The College is dedicated to teaching and research in the information field, especially integration of its human, social, and technological aspects. Drexel University supports the College with a wide range of information and computer studies, including communications, business administration, computer science and computer engineering and with an appropriate range of facilities and equipment. The New York-Philadelphia-Washington region provides a rich context for research, teaching, and consulting in the information industry.

Tenure-track positions are available for candidates prepared to develop courses and research in the following areas: systems development methodologies, computer-aided software engineering (CASE), knowledge-based systems, distributed information systems, data administration and information management. Candidates with information resources management and systems experience in business or industrial settings are especially encouraged to apply.

For all positions, a doctorate in a relevant area is required. Appointments will be at the assistant or associate professor level from a minimum of \$35,000 per academic year. Candidates should have strong interests in interdisciplinary research and in teaching at both the undergraduate and graduate levels.

Résumé should accompany application to: **Dr. Belver Griffith, Search Committee, College of Information Studies, Drexel University, Philadelphia, PA 19104. Telephone: 215-895-2474.** Closing date 1 February 1989. *Drexel University is an Equal Opportunity/Affirmative Action Institution and invites applications from minorities and women.*



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Molecular Biology: Requirements include a BS degree in biology or biochemistry with 2-3 years experience in molecular biology or an advanced degree. Duties include the production and analysis of restriction endonucleases, nucleic acid modifying enzymes and nucleic acids.

Enzyme/Protein Analysis: Requirements include a degree in chemistry or biochemistry. 2-3 years experience with traditional wet method chemistry or advanced degree in Biochemistry with emphasis in enzymology including: protein determination, enzyme kinetics preferred.

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Tissue Culture: Requirements include a degree in biology or biochemistry and 3-5 years general tissue culture lab experience. Scientific writing experience, knowledge of GMP and sterility and validation testing helpful.

Immunochemicals: Requirements include a BS degree in biology or biochemistry along with laboratory experience in one or more of the following areas: Immunohistochemistry, monoclonal antibody development, production and characterization, radioimmunoassay, or tissue culture.

All candidates must possess strong written and verbal communication skills and be able to work independently. Selected applicants will be provided with compensation commensurate with experience and education, plus full company-paid benefits package. Send your confidential resume to: **SIGMA CHEMICAL COMPANY, P.O. Box 14508, St. Louis, MO 63178.**

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in state-of-the-art separation techniques and familiarity with analytical chemistry methods for structure elucidation are highly important and a knowledge of large-scale extraction methods would be an advantage.

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Please send full cv to Mr. Ted Smith, Senior Personnel Officer, Glaxo Group Research Ltd., Greenford Road, Greenford, Middx UB6 0HE, England. Alternatively telephone for an application form on 01-422 3434, ext. 2934.

Glaxo Group Research



POSITIONS OPEN

The Department of Zoology and Physiology, University of Wyoming, announces three tenure-track **FACULTY POSITIONS** with excellent opportunities for rewarding research and teaching careers in a stimulating academic and environmental setting. We seek strongly committed applicants with interests that integrate well with existing departmental strengths in ecology and population biology, environmental physiology and cell biology. Postdoctoral training or experience preferred.

(i) **COMPARATIVE PHYSIOLOGIST**, Assistant or Associate Professor. Research interests should encompass an integrative, evolutionary approach to comparative vertebrate physiology. Responsibilities include undergraduate/graduate teaching in comparative and mammalian physiology. Send material requested below to: **Dr. Henry J. Harlow, Committee Chair.** (ii) **BIG GAME HABITAT BIOLOGIST**, Assistant or Associate Professor. Research expertise must include big game/habitat interactions and should include other strengths such as ungulate energetics and nutrition, quantitative genetics, or effects of habitat disturbance. Responsibilities include undergraduate/graduate teaching in wildlife biology and ungulate-habitat relationships. Send material requested below to: **Dr. Frederick G. Lindzey, Committee Chair.** (iii) **AVIAN/WETLANDS ECOLOGIST**, Assistant or Associate Professor. Research interests in basic/applied aspects of avian/wetlands ecology. Additional expertise in quantitative genetics, ecosystem modeling, parasitology, systematics, or toxicology would most strongly complement existing departmental strengths. Teaching responsibilities include undergraduate/graduate courses in ornithology and wetlands/waterfowl ecology and biology. Send material requested below to: **Dr. Steven W. Buskirk, Committee Chair.**

Send letter, including statement of research interests and curriculum vitae, and have three letters of reference sent by 15 January 1989 to: **Department of Zoology and Physiology, The University of Wyoming, Box 3166, University Station, Laramie, WY 82071.** The University of Wyoming is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITIONS SECTION OF IMMUNOBIOLOGY YALE UNIVERSITY

The Section of Immunobiology seeks applicants for several ladder faculty positions at the level of assistant professor in the general area of immunobiology. Qualified applicants in all areas of immunology are invited to apply, and would be expected to develop an independent research program using molecular, cell biological or biochemical approaches to immunobiological problems. They will also be expected to participate in departmental teaching at both the graduate and undergraduate levels. Candidates should submit curriculum vitae with a summary of present and future research interests, and request that three letters of recommendation be sent no later than 15 February 1989 to:

Dr. Richard Flavell
Chairman,
Section of Immunobiology
Yale University School of Medicine
310 Cedar Street
P.O. Box 3333
New Haven, CT 06510

An Equal Opportunity/Affirmative Action Employer. Women and minority candidates are encouraged to apply.

MAYO CLINIC FACULTY POSITIONS IN CANCER RESEARCH

The Department of Oncology invites applications for two faculty members open at any rank. Candidates with expertise in cell molecular biology, biophysics, or immunopathology interested in working in a multidisciplinary program directed toward the molecular characterization, detection, and control of human cancers. Joint appointments in other departments as appropriate. Please send curriculum vitae and names and addresses of three references to: **Dr. Matthew M. Ames, Oncology Search Committee, Department of Oncology, Mayo Clinic, Guggenheim 4, Rochester, MN 55905.** An Equal Opportunity/Affirmative Action Institution.

POSITIONS OPEN

FACULTY POSITION IN MUTAGENESIS/CARCINOGENESIS/GENETIC TOXICOLOGY at Oregon State University. The Oregon State University Environmental Health Sciences Center and Department of Agricultural Chemistry jointly seek an individual with postdoctoral experience to fill an assistant professor position available July 1989. The primary responsibility will be to develop a strong research program focused on mechanistic aspects of mutagenesis and carcinogenesis, preferably using the approaches of molecular biology. Emphasis on mammalian processes is desirable, but not mandatory. Interaction with molecular biologists and other faculty in the Department of Agricultural Chemistry and the Center for Gene Research, and with the faculties of the Environmental Health Sciences Center and the graduate Toxicology Program is encouraged. There will be ample opportunities to supervise Ph.D. students and to participate in graduate and undergraduate education, but no formal teaching requirements for 3 years. Send curriculum vitae, a description of research interests, and a list of at least three references by 1 February 1989 to: **Genotoxicology Search Committee, Department of Agricultural Chemistry, Oregon State University, Corvallis, OR 97331.**

Oregon State University is an Affirmative Action/Equal Opportunity Employer and complies with Section 504 of The Rehabilitation Act of 1973. OSU has a policy of being responsive to the needs of dual-career couples.

PENN STATE FACULTY POSITION PROTEIN X-RAY CRYSTALLOGRAPHY

Applications are invited for a tenure-track faculty position at any level in protein x-ray crystallography. The position will be available in either the Department of Chemistry, the Department of Molecular and Cell Biology, or as a joint appointment in these departments or with Penn State's Biotechnology Institute. Applicants, with a Ph.D. degree, should have the background, motivation, and ability to develop vigorous, productive research programs and to be excellent teachers. Include a detailed curriculum vitae, statement of research interests, and up to three recent reprints, and have three letters of reference sent directly to: **The Search Committee, Department of Chemistry, 152 Davey Laboratory, Box SM, University Park, PA 16802.** Deadline for receipt of applications is 15 March 1989, or until a suitable candidate is identified. An Affirmative Action/Equal Opportunity Employer. Women and minorities encouraged to apply.

FISHERIES BIOLOGIST—Assistant professor, Ph.D. A tenure-track position will begin fall 1989 contingent upon funding. Duties involve teaching courses in fisheries biology and ichthyology; establishing an active research program; seeking outside funding; and participating in the M.S. graduate program. Submit curriculum vitae, statement of research interests, and three letters of reference by 31 January 1989 to: **Dr. E. O. Moll, Department of Zoology, Eastern Illinois University, Charleston, IL 61920.** Affirmative Action/Equal Opportunity Employer.

MACROMOLECULAR STRUCTURE

A tenure-track faculty position is available in the Biochemistry Department of the Medical College of Wisconsin for a physical biochemist/biophysicist at the assistant or associate professor level. The successful applicant will complement existing structurally and mechanistically oriented programs by establishing an independent research program involving spectroscopic, crystallographic, or molecular modeling approaches to the study of proteins or peptides. The appointment will also require participation in the Department's graduate and medical education programs.

The position will be available on or after 1 July 1989. By 1 February 1989, applicants should send curriculum vitae, recent reprints, statement of research interests, and names of three references to:

Physical Biochemistry Search Committee
Department of Biochemistry
Medical College of Wisconsin
8701 Watertown Plank Road
Milwaukee, WI 53226



POSITIONS OPEN

FIELD DIRECTOR—The School for Field Studies seeks a field director of its Queensland, Australia, field station. The Centre serves as the academic base for month- and semester-long courses and research in rainforest ecology. The Director will supervise faculty, interns and student groups as chief academic and administrative officer. Qualifications: Master's degree (Ph.D. preferred) in biological sciences; excellent teaching skills; practical enthusiasm for experiential education; field research experience in Australia or rainforest environment; administrative experience in field station operations. Start date: Not later than 1 January 1989. Applicants please submit letter of interest and qualifications, curriculum vitae, and references as soon as possible to: **The Dean, School for Field Studies, 16 Broadway, Beverly, MA 01915. Telephone: 508-927-7777.**

HEAD

The Department of Biomedical Sciences, University of Illinois College of Medicine at Rockford, seeks to appoint a Head at professorial rank. The appointee should be a pharmacologist or related discipline scientist with educational experience in medical pharmacology. In addition, we seek an individual possessing demonstrable leadership qualities, vigorous research activities, and administrative/managerial skills that will catalyze the further development of this department. At present, this multi-disciplinary department participates in teaching medical pharmacology and an M2 basic science review. The teaching of M2 microbiology (60 hours) is under discussion. The facilities are excellent, with a wide array of instrumentation and an accredited biological resource unit under the direct control of the department. International collaborative arrangements and ties to industrial laboratories provide for additional opportunities. It is hoped that the appointee would assume this position by 1 July 1989. Applications and nominations including curriculum vitae, the names of three or more references and a letter detailing qualifications should be sent, for earliest consideration, by 1 February 1989 to: **William H. Langevich, M.D., Chairman, Search Committee for the Department of Biomedical Sciences, University of Illinois, College of Medicine at Rockford, 1601 Parkview Avenue, Rockford, IL 61107.**

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

Applications are invited for the position of **HEAD OF THE DEPARTMENT OF PHARMACOLOGY AND THERAPEUTICS** at the Faculty of Medicine, University of Manitoba, for a 5-year term commencing 1 July 1989, or as soon thereafter as possible.

The appointment comes with a tenure-track position. Candidates should have an M.D. and/or Ph.D. degree and a substantial record and academic achievement in pharmacology or related disciplines and extensive experience in teaching and research, as well as proven administrative experience. The department is responsible for programs of education at the undergraduate and graduate levels. Rank and salary commensurate with qualifications and experience.

Both men and women are encouraged to apply. In accordance with Canadian Immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.

Applications and nominations should be accompanied by curriculum vitae and submitted not later than 17 February 1989 or until the position is filled to: **Dr. N. R. Anthonisen, Dean, Chair, Pharmacology and Therapeutics Search Committee, Faculty of Medicine, University of Manitoba, 753 McDermott Avenue, Winnipeg, Manitoba, Canada R3E 0W3.**

IMMUNOLOGIST, FACULTY POSITION. A full-time tenure-track position in the Pathology Department at the rank of assistant or associate professor. M.D. or Ph.D. with demonstrated leadership in teaching and research. Establish research program competitive for external funding. Position includes participation in educational programs in department and hospital service responsibility in immunopathology laboratory. Send curriculum vitae and references to: **C. Robert Baisden, Chief, Section of Clinical Pathology, Medical College of Georgia, Augusta, GA 30912.** Equal Opportunity Employer M/F.

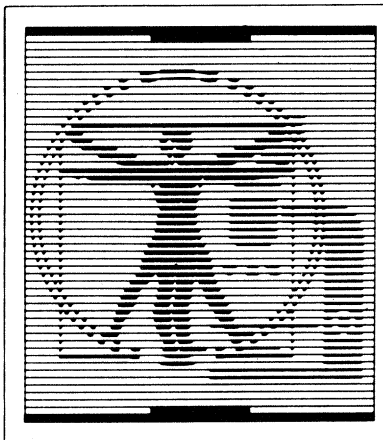
POSTDOCTORAL POSITIONS

TWO POSTDOCTORAL POSITIONS (M.D. OR Ph.D.) are available in the National Institutes of Arthritis, Musculoskeletal and Skin Diseases, National Institutes of Health, Public Health Service, to investigate gene expression during repair of bone and cartilaginous tissues. Studies will evaluate mRNA expression for structural and regulatory genes in models of normal or impaired healing, correlate observations with histological events, and explore the effect of exogenous growth factor administration on the repair process. The applicant should have a background in biochemistry, molecular biology, or orthopedics. Starting date is flexible. Salary is \$20,000 to \$50,744 per annum depending on experience. Send curriculum vitae and three letters of reference to: Mark E. Bolander, M.D., Orthopaedic Research Unit, Bldg. 30, Rm. 414, 9000 Rockville Pike, Bethesda, MD 20892. US Citizenship required.



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You must have a PhD with working experience in molecular biology, biochemistry, or x-ray crystallography. These roles are one-year appointments subject to renewal.

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Salary commensurate with research experience and leadership abilities. The Rockefeller University is an Equal Opportunity/Affirmative Action Employer and invites applications from all qualified individuals. Please contact:

Anthony Cerami, Ph.D.
Professor and Head,
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1230 York Avenue
New York, NY 10021



THE ROCKEFELLER UNIVERSITY



The University
of
British Columbia

Biotechnology Laboratory

Fermentation, Process Engineering and Bio-Instrumentation

The University of British Columbia has recently initiated the Biotechnology Laboratory under the directorship of Dr. Michael Smith. Its objective is to foster an interactive approach to problems in biotechnology. A total of ten new tenure track positions are being filled during 1987-89. Appointments will be primarily at the rank of Assistant Professor. Applicants must have a Ph.D. degree. Post-doctoral experience is an asset. Successful candidates will be expected to develop their own vigorous research programs and to collaborate with other faculty members on problems in one of the following areas: human, animal, plant and forest biology and in fermentation and process engineering and bio-instrumentation (with special emphasis on mammalian cell culture and the production of specific proteins) and in the application of genetic engineering techniques to these problems. Substantial start-up funding will be provided. Faculty appointed to the Biotechnology Laboratory will have a joint appointment in an appropriate academic Department and will teach and supervise undergraduate and/or graduate students in that Department's programs or in academic programs to be established under the aegis of the Biotechnology Laboratory. At this time, candidates are sought with research expertise in the following area:

Bio-Instrumentation (1 position). Monitoring and control of bioreactors and purification processes. Development of biosensors and measuring circuits. The applicant should have the ability to collaborate with biochemistry and electrical engineering faculty members and students, and to develop a teaching program bridging these disciplines.

Process Engineering (1 position). Development of upstream and/or downstream processing techniques relevant to the purification of biologicals. The applicant should be experienced in the application of genetic engineering principles, in modern purification procedures for complex biomolecules and be capable of developing a teaching program bridging the areas of genetic and process engineering.

Appointments will be made starting 1st July 1989 or as soon as possible thereafter. Closing date for applications, 1st February 1989. Salary will be commensurate with qualifications and experience. The University of British Columbia offers equal opportunity for employment to qualified female and male applicants. In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.

Applications, including a full c.v., plans for future research (approximately 2-3 pages), and the names, addresses and phone numbers of three references, should be sent to: **Mrs. Darlene Crowe, Administration, Biotechnology Laboratory, The University of British Columbia, Room 237 - 6174 University Boulevard, Vancouver, B.C., Canada V6T 1W5.**

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New York, New York 10014



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UIC

The University of Illinois at Chicago

DEAN OF THE COLLEGE OF DENTISTRY UNIVERSITY OF ILLINOIS AT CHICAGO

The University of Illinois at Chicago, one of two campuses of the University of Illinois, comprises fifteen colleges with approximately 2000 faculty, serving 25,000 students, 30% of them graduate and professional students. The College of Dentistry has 12 academic departments and centers, 200 faculty and 500 students in professional and post-professional programs.

Candidates for the position should have the following qualifications:

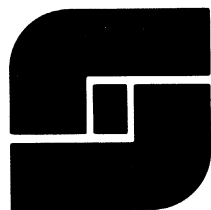
- status as a Doctor of Dental Surgery or equivalent;
- record of scholarly research and teaching sufficient to warrant appointment as a tenured full professor in one of the academic departments;
- demonstrable commitment to the ideals and principles of a major Research University;
- demonstrable academic leadership and management skills;
- capacity for establishing beneficial developmental relationships with alumni, community and business leaders, and private and governmental funding agencies.

Position available September 1, 1989. To ensure full consideration, applications and nominations should be received by February 1, 1989 to:

Dr. Marten M. Kernis
Chair, Dentistry Dean Search Committee
c/o College of Medicine
131 College of Medicine West, m/c 784
University of Illinois at Chicago
Box 6998
Chicago, IL 60680

Applications should be accompanied by the names and addresses of five references and a complete *curriculum vitae*.

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



RESEARCH BIOCHEMIST OR MOLECULAR BIOLOGIST

Southern Research Institute has an immediate opening for a Ph.D. Biochemist or Molecular Biologist to participate in ongoing research programs in chemoprevention of cancer. Postdoctoral experience is preferred, but not required, and experience in chemoprevention is desirable.

Responsibilities include work on current and anticipated research contracts and grants, supervision of junior staff members, the writing of research proposals and reports, and collaboration with other scientists in the conception, development, and performance of research to elucidate mechanisms of action of chemopreventive compounds. Opportunity is available to publish and present papers at scientific meetings.

Located in a 20-acre complex with a staff of approximately 650, Southern Research Institute is a diversified, not-for-profit research organization in its fifth decade of operation. The metropolitan Birmingham area, with a population of almost one million, offers a mild four-season climate, lower-than-average cost of living, many recreational and cultural opportunities, and a variety of convenient and attractive housing alternatives. To apply, send c.v. to **Tracy E. Higgins, Human Resources, Dept. 321, Southern Research Institute, P.O. Box 55305, Birmingham, AL 35255.**

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PhD—BIOCHEMIST

- Immediate opening for Biochemist with 5-7 yrs. experience following PhD to direct a Protein Biochemistry Group. Expertise in protein/peptide purification and characterization is essential. Experience with amino acid analysis and microsequencing is also required. Prior work with membrane bound or secreted glycoproteins would be useful.

POSTDOCTORAL ELECTROPHYSIOLOGY

- Study the electrophysiological properties of recombinant ion channels and receptors expressed in *Xenopus* oocytes as well as mammalian and yeast cells. Experience with whole cell voltage clamp or patch clamp techniques is essential.

RESEARCH ASSOCIATES

- General molecular biology, restriction mapping, plasmid and vector construction, yeast transformation, culturing yeast cells, analysis of gene expression, Northern and Western blots and preparation of cell extracts. Qualifications: BA/BS in Biology or Chemistry.
- Conduct microbiological experiments on biofilms, analytical experiments on inhabitation of sulfate-reducing bacteria in biofilms. Qualifications: MS, experience in microbial physiology or microbiology (preferably with anaerobe background) HPLC and capillary GC useful.
- cDNA and genomic cloning, growth of bacteriophage, preparation of bacteriophage and plasmid DNA, DNA sequencing, in vitro transcription and translation, gel electrophoresis of DNA, RNA, and protein. Qualifications: BS/MS in Molecular Biology or Biochemistry. Knowledge of protein purification methods and enzyme assays, plant systems (especially transgenic plants) a plus.

We offer a comprehensive benefits package and competitive salaries. For confidential consideration, please submit your curriculum vitae, a statement of research interests and goals, and the names of three professional references to SIBIA, Dept. 4162, 505 Coast Blvd., So., La Jolla, CA 92037.

SIBIA

**THE SALK INSTITUTE
BIOTECHNOLOGY/INDUSTRIAL
ASSOCIATES, INCORPORATED**

Equal Opportunity Employer M/F/H/V

RESEARCH FELLOW IN PIGMEAT SCIENCE

A\$30,100 - A\$51,552

**DIVISION OF FOOD PROCESSING,
MEAT RESEARCH LABORATORY,
BRISBANE, QUEENSLAND, AUSTRALIA
(RE-ADVERTISED)**

GENERAL: The Division of Food Processing undertakes a comprehensive research program in food science and food processing and has major laboratories in Sydney, Melbourne and Brisbane. The Meat Research Laboratory is situated on a 6 hectare site in the suburb of Cannon Hill, some 10 km from the centre of Brisbane. Its major objectives are to improve the efficiency of harvesting, processing, utilisation and preservation of the products and by-products of the Australian Meat Industry.

THE POSITION: Following a major strategic study of pigmeat science in Australia, the Pig Research Council has decided to support a Research Scientist at the Laboratory for a period of three years. This person should preferably have (i) a reputation in pigmeat science and (ii) an interest in industry problems and in communicating research results to industry. The successful applicant will undertake a program of research in pigmeat science of relevance to the Australian pig industry with emphasis on meat quality and carcass specifications and will be required to assist the Council in developing a coordinated program of research in pigmeat science in Australia. Collaboration with research groups breeding pigs will be required. The position offers the successful applicant the opportunity to build up a significant research group.

QUALIFICATION: Applicants should possess a Ph.D or equivalent qualification in meat science. Experience in leading a research group in pigmeat science and in managing goal oriented research programs would be an advantage.

MORE INFORMATION: Further information from Dr. A.F. Egan, at the address below.

TENURE: A term of three years in the first instance. This position offers good career prospects.

APPLICATIONS: Stating details of relevant qualifications and experience, the names of at least three professional referees and quoting Reference No. P8803 should be sent to:

**Dr. A.F. Egan,
Assistant Chief
CSIRO Division of
Food Processing,
Meat Research Laboratory,
P.O. Box 12,
Cannon Hill, Queensland, 4170
Australia.**

Fax: 61 7 399 4557.

Telex: AA 40150

Tel: 61 7 399 3122

By 13 January 1989

Previous applicants for this position will remain in consideration and need not re-apply.

CSIRO IS AN EQUAL OPPORTUNITY EMPLOYER

AB1 FD88/14



POSITIONS OPEN

LABORATORY/RESEARCH ASSISTANT. Additional staff is required to accelerate the progress of the Non A, Non B hepatitis program. Will participate in cloning of hepatitis related viruses and screening of a cDNA library and identification of putative viral clones. Appropriate candidate should have an M.S. in molecular biology/virology, and minimum of 3 to 5 years of experience in molecular technology-cloning. Northern and Southern blotting and sequencing. Excellent benefits include 5 weeks of vacation and 85% tuition refund. Send résumés to: **AP/Human Resources, The New York Blood Center, 310 East 67th Street, New York, NY 10021.** *Equal Opportunity Employer M/F.*

MARINE RESEARCH SPECIALIST IV

Full-time position limited to 30 June 1989. Provide analysis, evaluation, and recommendations to NASA for the development, implementation, and coordination of present efforts to catalog and inventory oceanographic data sets focusing on satellite-derived data of interest to the oceanographic scientific community. Involves all aspects of the development of database systems for use by the oceanographic scientific community, including database structure and user interface design, maintenance, and updating inventories, and programming. Master's degree in oceanography or computer science. Extensive background in computer programming on main frame or mini-computers required. Familiarity with large oceanographic data sets and their uses and database system highly desirable.

Good communication and writing skills necessary. Ability to work with both scientific users of data and technical staff managing data. Submit letter of application and résumé by 30 December 1988 to: **Peter Cornillon, Search Coordinator, Marine Research Specialist IV (090490) Position, The University of Rhode Island, P.O. Box G, Kingston, RI 02881.** *An Affirmative Action/Equal Opportunity Employer.*

MR SPECTROSCOPIST

The Magnetic Resonance Laboratory of Wright State University School of Medicine and the Charles F. Kettering Memorial Hospital seek an MR spectroscopist to join its staff. A Ph.D. in chemistry or an appropriately related field and evidence of research productivity with in vivo MR are required. The successful applicant will be expected to establish a vigorous independent research program, collaborate with Magnetic Resonance Laboratory users on the design and interpretation of MR experiments, and help to oversee a whole body research spectrometer. The successful candidate will be recommended for appointment to the faculty of the Wright State University School of Medicine in a suitable department. Faculty rank and salary are negotiable.

The Magnetic Resonance Laboratory currently has a whole animal spectrometer-imager with a 40-cm bore 2.3T magnet, a 9-cm bore 360-MHz spectrometer equipped for solution and solid-state spectroscopy, a human body imager with a 1.5T magnet, and a 2T whole body spectrometer.

Applicants should send current curriculum vitae and the names and addresses of three references to: **Dr. Robert A. Weisman, Chair, Magnetic Resonance Laboratory Search Committee, 234 Biological Sciences, Wright State University School of Medicine, P.O. Box 927, Dayton, OH 45401.** Applications will be accepted until the position is filled; applications received prior to 15 March 1989 will be given full consideration. *Wright State University is an Equal Employment Opportunity/Affirmative Action Employer.*

WASHINGTON UNIVERSITY

MOLECULAR BIOLOGIST to serve as manager of Integrated DNA Chemistry Facility and coordinator of laboratory course offerings in Washington University's new biotechnology masters degree program. Individual should have skills and experience in DNA manipulations and biochemistry in addition to instructional and supervisory talents. Interested candidates should send a current curriculum vitae and a letter detailing past and current training and arrange to have three letters of reference sent to: **Roy Curtiss III, Chairman, Department of Biology, Washington University, St. Louis, MO 63130.** *Washington University is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

MEMBRANE TRANSPORT

A **POSTDOCTORAL POSITION** is available immediately for an individual interested in pursuing studies on the structure and mechanism of ion-translocating ATPases. The ATPase in the plasma membrane of *Neurospora* is an electrogenic proton pump that operates via a phosphoryl-enzyme intermediate identical to those of the animal cell transport ATPases. Research will involve investigation of the biochemistry of this ATPase with the goal of elucidating its molecular mechanism. Send curriculum vitae to: **Dr. Gene A. Scarborough, Department of Pharmacology, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599-7365.** *Equal Opportunity Employer.*

MOLECULAR AND CELLULAR ASPECTS OF ENDOCRINOLOGY

The Banting and Best Department of Medical Research, University of Toronto, is seeking candidates for the position of **ASSISTANT PROFESSOR** (tenure-stream). The position is available 1 July 1989 and will carry an initial appointment of 5 years at a competitive salary.

Candidates should have a strong research background and be prepared to develop a research program in molecular and cellular aspects of endocrinology (for example—mechanisms of signal transduction, surface and intracellular receptors, growth factors, diabetes research, regulation of gene expression). The successful candidate will be expected to attract independent research grants, to spend at least 75% of his/her time in research and to participate in graduate and undergraduate training. *The University of Toronto encourages both women and men to apply for positions.*

Applicants should forward curriculum vitae, an outline of research interests, and arrange for three letters of reference to be sent directly to: **Dr. David H. MacLennan, Professor and Chairman, Banting and Best Department of Medical Research, University of Toronto, 112 College Street, Toronto, Ontario, Canada M5G 1L6.**

In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada, but foreign applications are encouraged.

POSITIONS IN VERTEBRATE BIOLOGY HARVARD UNIVERSITY DEPARTMENT OF ORGANISMIC AND EVOLUTIONARY BIOLOGY AND MUSEUM OF COMPARATIVE ZOOLOGY

Applications and nominations are invited for three assistant/associate professor positions in vertebrate biology. We seek to make appointments in such areas as systematic biology (including molecular approaches), developmental biology (including evolutionary approaches), and comparative physiology (including endocrinology and neurobiology). We are also interested in applicants whose research relates these fields to other aspects of evolutionary biology.

Applicants, preferably with postdoctoral experience, should have demonstrated high potential for imaginative research. Appointees will be expected to teach at the undergraduate and graduate levels, and should be prepared (as assistant/associate curator) to supervise curatorial staff in one of the collections of vertebrate classes in the museum.

Applications should include curriculum vitae, two representative reprints, summary of present and future research, and the names of three referees. Send correspondence to: **Dr. Karel F. Liem, Chair, Search Committee in Vertebrate Biology, Museum of Comparative Zoology, 26 Oxford Street, Harvard University, Cambridge, MA 02138** by 6 January 1989.

Harvard University is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL FELLOW—Position available in laboratory involved in research on molecular basis of cell proliferation in animal cells. Ph.D. or equivalent. Write to: **Dr. Renato Baserga, Department of Pathology, Temple University Medical School, Philadelphia, PA 19140.** *Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

NEUROSCIENTIST/ COMPUTER SCIENTIST/BIOLOGIST

Individual with background in neurosciences, computer graphics/image processing, and/or optical recording techniques to manage and direct computer and imaging resource for large multidisciplinary neuroscience research laboratory. Own research encouraged. Please send curriculum vitae and bibliography to: **Dr. J. Reis/K. Koenig, Division of Neurobiology, Cornell University Medical College, 411 East 69th Street - KB410, New York, NY 10021.** *Equal Opportunity Employer/Affirmative Action M/F/H/V.*

PEAT PROGRAM DIRECTOR NATURAL RESOURCES RESEARCH INSTITUTE

Responsibilities include the management of all peat related programs and projects, and assistance in the generation of external support for peat related projects, and active involvement in applied research.

Applicant should have Ph.D. in appropriate biological or physical science and 3 years of experience with peat and/or related materials, and demonstrated project coordination and management skills.

Applications postmarked by 31 December 1988. Send application letter, résumé and three references to: **PPD Search Committee, BioProducts Division, Natural Resources Research Institute, 3151 Miller Trunk Highway, Duluth, MN 55811.**

The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.

POSTDOCTORAL ASSOCIATE, Howard Hughes Medical Institute, Ann Arbor, Michigan.

Position available immediately to study retrovirus-mediated gene transfer into hematopoietic stem cells or liver. Projects involve the study of tissue-specific gene expression as well as the design of gene replacement therapies. An M.D. or Ph.D. is required. Support is for 2 to 3 years through the Howard Hughes Medical Institute. Send curriculum vitae and names and addresses of three references to: **Dr. James Wilson, Howard Hughes Medical Institute, The University of Michigan Medical Center, MSRB 1, Room #3520, 1150 West Medical Center Drive, Ann Arbor, MI 48109-0650.**

POSTDOCTORAL FELLOW—A group in fetal and maternal cardiorespiratory physiology is seeking an endocrinologist trained in cardiovascular endocrinology. We would rely on this person for expertise on all endocrine aspects of the circulation. We are supported by a program project grant, a training grant, and multiple PHS research grants, with participation from the Departments of Cardiology, Obstetrics, Pediatrics, and Physiology. Time will be available for personal development. All qualified persons are encouraged to send curriculum vitae to: **J. Job Faber, M.D., Ph.D., Department of Physiology, L334, Oregon Health Sciences University, Portland, OR 97201.**

POSTDOCTORAL FELLOW (Available July 1989). Cerebral Microcirculation-Pharmacologic responses of brain surface vessels in vivo. Emphasis on effects of focal endothelial damage. Studies showing how such damage alters microvascular response to vasoactive agents and how very minimal damage alters interaction of damaged site with circulating platelets. Completely equipped microcirculation laboratory. Send résumé to: **W. I. Rosenblum, M.D., Box 17, MCV Station, Richmond, VA 23298-0017.** *Medical College of Virginia is an Equal Opportunity Employer.*

POSTDOCTORAL FELLOW—MOLECULAR BIOLOGY OF LUNG DEVELOPMENT. Position available 1 July 1989 in NIH-supported laboratory program to study mechanisms of hormone effects on gene expression during development of lung cells. Qualifications: Ph.D. with background in molecular biology. Please contact: **Dr. Donald L. Shapiro, Department of Pediatrics (Box 651), University of Rochester School of Medicine, 601 Elmwood Avenue, Rochester, NY 14642.** Telephone: 716-275-5884. *An Equal Opportunity Employer M/F.*

POSITIONS OPEN

POSTDOCTORAL ASSOCIATE—Postdoctoral opportunity available to study gene products of hepatitis viruses on the molecular level in the laboratory of **Dr. Mark Feitelson**. Studies include further structural characterization of these products as well as structure-function relationships essential to better understanding of virus replication and persistence in chronic infection. Naturally and experimentally infected animal models are available to study the immunology, genetics, molecular biology, and pathology of acute and chronic hepatitis virus infections which are important to the establishment and maintenance of chronicity as well as hepatocellular carcinoma. Preference will be given to candidates with training in molecular biology and/or immunology. Please send curriculum vitae, interests, and the names of three references to: **Mary Ann Michini, Personnel Department, Fox Chase Cancer Center, 7701 Burholme Avenue, Philadelphia, PA 19111. Equal Opportunity Employer.**

POSTDOCTORAL FELLOWSHIP IN VISION RESEARCH, immediately available, to study the biochemistry of fluid pumping mechanisms of the cornea. Applicant should have experience in protein chemistry, enzymology, and/or membrane chemistry. Excellent research environment in Vision Science Research Center. NIH-funded position. Send letter and résumé to: **Dr. David R. Whitehart, Department of Physiological Optics, University of Alabama at Birmingham, Birmingham, AL 35294. An Equal Opportunity Employer.**

POSTDOCTORAL POSITION available immediately to study B cell differentiation with an emphasis on bone marrow transplants in humans as a model system. Research in progress includes examining the recovery of CD5 (Leu-1) positive B cells and the usage of immunoglobulin variable region genes during ontogeny. Experience in molecular biology is desirable. Please submit a letter describing current and past research activities, curriculum vitae and the names of two references to: **Dr. Carol Nottenburg, Division of Clinical Research, Fred Hutchinson Cancer Research Center, 1124 Columbia Street, Seattle, WA 98104. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION HARVARD MEDICAL SCHOOL

Available immediately. Organic chemist will synthesize radionuclide carrier molecules as part of a multidisciplinary program studying the toxic effects of internal emitters in cancer radiotherapy. Salary contingent on experience (NRSA Guidelines). *U.S. citizenship or permanent residency status required.* Please contact: **Dr. A. I. Kassiss, Harvard Medical School, SWRL, 50 Binney Street, Boston, MA 02115. Telephone: 617-732-2184. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available immediately to work on the molecular biology of antigen presentation and genetic control of human immune response. The project includes T-cell cloning and sequencing of MHC class II genes. Experience in tissue culture and IL-2 assay advantageous. Send curriculum vitae and names of three references to: **Dr. Aftab A. Ansari, Johns Hopkins University School of Medicine, Room 3N12, 5601 Loch Raven Boulevard, Baltimore, MD 21239. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available immediately to participate in research in structural biology of macromolecular assemblies using electron microscopy and image processing administered by Health Research, Inc. The candidate should have a strong mathematical background and be willing to further develop mathematical and computational tools for classification, 3-D constructions, and restoration of EM data. Send curriculum vitae and references to: **Dr. Joachim Frank, Wadsworth Center for Laboratories and Research, Albany, NY 12201-0509. An Equal Opportunity Employer.**

POSTDOCTORAL POSITION Northwestern University in Chicago, Illinois, for experiments in molecular genetics and embryology. Experience in molecular biology desired. Salary negotiable, competitive and based on level of training. Inquire with curriculum vitae to: **Philip Iannaccone, M.D., Ph.D., Department of Pathology, Northwestern University, 303 East Chicago Avenue, Chicago, IL 60611.**

POSITIONS OPEN

POSTDOCTORAL POSITION IN COMPUTER AIDED DRUG DESIGN: Immediate opening for Ph.D. with experience in modeling software and hardware to conduct research on novel AIDS drugs. Background in nucleic acid structure desirable. Send curriculum vitae to: **Dr. L. B. Hendry, Department of Physiology and Endocrinology, Medical College of Georgia, Augusta, GA 30912; FAX 404-721-6212.**

POSTDOCTORAL POSITION PH.D. IN BIOCHEMISTRY/IMMUNOLOGY

Haskell Laboratory for Toxicology and Industrial Medicine, E. I. du Pont de Nemours & Co., Inc., an Equal Opportunity Employer, has an open postdoctoral position. Duties include participation in pulmonary mechanistic studies designed to elucidate toxicological effects of inhaled particulates. The successful candidate should have working knowledge of tissue culture methods and/or experience with ELISA and standard protein isolation techniques. Postdoctoral positions are 1-year assignments renewable for a second year upon mutual agreement. Excellent salary.

Candidates should send their curriculum vitae to: **Van P. McGehee, Manager, Employee Relations, Du Pont Company, Haskell Laboratory, P.O. Box 50, Newark, DE 19714.**

POSITIONS OPEN

POSTDOCTORAL POSITION available immediately at Rutgers University to study effects of internal processes on response of a soft-water lake to acid deposition. Background in aquatic chemistry/inorganic analysis required. Interest in role of biota in element cycling helpful. Send curriculum vitae and names of these references to: **Dr. Alan McIntosh, CCES, Doolittle Hall, Busch Campus, Rutgers University, New Brunswick, NJ 08903.**

POSTDOCTORAL POSITION TUMOR IMMUNOLOGY

Two fellowships are available beginning January 1989. One project involves the characterization and isolation of a tumor-facilitating factor which is a glycoprotein produced by B16 melanoma cells. The study will include both the molecular biology and cellular immunology of this glycoprotein. A second project involves the biochemical and cellular immunology of a factor found in the serum of UVB-treated mice that transfers increased susceptibility to the growth of B16 melanoma cells. Send curriculum vitae, a brief statement of research interests, and the names of three references to: **Neil I. Brody, M.D., Ph.D., Department of Dermatology, State University of New York Health Science Center at Brooklyn, 450 Clarkson Avenue, Brooklyn, NY 11203.**

R·I·T

WIEDMAN CHAIR IN MEDICAL IMAGING

Rochester Institute of Technology invites applications for the Wiedman Chair in Medical Imaging, an endowed professorship in the Center for Imaging Science.

The successful applicant will hold a doctoral degree, or equivalent, and have a record of significant scholarly achievement in some aspect of medical imaging. The Wiedman Professor will develop a research program in medical imaging, teach at the graduate level, and provide leadership in securing funding and faculty for the medical imaging component of the Center's activities. Ample support facilities are available; interactions with the area university medical center are encouraged.

Rochester Institute of Technology is an independent, coeducational university enrolling 13,000 students. The Center for Imaging Science grants undergraduate and graduate degrees in Imaging Science and Color Science. In September, 1989, the Center will occupy a new 75,000 ft.² facility.

Please send applications and curriculum vitae to:

**Dr. Carole A. Sack, Chair
Wiedman Search Committee**



Rochester Institute of Technology

College of Graphic Arts and Photography
Box 9887
Rochester, NY 14623

RIT is an equal opportunity, affirmative action employer.

POSITIONS OPEN

POSTDOCTORAL POSITION available immediately to join research effort investigating autoimmunity of diabetes mellitus. The program will involve cloning and culture of islet reactive T lymphocytes, lymphokines, cytotoxicity and protein isolation. Experience with cell culture techniques is required. Salary is competitive. Send curriculum vitae, representative publications and names of three references to: **Dr. Michael C. Appel, Department of Pathology, University of Massachusetts Medical School, 55 Lake Avenue North, Worcester, MA 01655. Telephone: 508-856-3039.**

An Equal Opportunity Employer

POSTDOCTORAL POSITION— SIGNAL TRANSDUCTION IN MOUSE LUNG TUMORS

Available immediately to study different cell signaling enzymes and their roles in tumor initiation and promotion in vivo and the nature of the changes that occur in these enzymes during neoplasia in vitro. Related proteins include glucocorticoid receptors, lipocortin, G α s, protein kinase C, calpain, and cAMP-dependent protein kinase. Biochemistry/molecular/biology/pharmacology background preferred. Send curriculum vitae and references to: **Dr. Alvin M. Malkinson, Molecular/Environmental Toxicology Program, School of Pharmacy, University of Colorado, Boulder, CO 80309-0297.** *The University of Colorado is an Equal Opportunity Employer.*

POSTDOCTORAL POSITIONS IN MOLECULAR GENETICS OF HYPERTENSION are available for the identification and characterization of genes controlling blood pressure in genetically hypertensive rats. Techniques include library construction, cloning, gene regulation, RFLP analysis, and transgenic animals. Applicants must have Ph.D., M.D., D.V.M., or equivalent degrees and be citizens or permanent residents of the United States. Send curriculum vitae to: **Dr. John Rapp, Department of Medicine, Medical College of Ohio, C.S. 10008, Toledo, OH 43699.** *An Equal Opportunity Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITION. A position is available to study retrovirus integration. The projects involve studying several retrovirus integrase proteins and in vitro retrovirus DNA recombination. The candidate should have experience in molecular biology. Send curriculum vitae and the names of three references to: **Dr. Duane Grandgenett, Institute for Molecular Virology, St. Louis University, 3681 Park Avenue, St. Louis, MO 63110.** *St. Louis University is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION: Available immediately for up to 3 years; involves the molecular basis of membrane fusion (exocytosis) in two systems—sea urchin eggs, and catecholamine-secreting PC-12 cells. We will examine the potential role of calcium-calmodulin induced protein dephosphorylation in secretion, using affinity-purified, domain-directed antibodies to the calmodulin-dependent phosphatase. Skills in microscopy, mammalian tissue culture, and protein fractionation are particularly valuable. Send curriculum vitae and three letters of reference to: **Dr. Donald J. Wolff, University of Medicine and Dentistry of New Jersey—Robert Wood Johnson Medical School, Department of Pharmacology, 675 Hoes Lane, Piscataway, NJ 08854-5635.** *The UMDNJ is an Affirmative Action/Equal Employment Opportunity Employer, M/F/H/V.*

POSTDOCTORAL RESEARCH ASSOCIATE to participate in NCI-funded study on molecular mechanisms of drug resistance. East Carolina University is a constituent institution of the University of North Carolina, is situated on the beautiful coastal plain of Eastern North Carolina, and offers a rich environment for both intellectual and recreational pursuits. Federal law requires proper documentation of identity and employability at the time of employment. Please send curriculum vitae and names and addresses of at least three references by 31 December 1988, to: **Jonathan Nyce, Ph.D., Department of Pharmacology, School of Medicine, East Carolina University, Greenville, NC 27858.** *Affirmative Action/Equal Employment Opportunity.*

POSITIONS OPEN

POSTDOCTORAL POSITION IN PLANT MICROBIOLOGY to study *Agrobacterium* T-DNA transfer and crown gall disease. Ph.D. degree in genetics, molecular biology, or biochemistry, and experience in molecular genetics or enzymology. Salary range \$18,000 to \$20,000. Send résumé, reprints and three letters of recommendation by 23 December 1988 to: **Dr. Walt Ream, Department of Agricultural Chemistry, Oregon State University, Corvallis, OR 97331.** *OSU is an Affirmative Action/Equal Opportunity Employer and complies with Section 504 of the Rehabilitation Act of 1973. OSU has a policy of being responsive to the needs of dual-career couples.*

POSTDOCTORAL RESEARCH OPPORTUNITIES DEPARTMENT OF BIOCHEMISTRY PURDUE UNIVERSITY

Positions are available offering training in:

- Gene Expression in Eukaryotes and Prokaryotes
- Protein Translation Across Biological Membranes
- Regulation of Phospholipid Metabolism in Normal and Transformed Cells
- Regulation of Synthesis and Posttranslational Modification of Enzymes
- Plant Molecular Biology
- Analysis of Enzyme Function by Site-Directed Mutagenesis
- Molecular Biology of Fatty Acid Synthesis

The faculty has extensive experience in training scientists in modern biochemical and molecular biological techniques and an impressive record of continued grant support. Interested individuals should send a résumé, including a brief statement of specific areas of research interest, to:

**Postdoctoral Program
Department of Biochemistry
Purdue University
West Lafayette, IN 47907**

*Purdue University is an Equal Opportunity/
Affirmative Action Employer.*

POSTDOCTORAL PROGRAM IN PHYSICAL BIOCHEMISTRY

Specialty Laboratories, Inc., a research-driven high tech clinical laboratory, announces an opening in its Postdoctoral Research Program in physical biochemistry.

Qualifications for this program include a strong background in physical biochemistry, biophysics or biochemistry.

Experience in magnetic resonance is highly desirable.

Research focus is study of biological materials using electron paramagnetic resonance spectroscopy of nitroxide spin labels.

Director of this research is leading scientist in the field of biological electron paramagnetic resonance.

Publication in peer-reviewed journals is encouraged.

Postdoctoral fellows who demonstrate outstanding capabilities will be given an opportunity to join the team as Associate or Senior Scientist.

Interested candidates should send their curriculum vitae, list of publications and addresses/telephone numbers of three references to:

**James B. Peter, M.D., Ph.D., President
2211 Michigan Avenue
Santa Monica, CA 90404-3900**

UNIVERSITY OF GUAM POSITION ANNOUNCEMENT

DEAN, COLLEGE OF AGRICULTURE AND LIFE SCIENCES

(Director, Guam Cooperative Extension Service and
Director, Guam Agricultural Experiment Station)

MAJOR DUTIES: The Dean is responsible for providing executive leadership and direction for the academic and administrative affairs of the College of Agriculture and Life Sciences and reports directly to the Academic Vice President.

Provides direction for the planning, implementation and evaluation of instructional programs and curricula of the College of Agriculture and Life Sciences. Assumes overall responsibility as Director of Cooperative Extension and Research for research and extension programs carried out by the college in cooperation with the United States Department of Agriculture.

Provides leadership and overall direction for the international programs of the college, for the public information and publications program, and for the fiscal, personnel, facilities, and other administrative affairs of the college.

QUALIFICATIONS: Academic accomplishment including an earned doctorate from an accredited institution in the field of agriculture or closely related research area, that will provide for leadership in cooperative extension agricultural research, and resident instruction and meet the standards required to obtain tenure appointment in the field of preparation. Outstanding abilities in establishing effective communication and relationships with a broad and diverse multi-ethnic constituency including faculty, staff, students, the public, government, and professional and business groups.

APPLICATION PROCEDURE: Requests for official application forms may be directed to the Personnel Office, University of Guam, UOG Station, Mangilao, Guam 96923. Completed application forms, curriculum vitae, all undergraduate and graduate transcripts sent from respective colleges/universities and three recent letters of recommendation should be addressed to: Chair, Search Committee for Dean of CALS, College of Agriculture and Life Sciences, UOG Station, Mangilao, Guam 96923 and must be postmarked on or before December 23, 1988.

Proof of identity and work eligibility in the United States are required.

The University of Guam is an equal opportunity, affirmative action educational institution and applications from women and minority group members are encouraged.

RESEARCH SCIENTISTS

Athena Neurosciences, located in the San Francisco Bay Area, is a biotechnology-based company committed to the discovery and development of new products to diagnose and treat diseases of the nervous system. Our research focuses on Alzheimer's disease and the delivery of drugs to the brain. Our laboratories will be moving to a newly constructed facility in South San Francisco in early 1989 and this expansion has created the following opportunities to join our company.

Cell Biology—Two positions exist at the Ph.D level for cell biologists. The first one requires a strong background in biochemistry. Qualifications include experience in cell culture, protein purification and characterization, as well as the design and implementation of tissue culture bioassays. (Ad #20B)

The second position will require a Ph.D or equivalent in cellular neurobiology, cell biology or biochemistry. Experience with tissue culture of nervous system or endothelial cells is highly desirable, as is familiarity with immunocytochemistry, membrane receptors and molecular trafficking in mammalian cells. (Ad #21B)

Enzymology—One position is available at the Ph.D or possibly M.S. level for an individual with extensive experience in enzymology. We are particularly interested in the enzymology of proteolysis and other post-translational modifications. Responsibilities will include the development of enzymatic assays and analysis of kinetic measurements. Experience with conventional biochemical techniques is also desired. (Ad #22B)

Immunochemistry/Biochemistry
—The optimal candidate will have a Ph.D with proven leadership skills in the area of immunochemistry and biochemistry. Experience is necessary in the use of both monoclonal and polyclonal antibodies to resolve fundamental and applied biological problems. (Ad #23B)

Pharmacology—Two positions are available in our pharmacology effort. The first is for an individual with a Ph.D in pharmacology or related field with two to three years' experience in pharmacokinetics related to CNS-active drugs. Experience with tumor models and receptor binding assays is desirable. (Ad #24B)

The second position is for a B.S. or M.S. level individual in pharmacology or related areas such as physiology or toxicology. In vivo pharmacology and HPLC experience are essential. Studies will involve pharmacokinetics of CNS-active drugs. (Ad #25B)

Transgenics—One position is available for a highly independent and motivated individual at the Ph.D level with proven experience in creating and analyzing transgenic mice. Responsibilities include the development of animal models for Alzheimer's disease and other CNS-related disorders. (Ad #26B)

Mammalian Expression/ Biochemistry Research

Associate—An individual with a B.S. or preferably M.S. in the biological sciences is sought to assist in developing systems to understand the molecular mechanisms of Alzheimer's disease. The appropriate candidate will have at least two years of laboratory experience and the ability to work independently. Experience in molecular biology is essential and experience in tissue culture or biochemistry is preferable. (Ad #34A)

Athena Neurosciences is financially secure and backed by the most prominent and successful venture capitalists in the biotechnology industry. We are committed to scientific excellence and offer an exciting professional environment in addition to competitive salaries, benefits and equity participation. Please send curriculum vitae to: **Athena Neurosciences, 957-P Industrial Road, San Carlos, CA 94070. Please refer to the appropriate ad number in correspondence.** An equal opportunity employer.

athena neurosciences

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE

The Division of Radiation Biology, Department of Radiation Oncology, Stanford University School of Medicine, has an opening for a tumor biologist/pharmacologist at the research associate level. Successful candidate will join research team investigating mechanisms of action and clinical potential of drugs which sensitize tumors either to radiation or to chemotherapeutic agents. The drugs, mostly synthesized by the research group, may be electron-affinic radiosensitizers, bioreductive hypoxic cytotoxins or agents which improve tumor oxygenation. A candidate with experience in some or all of the following is sought: assays of animal tumors, HPLC, drug pharmacokinetics, flow cytometry, and mammalian tissue culture. Salary \$30,000 plus, depending on experience. *Stanford University is committed to increasing representation of women and members of minority groups, and particularly encourages application from such candidates.* Applicants should submit curriculum vitae and names of three references to: **Dr. J. Martin Brown, Division of Radiation Biology, Department of Radiation Oncology, Stanford Medical Center, Stanford, CA 94305.**

POSTDOCTORAL RESEARCH ASSOCIATE.

Cytogeneticist, Ph.D. Mutagenesis, carcinogenesis, molecular genetics, mammalian cell culture, immunocytochemistry, chromosomal and ploidy aberrations. Starting salary \$20,400 to \$24,000 depending on experience. Send curriculum vitae and names of three references to: **Dr. Jonathan J. Li, Hormonal Carcinogenesis Laboratory, University of Minnesota, Veterans Administration Medical Center, Research Section 151, One Veterans Drive, Minneapolis, MN 55417.**

The University of Minnesota is an Equal Opportunity Employer and Educator and specifically invites and encourages applications from women and minorities.

RESEARCH APPOINTMENTS at The Bureau of Engraving and Printing in Washington, DC. Several positions available for postgraduates, faculty, and graduate students to participate in research projects involving chemistry, physics and technology of papers and polymers, characterization of elastomers, thermal analysis, experimental design, process engineering and control, electronic engineering, optics, microscopy, spectroscopy, graphic arts, computer science, and artificial intelligence. Contact: **Research Participation Program/BEP, University Programs Division, Oak Ridge Associated Universities, Box 117, Oak Ridge, TN 37831-0117. Telephone: 615-576-3190.** Please indicate if interested in postgraduate, faculty, and/or student program.

RESEARCH ASSOCIATE—conduct research in the areas of post-transcriptional regulation of gene expression, particularly on the aspects of molecular mechanism of messenger RNA stability and translational control in mammalian cells. Requirements include Ph.D. in molecular biology or biochemistry or related field plus three years postdoctoral research experience in the above areas; strong background in nucleic acid biochemistry and thorough knowledge of recombinant DNA technologies, including gene cloning, DNA sequencing, S1 nuclease mapping, primer extension, RNA/DNA blotting, in vitro mutagenesis, in vitro transcription and translation. Experience with transfection assays and basic immunological techniques also required. Salary \$25,000 per year. Forty hours per week. Respond with résumé only to: **Job Order #9215, Division of Employment Security, Government Center, Boston, MA 02114.**

RESEARCH ASSOCIATE POSITIONS—Two positions are available to join an active research group working on aspects of cell membrane function in the lens of the eye in relation to cataract. A doctorate degree is required for each position. For one position, a demonstrated understanding of the biochemistry/biophysics of ATPases and ion channels is required. For the other position, the applicant must be experienced in the study of membrane properties using IR and Raman spectroscopy. Send curriculum vitae and the name and address of three references to: **The Director of Research, Kentucky Lions Eye Research Institute, 301 East Muhammad Ali Boulevard, Louisville, KY 40202.**

Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

RESEARCH ASSOCIATE with experience in some aspect of triphosphoinositide metabolism to study red cell membranes derived from psychiatrically-ill subjects. Familiarity with techniques for the study of receptor function will be helpful. Annual salary is up to \$30,000, depending on qualifications. An advanced degree is required. Send résumé and names of references to: **Dr. H. L. Meltzer, New York State Psychiatric Institute, Box 54, 722 West 168 Street, New York, NY 10032.** *Equal Opportunity Employer.*

RESEARCH ASSOCIATE/POSTDOCTORAL position to study neurophysiology of locus coeruleus neurons in waking monkeys. Expertise in primate behavior required. Excellent facilities. Salary commensurate with experience. Excellent benefits and opportunity for advancement. Send curriculum vitae and three references to: **Gary Aston-Jones, Department of Mental Health Sciences, Hahnemann University, M.S. 403, Broad and Vine, Philadelphia, PA 19102.** *Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSOCIATE

Perform research on characterization, stability and rheology of coal-water mixtures by experimental method and numerical simulations. Studies include slurry transport, suspension/slurry rheology, and particle and suspension characterization by using slurry pipelines, Sedigraph, Elzone Counter, Microtrac and Couette, cone-and-plate and capillary viscometers. Experience not required but a Ph.D. degree in chemical engineering is required. The candidate must have done project or thesis in the area of suspension rheology and numerical simulations on multiphase flow. The school project or course must also include using slurry pipelines, Sedigraph, Elzone Counter, Microtrac and Couette, cone-and-plate and capillary viscometers. Salary offered: \$24,000 per year, 40 hours per week, 9 a.m. to 5 p.m., Monday through Friday. Send résumé to: **Illinois Department of Employment Security, 401 South State Street—3 South, Chicago, IL 60605. Attention: Ms. Marie Ninneman, Ref. #8851-N. An Employer Paid Ad.**

RESEARCH INVESTIGATOR at diabetes center affiliated with leading medical school. Duties will include the organization of a Molecular Biology Core Laboratory and the set up of a vigorous research program to investigate the molecular biology of hormone receptor signal transduction.

The qualifications required are an M.D. or Ph.D. degree in molecular genetics including demonstrated substantial predoctoral training in recombinant DNA technology applied to cell biology.

In addition, at least 3 years of postdoctoral training are required in site-directed in vitro cDNA mutagenesis of the insulin and epidermal growth factor receptors and related protein kinases. The candidate must have demonstrated excellence in the preparation of functional chimeric tyrosine kinase receptors and their biological analysis.

Salary \$40,000 per annum. Please send résumés to: **Division of Employment Security, Hurley Building, Boston, MA 02114** and refer to job reference #9205. *An Equal Opportunity/Affirmative Action Employer.*

SENIOR SCIENTIST—design and construction of a piezoelectric scanned Fabry-Perot, and of coarse and fine solar sensors for stabilization of space platforms; specification of optics and detector systems for x-ray laser project; cometary expert; definition of management teams for future NASA/ESA collaboration; knowledge of optical and IR sensors, precision angular measurement problems, ability to carry out and oversee mechanical and technical projects, knowledge of astrophysical problems; quality assurance. Ph.D. and 2 years of experience required; 8 years of experience in related occupation; \$4,000 per month; job location is Landover, Maryland; proof of legal right to work in United States required. Mail résumé and copy of ad to: **D.E.E.D., 1100 North Eutaw Street, Baltimore, MD 21201; Job Order: #7008135.**

POSITIONS OPEN

RESEARCH FACULTY-GERIATRICS

One associate and two assistant professor faculty positions in the Division of Geriatric Medicine, Department of Medicine are being offered at Case Western Reserve University School of Medicine. Research opportunities are focused in the metabolism of aging, epidemiology, and health systems research. Competitive salary with outstanding fringe benefits. Send curriculum vitae and references to: **Jerome Kowal, M.D., Geriatric CARE Center, University Hospitals of Cleveland, 2074 Abington Road, Cleveland, OH 44106.** *The University is an Equal Opportunity/Affirmative Action Employer.*

RESEARCH POSITIONS—CLONING VIRAL MOLECULAR BIOLOGY

B.S./M.S./Ph.D. positions available immediately with high growth company. We seek individuals thoroughly experienced in all aspects of molecular biology to include library construction, cloning, sequencing, and characterization of genes of interest to support ongoing product development.

Send résumé, references, and salary requirements in confidence to:

**Oncor, Inc.
V.M.B. Cloning
Box 870
Gaithersburg, MD 20877**

RESEARCH PHYSICIAN

Medical school in Philadelphia, Pennsylvania, is in need of a research physician to conduct research in immuno-oncology. Applicant should have an M.D. in internal medicine and a Ph.D. in immunology. Experience required or experience in immunotherapy of cancer is required. \$25,000 per year. Full-time. Submit résumé to: **David Berd, M.D., Thomas Jefferson University, Suite 1015, 1025 Walnut Street, Philadelphia, PA 19107.**

RESEARCH SCIENTIST/FELLOW POSTHARVEST HORTICULTURE CSIRO—SYDNEY, AUSTRALIA

CSIRO Division of Horticulture has two positions available for scientists to conduct applied postharvest research. Position ref.N1 is an indefinite appointment. Position ref.N2 is a 3-year fellowship with the possibility of a further term. Appointees will work in one of the following areas: (i) Investigations of semi-permeable plastic films for controlling the gaseous environment and water loss from fruit, (ii) Modified atmospheres for storage of perishable produce, (iii) Development of new techniques to control postharvest pathogenic diseases of fruit, (iv) Storage of ornamental crops. Applicants should hold a Ph.D. in a relevant field. Experience in postharvest research related to the above nominated areas desirable. Salary: Up to A\$43,861 per annum. Duty statement and selection criteria available from: **Mr. A. Murphy, Telephone: Australia 618-274-9245; Fax: 618-274-9247.** Applications quoting above reference numbers to: **Chief, CSIRO Division of Horticulture, GPO Box 350, Adelaide, SA 5001, Australia,** by 4 weeks from date of publication. *CSIRO is an Equal Opportunity Employer.*

SENIOR PROFESSORSHIP IN THE SPACE SCIENCES UNIVERSITY OF CALIFORNIA, LOS ANGELES

UCLA seeks an outstanding scientist, theoretical or experimental, in the space sciences, broadly construed as any physical science dependent upon, or stimulated by, data collected by space techniques. The appointment may be singly in any one of the Departments of Astronomy, Atmospheric Sciences, Chemistry, Earth and Space Sciences, or Physics, or jointly between departments and/or the Institute of Geophysics and Planetary Physics. Strengths of UCLA that the appointment might complement include: space plasma physics, solar-planetary relationships, climate dynamics, star formation, cosmochemistry, and planetary physics.

Interested individuals should contact: **Professor William M. Kaula, Department of Earth and Space Sciences, University of California, Los Angeles, CA 90024-1567. Telephone: 213-825-4363.** *UCLA is an Affirmative Action/Equal Opportunity Employer.*

CELL BIOLOGISTS VIROLOGISTS BIOCHEMISTS

MICROBIOLOGICAL ASSOCIATES has immediate openings in its Biotechnology Services Division. The division works with industrial leaders in biotechnology worldwide to characterize genetically engineered cell lines which will ultimately be used by our clients to produce pharmaceuticals. Microbiological Associates is both the originator and the world's leader in such services.

CELL BIOLOGISTS and VIROLOGISTS are needed to direct a variety of cell culture tests and virological tests on the candidate cell lines. BIOCHEMISTS are needed to direct enzymatic and molecular biology based tests used to characterize the cell substrates.

We would prefer candidates with experience in private industry, and as a minimum, those with a Ph.D. and at least two years' experience after completion of a postdoctoral program.

Microbiological Associates offers a unique environment for scientists. The company's multidisciplinary programs involve bacteriology, molecular virology, genetic toxicology, serology and general toxicology. The possibility for collaboration creates an atmosphere for professional growth and research opportunities.

Come join us and help build on our more than 40-year tradition of scientific excellence.



Life Sciences Center
9900 Blackwell Road
Rockville, MD 20850

Cardiovascular Pharmacologist/ Biochemist

Parke-Davis Pharmaceutical Research Division, Warner-Lambert Company, is seeking a self-motivated, innovative Scientist to actively participate in collaborative, multidisciplinary research on novel treatments of cardiovascular diseases in the Pharmacology Department at their **PHARMACEUTICAL RESEARCH FACILITY** in ANN ARBOR, MICHIGAN.

The position requires:

- BS/MS in biology, pharmacology, physiology or related discipline
- Experience in membrane or protein biochemistry desirable, including skills in radioimmunoassay, electrophoresis and protein purification
- Excellent written and oral communications skills
- Outstanding ability to work as part of a team effort

Employment will be at our modern facilities adjacent to The University of Michigan campus. Interested, qualified applicants should send curriculum vitae and salary requirements in confidence to **Ms. S. Hultquist, Human Resources Representative, PARKE-DAVIS, 2800 Plymouth Road, Ann Arbor, MI 48105.**

PARKE-DAVIS

DIVISION OF WARNER LAMBERT COMPANY

"Equal Opportunity in Action"

Research Scientist M.I.T.

NIEHS Center for Environmental Health Sciences (Toxicology Core)

Project involves study of mutational spectra in cells derived from humans and the development of necessary technology.

Ph.D. or Sc.D. with five years' experience in mammalian cell technology and molecular biology, as well as experience in the development and application of high fidelity DNA amplification and gradient denaturing gel electrophoresis required. Good record of publication in this or related area and competitive grant award performance must be demonstrated. Salary - \$40,000 annually. MIT is a non-smoking environment.

Forward resume and bibliography with references to:

Prof. W.G. Thilly
Director, M.I.T. Center for
Environmental Health Sciences
400 Main Street, Room E18-666
Cambridge, Massachusetts 02139



A COMMUNITY
AT WORK

M.I.T. IS
AN EQUAL
OPPORTUNITY/
AFFIRMATIVE
ACTION
EMPLOYER

MIT

POSTDOCTORAL FELLOWSHIPS PCR-DNA AMPLIFICATION

Cetus, the pioneer of the Polymerase Chain Reaction and a frontrunner in Biotechnology, is seeking applications for two Postdoctoral Fellowships to study the structure and function of thermostable DNA Polymerases.

Efforts will be directed toward improved understanding of the Polymerase Chain Reaction (PCR) in vitro DNA amplification technique and extending the applications for thermostable DNA Polymerases. Responsibilities include detailed characterization of kinetic properties, such as extension rate, processivity, displacement synthesis and fidelity. The successful applicant will have the opportunity to collaborate with the highly motivated CETUS PCR Group.

We require a Ph.D. in Biochemistry or Molecular Biology and up to 3 years' directly relevant experience in nucleic acid enzymology. Preference will be given to highly creative, exceptionally productive scientists with experience studying kinetic properties of DNA Polymerases(s) and with fidelity assays. Experience with antibody-affinity chromatography would be an asset. Excellent written communication skills are essential. This position will be a 2 year appointment and may be extended to 3 years by mutual agreement.

Cetus offers competitive salaries and excellent benefits. For immediate and confidential consideration, please send your CV to: **Cetus Corporation, Box DG, 1400 53rd Street, Emeryville, CA 94608.** We are an Equal Opportunity Employer.



POSITIONS OPEN

SCIENTISTS—BIOMEDICAL RESEARCH

Several staff scientist positions exist at the U.S. Army Medical Research Institute for Infectious Diseases, Department of the Army. These openings are competitive Federal Civil Service positions and applicants must be U.S. citizens.

\$33,218 through \$43,181 per annum

IMMUNOLOGIST—Selectee will be a part of a multidisciplinary team studying immunity to bacterial diseases. Research emphasizes the fields of immunology, protein chemistry and antigen purification. Goal is the development of new vaccines against bacterial agents. Studies include the definition of bacterial antigen and toxin structures, and development of methods to obtain these antigens for testing as vaccines.

\$39,501 through \$51,354 per annum

MOLECULAR GENETICIST—Selectee must have experience in modern molecular genetics, especially in the area of expression. Research involves the cloning and expression of protein toxins and their alteration to non-toxic forms for testing as vaccines. Collaboration with in house or other scientists (worldwide) who are studying toxins' mechanisms of action will be encouraged.

\$33,218 through \$43,181 per annum

CELL/MOLECULAR BIOLOGIST—Selectee will participate in a program studying microbial and toxin pathogenesis. Areas of interest include receptor-ligand interactions, intracellular trafficking and transcytosis in epithelial and antigen processing cells, protein structure-function studies and virulence mechanisms.

The Institute, which as excellent facilities, is a leading medical research facility engaged in the development of drugs and vaccines against militarily important diseases. All research is unclassified and publication is encouraged. The Institute is located in Frederick, Maryland, in a semi-rural setting, with ready access to the metropolitan areas of Washington, D.C. and Baltimore, Maryland.

Application procedures: For specific job information, application forms and procedures, contact:

Mr. Raymond J. Mangold
Civilian Personnel Office
Fort Detrick, Frederick, MD 21701-5000
Telephone: 301-663-2007
Equal Opportunity Employer

Louisiana State University (LSU) Eye Center is looking for a **SENIOR PHARMACOLOGIST**. Applicant should be interested in drug delivery systems, although other areas of research will be considered.

Previous experience in ophthalmology not necessary. Interested applicants send curriculum vitae to: **Herbert E. Kaufman, M.D., LSU Eye Center, 2020 Gravier Street, Suite B, New Orleans, LA 70112. LSUMC is an Equal Employment Opportunity/Affirmative Action Employer.**

PERMANENT POSITION SENIOR RESEARCH ASSOCIATE With Advancement Possibilities

Experienced, (Immuno)histochemist, at University Hospital. Considerable bench work, Doctorate preferred but not required. Original work on aspects of human carcinoma, ultraviolet and transmission electron microscopy experience desirable. Outstanding salary and excellent benefits. Send curriculum vitae, details on expertise and bibliography to: **Box 186, SCIENCE.**

Equal Opportunity Employer M/F

STAFF TOXICOLOGIST

California Department of Food and Agriculture seeks staff toxicologists in its pesticide regulatory program. Incumbents will evaluate toxicology studies and/or conduct risk assessments. Doctorate in toxicology or closely related biological field followed by 3 years of relevant experience is required. Salary range begins at \$3990 per month. Submit résumés by 6 January 1989 to:

Department of Food and Agriculture
Examinations Unit
1220 N Street, Room 154
Sacramento, CA 94271-0001

POSITIONS OPEN

STAFF SCIENTIST III—ACCELERATOR

PHYSICS: Machine design and hardware specifications for particle accelerators, with special emphasis on the effects of field imperfections and tracking of spin polarized particles. Develop computer simulation model of electron beam accelerator. Develop procedures and software to allow stepwise commissioning of the accelerator paralleling the construction phase and leading into operations. Provide leadership for a team of physicists, engineers, computer scientists, and programmers. Forty hours per week, 9:00 a.m. to 5:00 p.m., \$59,900 per year. Ph.D. in physics and 5 years of experience in job or 5 years of experience performing research in accelerator physics, with emphasis on spin polarization. Prior experience must include software, and its successful application in the commissioning of complex, multi-GeV electron and electron/positron accelerators and storage rings including spin manipulation. Will supervise 3 to 10 persons. Mail or hand carry résumé with copy of ad attached to: **M. J. Hotchkiss, VEC, 5145 East Virginia Beach Boulevard, Norfolk, VA 23502. J.O. #VÁ8110670.**

TEACHING POSITION IMMUNOLOGY

The Department of Biology, Washington and Lee University, invites applications for a tenure-track teaching position in immunology at the rank of assistant professor. The successful candidate should have a strong background in either microbiology or cell microstructure. Responsibilities include teaching an undergraduate course in immunology and two other courses to be determined by departmental needs and applicant interest. Applicants should either have recently completed the doctorate or have postdoctoral experience. Salary is competitive. The successful candidate must be willing to direct undergraduate research in areas of his/her own interest. Send letter of application, curriculum vitae and the names of three persons to whom we may write concerning qualifications to:

Dr. Thomas G. Nye
Department of Biology
Washington and Lee University
Lexington, VA 24450

Closing date for applications is 17 February 1989.
Washington and Lee University is an Equal Opportunity Employer.

TREE PHYSIOLOGY/PHYSIOLOGICAL ECOLOGY

This **ASSISTANT PROFESSOR**, tenure-track, 9-month academic appointment is in the Department of Forest Resources. The position involves research in whole-plant physiology/physiological ecology of forest tree species (55%), undergraduate and graduate teaching (40%), and service activities (5%). Qualifications: Required—a Ph.D. degree (by August 1989) in forest tree physiology/physiological ecology or a closely related field and demonstrated research experience with whole-plant physiology of forest tree species. Desired—at least one degree in forestry, postdoctoral research and teaching experience, publications, demonstrable potential for or record of extra-mural funding, and ability to work with an interdisciplinary research group. Closing date is 3 March 1989 or until suitable candidate is found. Submit curriculum vitae, transcripts, and have three letters of reference sent to: **Dr. Charles Hatch, Department of Forest Resources, University of Idaho, Moscow, ID 83843. Affirmative Action/Equal Opportunity Employer.**

TROPICAL BOTANIST. We are seeking a tropical botanist with research interests that include conservation ecology. This is a tenure-track position at the assistant professor level. A Ph.D. is required. The successful candidate will be expected to initiate an independent research program emphasizing tropical field studies, seek extramural funding, develop undergraduate and graduate courses in his/her specialty and teach in our introductory botany program. Send curriculum vitae, college transcripts, a synopsis of research goals and at least three letters of recommendation to: **Dr. Ivan K. Smith, Chair, Department of Botany, Ohio University, Athens, OH 45701 by 1 February 1989. Ohio University is an Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

STATISTICIANS (TWO) EVALUATIONS DEPARTMENT

We are looking for two statisticians (M.S. or B.S. with 2 to 5 years of experience) to fill positions in Ciba Corning Diagnostics' Department of Clinical Evaluations and Statistics (one opening in Oberlin, Ohio and one in Medfield, Massachusetts). The successful candidate will work with scientists and engineers in all phases of evaluations by coordinating laboratory experiments, preparing data for analysis using data acquisition and SAS programs, analyzing data using SAS, and managing external clinical trials. Experience with data management, statistics, and clinical chemistry is desired as well as an interest in working intensely with data. Please send your résumé and salary requirements to: **Ciba-Corning Diagnostics, Human Resources Department, 132 Artino Street, Oberlin, OH 44074. An Equal Employment Opportunity/Affirmative Action Employer.**

Oklahoma Baptist University announces a **TENURE-TRACK POSITION** available August 1989 to teach undergraduate courses in zoology, environmental biology and developmental biology. Ph.D. in zoology or ecology required. Applicants submit letter of application, résumé, and official transcripts by 31 January 1989 to: **Dr. Marilyn Ogilvie, Chair, Division of Natural Sciences and Mathematics, Oklahoma Baptist University, Shawnee, OK 74801, Telephone: 405-275-2850.**

TROPICOS SYSTEMS SPECIALIST

Missouri Botanical Garden, a premier institution of its type and initiator of the world's largest field-oriented tropical plant program, is actively seeking candidates to join the senior management team of TROPICOS, the botanical database at the Garden. TROPICOS has been developed to capture and manipulate information about plants worldwide. The system's manager will be challenged to implement communications between TROPICOS and other botanical systems, provide a liaison between system management and users, and train internal and external system users. Tasks include creation and refinement of user manuals, development of help menus, and participation in continuing development and enhancement of the system.

This ambitious, innovative project demands dedication, and the ideal candidates will possess a Ph.D. or equivalent experience in biological systematics. Knowledge of nomenclature and solid botanical background desirable. The selected candidate will have a proven track-record in computer usage and a demonstrable enthusiasm for working on the cutting edge of system development. This individual will also exhibit superior interpersonal skills that permit self-learning as well as teaching others.

In addition to the outstanding opportunity inherent in the position, Missouri Botanical Garden offers an exceptionally stimulating and supportive work environment and provides competitive wages and benefits, including a generous employer contribution to a Tax Deferred Annuity program. Qualified candidates are encouraged by 15 December 1988, accepted no later than 15 January 1989, to submit their curriculum vitae and three letters of reference to:

Director, Personnel Services
Missouri Botanical Garden
P.O. Box 299
St. Louis, MO 63166

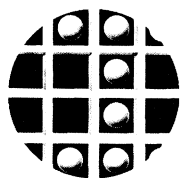
An Equal Opportunity Employer. Women and minorities are encouraged to apply.

VERTEBRATE BIOLOGIST, ASSISTANT PROFESSOR: Hollins College seeks applications from candidates able to teach undergraduate courses in developmental zoology and genetics. Position also includes teaching comparative anatomy and histology, advising students, and directing undergraduate research. Ph.D. is required and at least 1 year of teaching experience. Candidate is expected to develop and maintain an active research program. Continuing position beginning September 1989. Hollins College is a liberal arts college for women. For application, submit curriculum vitae, sample of publications, and three letters of recommendation before 1 February 1989 to: **Dr. Alice L. Bull, Chair of Biology Department, Box 9633, Hollins College, Roanoke, VA 24020. Hollins College is an Equal Opportunity Employer.**

Protein Chemist

The Henry M. Jackson Foundation, a non-profit organization affiliated with the Uniformed Services University of the Health Sciences (USUHS), is seeking an experienced protein chemist to carry out independent basic research and collaborative studies in support of clinical investigations of human immunodeficiency virus (HIV) infections. The studies will be oriented toward the elucidation of the virologic and immunologic mechanisms associated with progression of HIV disease. The work will be done in a new, laboratory in Rockville, Maryland, and the position will include the option for a joint faculty appointment at the USUHS.

The doctorate-level candidate should have a strong interest in working in the HIV field and at least 3-4 years of solid research experience in protein chemistry. A competitive salary and benefits package will be available commensurate with qualifications and research experience. Interested applicants should send their CV and a letter describing current research interests, career objectives and the names and addresses of three references to Mr. Keith Johnson, Henry M. Jackson Foundation, 11426 Rockville Pike, Rockville 20852. The Foundation is an equal opportunity employer.



INVITRON

Invitron Corporation a leading Biotechnology Company focused on the development and production of biopharmaceuticals has the following openings in its Redwood City, CA Research division:

Protein Biochemist

Ph.D. with at least 2-3 years post doctoral experience, preferably in the biotechnology industry. Expertise in protein purification and microanalytical characterization necessary. Background in immunology would be helpful. Must be interactive and capable of directing research projects at the bench.

Cell Biologist

Ph.D. with at least 2-3 years post doctoral experience. Strong background in mammalian cell culture and immunology preferred. Must be experienced in directing research at the bench as well as innovative in the areas of bioassay development and new product discovery.

Invitron offers competitive salaries and full benefits with excellent potential for growth according to ability. Please forward resumes to: Personnel, Invitron Corporation, 301 Penobscot Drive, Redwood City, CA 94063. EOE

Science Program Coordinator

Babson College, located in Wellesley, MA, invites applications for a position as Science Program Coordinator starting September 1989. This is a senior position with responsibility for the development, implementation and coordination of our science curriculum. We are leaders in science education for business students. Through curriculum development and outstanding teaching, the Coordinator will help us enhance the technological literacy of our students and their understanding of the connections among science, technology and business.

Send curriculum vitae and names of three references to: **Dr. Paul E. Ritt, Director, Academic Affairs, Babson College, Babson Park (Wellesley), MA 02157.**

Babson College is an Equal Opportunity/Affirmative Action Employer

BABSON COLLEGE
EXECUTIVE THINKING

POSTDOCTORAL/ RESEARCH ASSOCIATE POSITIONS

Two to three year Postdoctoral, Research Associate or Sabbatical positions available in the following areas:

1. Cellular adhesion
2. Myogenesis
3. Epithelial membrane transport
4. Epithelial cell biology
5. Intermediary metabolism in diabetes

We offer a competitive salary with no city wage tax deducted, a comprehensive FLEXIBLE benefits package which includes free parking and a non-smoking envt. Send resume, statement of research interests and names of three references to: **George A. Reichard, PhD, THE LANKENAU MEDICAL RESEARCH CENTER, Employment Office, Lancaster Ave west of City Line, Phila., PA 19151.**

**LANKENAU MEDICAL
RESEARCH CENTER**

Equal Opportunity Employer



The University
of
British Columbia

Biotechnology Laboratory (Human and Animal Biology)

The University of British Columbia has recently initiated the Biotechnology Laboratory under the directorship of Dr. Michael Smith. Its objective is to foster an interactive approach to problems in biotechnology. A total of ten new tenure track positions are being filled during 1987-89. Appointments will be primarily at the rank of Assistant Professor. Applicants must have a Ph.D. degree. Post-doctoral experience is required. Successful candidates will be expected to develop their own vigorous research programs and to collaborate with other faculty members on problems in one of the following areas: human, animal, plant and forest biology and in fermentation and process engineering and bio-instrumentation (with special emphasis on mammalian cell culture and the production of specific proteins) and in the application of genetic engineering techniques to these problems. Substantial start-up funding will be provided. Faculty appointed to the Biotechnology Laboratory will have a joint appointment in an appropriate academic Department and will teach and supervise undergraduate and/or graduate students in that Department's programs or in academic programs to be established under the aegis of the Biotechnology Laboratory. At this time, candidates are sought with research expertise in the following area:

Human and Animal Biology (1 position). Research interests in the molecular genetics of mammalian development. In addition, the candidate should be interested in initiating research interactions with other faculty members of the University who study animal and/or human development.

Appointments will be made starting 1st July 1989 or as soon as possible thereafter. Closing date for applications, 1st February 1989. Salary will be commensurate with qualifications and experience. The University of British Columbia offers equal opportunity for employment to qualified female and male applicants. In accordance with Canadian immigration requirements this advertisement is directed to Canadian citizens and permanent residents.

Applications, including a full c.v., plans for future research (approximately 2-3 pages), and the names, addresses and phone numbers of three references, should be sent to: **Mrs. Darlene Crowe, Administration, Biotechnology Laboratory, The University of British Columbia, Room 237 - 6174 University Boulevard, Vancouver, B.C., Canada V6T 1W5.**

POSITIONS OPEN

WEIZMANN INSTITUTE—ISRAEL

The Department of Membrane Research is seeking **TENURE-TRACK CANDIDATES** at the level of assistant professor or higher. Applicants should have a strong research record in fields broadly related to biological membranes and signal transduction. Please send list of publications, curriculum vitae, a succinct research plan, and names of three references to: **The Search Committee, Department of Membrane Research, The Weizmann Institute of Science, 76100 Rehovot, Israel.**

VERTEBRATE PHYSIOLOGIST

Indiana State University, Department of Life Sciences, invites applications for a tenure-track appointment in vertebrate physiology at the level of assistant/associate professor. Persons qualified in the area of cardiovascular or respiratory physiology are encouraged to apply. A successful candidate will be expected to obtain extramural funding, to develop and maintain a vigorous, independent research program, and to teach in an area of specialization. Minimum requirements: Ph.D., postdoctoral and teaching experience. Salary and rank commensurate with qualifications. Send curriculum vitae, a brief description of current and future research interests, and have four letters of reference sent from individuals familiar with your work to: **Dr. Timothy Mulkey, Chairperson, Physiology Search Committee, Department of Life Sciences, Indiana State University, Terre Haute, IN 47809.** Review of applications will begin 6 January 1989 and continue until the position is filled. *An Equal Opportunity/Affirmative Action Employer.*

KANSAS STATE UNIVERSITY VICE PROVOST FOR RESEARCH AND DEAN OF THE GRADUATE SCHOOL

Vice Provost for Research and Dean of the Graduate School develops University research policies; administers and coordinates sponsored research; leads and administers graduate education; develops research centers, interdisciplinary and interinstitutional programs. Letters of application should include curriculum vitae and the names, addresses, and telephone numbers of at least three references. The Search Committee will begin reviewing candidate credentials on 10 January 1989. Applications and nominations should be addressed to: **Dr. Elizabeth A. Unger, Chair, Search Committee for Vice Provost for Research and Dean of the Graduate School, 108 Anderson Hall, Kansas State University, Manhattan, KS 66506.** *Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.*

FELLOWSHIPS

NIH-funded **FELLOWSHIPS** for pre- and postdoctoral study in neurovirology/immunology/molecular biology at the University of Colorado School of Medicine. Diversified training in molecular biology of varicella-zoster virus, herpes simplex virus, and picornavirus gene expression, regulation and latency; virus glycoproteins; viral pathogenesis; humoral and cellular immune responses to virus. Apply to: **Dr. Donald Gilden, Department of Neurology, University of Colorado School of Medicine, 4200 East Ninth Avenue, Denver, CO 80262.** *The University of Colorado is an Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL FELLOWSHIPS IN TUMOR BIOLOGY AND IMMUNOBIOLOGY DEPARTMENT OF PATHOLOGY UNIVERSITY OF FLORIDA MEDICAL SCHOOL

Positions now available for investigation in human, murine and avian neoplasia. Active programs include: metastasis; oncogenes; growth factors and hematopoiesis; lymphokines; oncogenic viruses, tumor immunology, immunogenetics, molecular genetics of MHC polymorphism, and T-cell receptors. Candidates should hold Ph.D., D.V.M. or M.D. degrees, be U.S. citizens or permanent residents. Competitive salaries commensurate with experience. Send curriculum vitae and references to:

Dr. Richard T. Smith
Box J-275, J. Hillis Miller Health Center
University of Florida
Gainesville, FL 32610

GRADUATE STUDIES

NEUROSCIENCES AT BAYLOR COLLEGE OF MEDICINE

Baylor College of Medicine offers an interdepartmental Neuroscience Program for students interested in advanced study leading to the Ph.D. in neuroscience. Applications for 1989–1990 must be completed by 1 June 1989, but earlier submission is encouraged. Information regarding the program, financial support, and application procedures may be obtained from: **Daniel Johnston, Ph.D., Director of Graduate Studies, Program in Neuroscience, Baylor College of Medicine, NB302, One Baylor Plaza, Houston, TX 77030.**

LECTURESHP

THE UNIVERSITY OF CHICAGO POSTDOCTORAL LECTURESHP VERTEBRATE BIOLOGISTS

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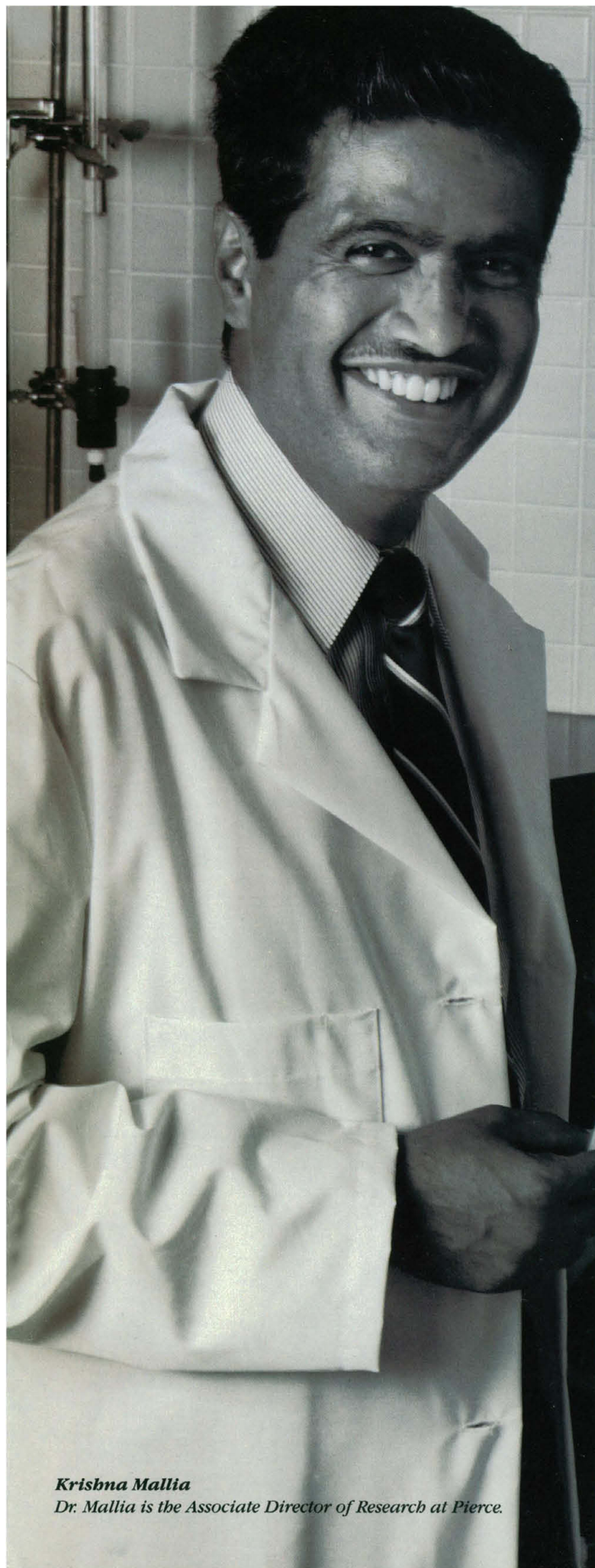
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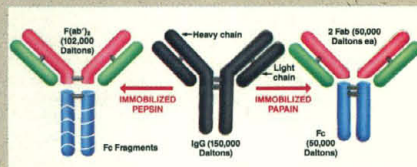
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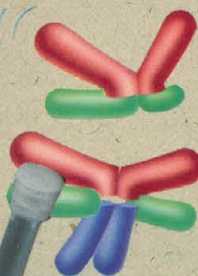
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