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greatly expanded and updated. It is a magnificent compendium of almost the whole field of radio astronomy, from Galactic molecular clouds where stars are forming to the furthest parts of the universe. Each of the 15 chapters is written by one or two astronomers, most of them currently at the National Radio Astronomy Observatory, and contains a historical introduction, some necessary background, and a description of the current status of the topic. All chapters list further recommended reading and include useful references, typically complete to early 1987.

The book is not simply an update of the first edition. Of course, it is much longer, reflecting the enormous growth of the subject in the intervening 14 years, and though some chapters are revised and expanded versions of the earlier ones, other topics or their authors are new. As in the earlier edition, and as implied by the title, the solar system is not included among the topics. All but the final four chapters cover Galactic astronomy, but even an astronomer who works mainly on extragalactic objects cannot ignore our immediate vicinity. Some topics are new to the second edition, for example the Galactic center and astronomical masers.

There is also a chapter on the cosmic microwave background, compared with only a brief mention of it in the earlier edition. I missed the interesting cosmological insights by von Hoerner in the first edition, which included a useful table of cosmological equations (albeit with some errors, perhaps left there as an exercise for the inquiring student); however, the new edition has a chapter by Condon on radio sources and cosmology that unites these topics in a practical way. Also missing is the earlier description of interferometric techniques; this is perfectly justifiable since nowadays it is unreasonable to expect most astronomers to know exactly how the Very Large Array works and more relevant for them to be aware of the many important contributions that have been made with the instrument. This book tells us about those contributions. I thoroughly recommend it as a graduate student textbook and as a refresher for older hands, who will find most of modern radio astronomy clearly, competently, and interestingly summarized here.

DEREK WILLS


Department of Astronomy,
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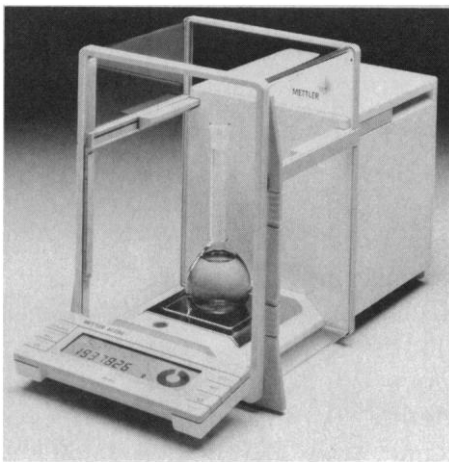
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Newly offered instrumentation, apparatus, and laboratory materials of interest to researchers in all disciplines in academic, industrial, and government organizations are featured in this space. Emphasis is given to purpose, chief characteristics, 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.

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program the analyses desired. The image can be processed by photometric decalibration, histogram equalization, histogram stretch and slide, pseudocolor, filtering, image arithmetic, localized contrast enhancement, retouching, and scaling. Macros can be created, and images can be printed as camera-ready halftones on laser printers or typesetting equipment. Data can be stored in binary or ASCII format. OPTIMAS operates on IBM AT, AT-compatible, or PS/2 computers; a video monitor, a frame grabber, and a camera are also needed. \$3995. BioScan. Circle 476.

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Antibodies

Monoclonal antibody to human gamma interferon. American Type Culture Collection. Circle 489.

Two monoclonal antibodies to phosphotyrosine that bind protein A directly. ICN Biomedicals, Biochemicals Division. Circle 490.

Monoclonal antibody to purified or cytoplasmic human actin. Serotec (United Kingdom). Circle 491.

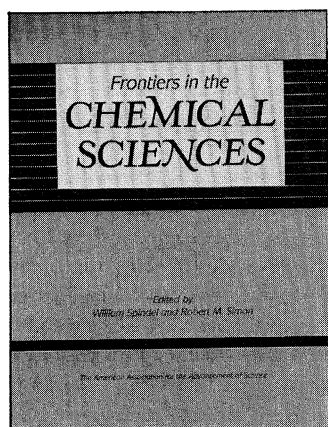
Monoclonal antibody to human, pig, chicken, hamster, and rat desmin. Serotec (United Kingdom). Circle 492.

Literature

The *Selection and Ordering Guide* brochure tells how to choose glassware for freeze drying. Labconco. Circle 497.

Liquid Chromatography Product Guide is a catalog of columns, fittings, cleanup cartridges, and packings for liquid chromatography. YMC. Circle 500.

Matrex Cellufine Sulfate is a technical data sheet about a method for concentrating, purifying, and depyrogenating viruses and viral and microbial agents. Amicon Division, W. R. Grace. Circle 502.



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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.

Immunologist, Geneticist, Ph.D. (1984). Academic research training in transplantation immunogenetics. Postdoctoral experience in molecular genetics. Broad range of skills including flow cytometry, cell culture, immunoassay (EIA, RIA, immunohistochemistry), antibody production/purification. Molecular biology experience includes Southern, Northern, and Western blotting, in situ hybridization, and PCR. Seeking challenging research position in industrial, clinical, or academic setting. Box 169, **SCIENCE**.

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Applications, including curriculum vitae, names of three referees, and an outline of proposed research and previous teaching experience should be submitted by 15 January 1989, to:

Dr. G. D. Burkholder
Department of Anatomy
College of Medicine
University of Saskatchewan
Saskatoon, Saskatchewan
Canada, S7N 0W0

ANATOMIST. Tenure-track faculty position offers an excellent opportunity for a balanced emphasis on both teaching of human gross anatomy and research in the area of neuroanatomy and/or neuroendocrinology. The candidate must have a Ph.D. in anatomy or related subject, postdoctoral training, and record of independent research. Applicants should submit résumé, transcripts, research plans, and arrange to have three letters of recommendation sent to: **Rajen Anand, Chair, Department of Anatomy and Physiology, California State University, Long Beach, CA 90840-3701.** Position open until filled; interviews to commence February 1989. *CSULB is an Equal Opportunity/Affirmative Action Employer.*

AQUATIC ECOLOGIST ARIZONA STATE UNIVERSITY

The Department of Zoology at Arizona State University invites applications for a tenure-track faculty position in aquatic ecology at the assistant professor level. The successful candidate will be expected to excel in research and teaching. Projected starting date is 15 August 1989 and applications should be received by 1 January 1989. Send curriculum vitae, statement of research and teaching interests, selected reprints, and at least three letters of recommendation to: **Dr. Michael C. Moore, Chair, Aquatic Ecology Search Committee, Department of Zoology, Arizona State University, Tempe, AZ 85287-1501.** Applications from two individuals for a single shared appointment will be considered. *Arizona State University is an Equal Employment Opportunity/Affirmative Action/Title IX Employer. Women and minorities are strongly encouraged to apply.*

ASSISTANT PROFESSOR BEHAVIORAL NEUROSCIENCE

The Department of Behavioral Neuroscience at the University of Pittsburgh seeks applicants for a tenure-track position which could begin in the fall 1989. Applicants should be interested in the involvement of second messenger systems in neural function and/or in molecular neurobiology. Applicants will be selected for interviews on the basis of their record of research accomplishment, their potential for developing a strong and interactive research program, and their ability to participate in undergraduate and graduate education. Curriculum vitae, selected reprints, a brief statement of future research interests, and three letters of reference should be sent to: **Faculty Search Committee, Department of Behavioral Neuroscience, University of Pittsburgh, Pittsburgh, PA 15260.** Applications will be reviewed beginning 15 January 1989.

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RESEARCH INSTITUTE OF SCRIPPS CLINIC AUTOIMMUNE DISEASE CENTER

Position of **ASSISTANT MEMBER** (assistant professor) or higher, depending on qualifications, available to molecular or cell biologist interested in mechanisms of autoimmunity and in using defined autoantibodies to elucidate basic questions in cell biology. Send curriculum vitae and bibliography to: **E. M. Tan, Autoimmune Disease Center, Scripps Clinic and Research Foundation, 10666 North Torrey Pines Road, La Jolla, CA 92037.**

ASSISTANT PROFESSIONAL SCIENTIST PLANT PATHOLOGIST/ECOLOGIST

The Section of Botany and Plant Pathology, Illinois Natural History Survey, located on the University of Illinois campus at Urbana-Champaign, invites applications for a full-time professional research position focusing on plant pathogens/diseases in shaping the genetic structure of, and ecological interactions within, native plant populations. A Ph.D. degree with a research specialization in plant pathology or ecology, is required; postdoctoral experience is preferred. The successful candidate will be expected to develop a vigorous, innovative, and independent research program that examines the roles of plant pathogens in natural populations and communities and in the context of diversity theory, maintenance of polymorphisms, resistance mechanisms, occurrence of co-evolutionary interactions, eradication of exotic species by biological means, or environmental stress. Opportunities to teach and advise graduate students are available by affiliation with an academic department at the University of Illinois. Salary will be commensurate with qualifications and experience; starting date is 1 June 1989.

Applicants should submit a résumé, copies of representative reprints, a brief statement of future research goals, and have three letters of reference sent, all to be received by 9 December 1988, to: **Dr. Anton G. Endress, Illinois Natural History Survey, 172 Natural Resources Building, MC-652, 607 East Peabody Drive, Champaign, IL 61820-6970; telephone: 217-244-2163.**

*The Illinois Natural History Survey is an Affirmative Action/Equal Opportunity Employer.
Women and minority candidates are encouraged to apply.*

New York University Medical Center Department of Biochemistry seeks to fill a tenure-track position in the areas of molecular biology, developmental biology, or molecular genetics at the level of **ASSISTANT PROFESSOR**. Abilities of the applicant are more important than his or her area of research. Candidate should hold a Ph.D. or M.D. degree, should have at least 2 years of postdoctoral research experience, and should be ready to establish an independent research program. Applicant should submit curriculum vitae, bibliography, letters of reference from three persons familiar with their research and teaching abilities, and a summary of present and future research interests to: **Faculty Search Committee, Department of Biochemistry, New York University Medical Center, 550 First Avenue, New York, NY 10016.** *An Equal Opportunity Employer M/F.*

ASSISTANT PROFESSOR OF BIOCHEMISTRY BRANDEIS UNIVERSITY

A tenure-track position at the level of assistant professor is available in the Graduate Department of Biochemistry. We are seeking someone who plans to investigate basic mechanisms in molecular biology, in fields ranging from replication to gene expression. Curriculum vitae, statement of research interests, and at least three letters of recommendation should be sent to:

Dr. Irwin B. Levitan
Chairman, Search Committee
Graduate Department of Biochemistry
Brandeis University
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POSITIONS OPEN

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Applications are invited for the position of assistant professor (tenure-track) in the Department of Electronics and Instrumentation, College of Science and Engineering Technology at UALR. The applicant should have a Ph.D. in bioengineering, or an appropriate parent discipline, preferably with 1 or more years of experience in teaching and research. The successful candidate will be required to teach graduate courses and perform research and scholarly work in the area of bioinstrumentation, beginning spring semester, 1989. The salary would be competitive. The department collaborates in joint research with the Medical Sciences campus, VA Medical Center and the National Center for Toxicological Research. Send curriculum vitae, and two letters of reference to: **Dr. M. K. Mazumder, Head, Department of Electronics and Instrumentation, College of Science and Engineering Technology, ETAS Building, Room 575, 2801 South University, Little Rock, AR 72204**, by 15 December 1988. *An Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR DEPARTMENT OF MICROBIOLOGY THE UNIVERSITY OF TENNESSEE KNOXVILLE, TENNESSEE

Qualifications: Doctoral degree and at least 2 years of postdoctoral experience in microbiology or closely allied biological science; demonstrated research productivity in molecular biology and potential excellence in teaching.

Responsibilities: Graduate and undergraduate teaching in microbiology/molecular biology, establishment of a productive independent research program, and academic responsibilities normally associated with a tenure-track faculty position.

Starting date: 1 August 1989.

Applicants should submit a letter of interest accompanied by curriculum vitae, a description of the applicant's research program and career objectives, and the names, addresses, and telephone numbers of three individuals who can evaluate the applicant's qualifications for the position. *Applicants from women and minorities are especially invited.* All material should be sent to: **Dr. Stuart Riggsby, Chairman, Search Committee, Department of Microbiology, University of Tennessee, Knoxville, TN 37996-0845**. Nominations should be made as soon as possible; evaluation of applications will begin in January 1989. *The University of Tennessee is an Equal Employment Opportunity/Affirmative Action/Title IX/Section 504 employer.*

ASSISTANT PROFESSOR—BIOLOGY

The joint Biology Department of the College of St. Benedict and St. John's University seeks to fill a tenure-track position beginning fall term 1989. The successful candidate will be responsible for a section of the introductory course for biology majors and microbiology for nursing students. A Ph.D. is required. A strong commitment to undergraduate liberal arts education and expertise in virology or microbial ecology is preferred. Send curriculum vitae, three letters of recommendation, and transcripts to: **Kathy Flynn, Wage and Benefit Coordinator, College of St. Benedict, St. Joseph, MN 56374**. Applications received after 28 December 1988 cannot be guaranteed consideration. *Women and minority applicants are encouraged to apply.*

ASSISTANT PROFESSOR OF BIOLOGY. The candidate will give some lectures in the courses in cell metabolism, cell biology, genetics and nutrition, and direct a seminar and teach a course in his/her specialty. A primary responsibility will be to design and direct laboratories in cell biology and metabolism. Ideal for the person who likes to interact with good students in small group settings and participate in a strong undergraduate research program. The position is available January 1989 and may continue through 1989 to 1990. Submit curriculum vitae along with names and telephone numbers of at least three references to: **Dr. E. Perry, Biology Department, Knox College, Galesburg, IL 61401**. Telephone: 309-343-0112. *Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR—BIOLOGY

The joint Biology Department of St. John's University and the College of St. Benedict seeks to fill a tenure-track position beginning fall term 1989. The successful candidate will be responsible for a year-long human anatomy/physiology course for nursing students, and general physiology (fall term) and comparative physiology (spring term), both upper division courses. A strong commitment to undergraduate liberal arts education and the ability to direct upper division students in independent research is highly desirable. A Ph.D. is required and expertise in comparative or ecological physiology is preferred. Send curriculum vitae, three letters of recommendation, and transcripts to: **Personnel Director, St. John's University, Collegeville, MN 56321**. Applications received after 16 December 1988 cannot be guaranteed consideration. *Women and minorities are encouraged to apply.*

ASSISTANT PROFESSOR—PALEOBIOLOGY.

Department of 17 with Ph.D. program seeks colleague with expertise in paleobiology, with particular interests in functional approaches and evolutionary questions, to teach undergraduate and graduate courses and to develop a strong research program. Send curriculum vitae, a statement of research and teaching interests, and three letters of recommendation by 1 January 1989 (September 1989 appointment; tenure-track) to: **R. V. Dimock, Chair, Department of Biology, Wake Forest University, Winston-Salem, NC 27109**. *Equal Opportunity/Affirmative Action.*

ASSISTANT PROFESSOR OF BIOCHEMISTRY.

Two tenure-track positions are available in the Department of Biochemistry, North Dakota State University. Ph.D. in biochemistry/chemistry and postdoctoral experience required. Ability to communicate clearly is essential. Candidates with research interests in physical biochemistry, protein/membrane structure, enzymology, or cell/developmental biology are encouraged to apply. Successful candidates are expected to develop a strong independent research program with potential for grant support and participate in teaching of graduate and undergraduate students. Send curriculum vitae, transcripts, a brief description of current and future research interests, and three letters of reference to: **Dr. Arland E. Oleson, Search Committee, Department of Biochemistry, North Dakota State University, Fargo, ND 58105**. Available 1 July 1989; closing date, 1 February 1989. *An Equal Opportunity/Affirmative Action Employer.*

THE MEDICAL COLLEGE OF GEORGIA ASSISTANT PROFESSOR OF PHARMACOLOGY AND TOXICOLOGY

A tenure-track faculty position is available in the Department of Pharmacology and Toxicology at the Medical College of Georgia for individuals with a strong research background in areas related to vascular or cardiac pharmacology. Applicant should have a Ph.D. or M.D., significant postdoctoral research accomplishments, and the ability to respond to new challenges. Current strengths of our department are in the neuroscience and cardiovascular areas. Appointees are expected to establish a strong, independent research program and participate in the education of our medical and graduate students. Please send curriculum vitae, bibliography, summary of professional goals, and names of three references to: **Dr. R. W. Caldwell, Department of Pharmacology and Toxicology, Medical College of Georgia, Augusta, GA 30912**. *The Medical College of Georgia is an Affirmative Action/Equal Opportunity Employer.*

Western Illinois University Department of Chemistry invites applications for tenure-track **ASSISTANT PROFESSORSHIPS IN BIOCHEMISTRY AND INORGANIC CHEMISTRY**. Ph.D. in the field required with postdoctoral experience preferred. Department is ACS-accredited with 11 faculty. A strong commitment to teaching and research at the undergraduate and M.S. levels is expected, as is development of an externally funded research program. The filling of these positions is contingent upon funding. Submit résumé and proposed research program before 5 January 1989 to: **Search Committee, Department of Chemistry, Western Illinois University, Macomb, IL 61455**. *Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR OF PLANT MOLECULAR BIOLOGY

Applications are invited for a tenure-track faculty position at the assistant professor level in the Department of Plant Science at the University of Delaware. Candidates should be interested in utilizing molecular techniques for improving disease resistance and other agronomic traits in maize. The faculty member would be expected to work cooperatively with ongoing research programs in maize breeding, pathology, tissue culture, and soil microbiology. Opportunities for interaction with other molecular biologists within the College would be encouraged. Teaching responsibilities include a graduate level course consistent with the individual's background and department needs. Ph.D. and postdoctoral experience in plant molecular biology is required. Send a description of research interests and plans, curriculum vitae, official undergraduate and graduate transcripts, and three letters of recommendation by 31 January 1989 to:

**Dr. James A. Hawk
Department of Plant Science
Townsend Hall
University of Delaware
Newark, DE 19717-1303**

ASSISTANT PROFESSOR POSITIONS DUKE UNIVERSITY MEDICAL CENTER SECTION OF CELL GROWTH, REGULATION, AND ONCOGENESIS DUKE COMPREHENSIVE CANCER CENTER

Duke University Comprehensive Cancer Center invites applications for tenure-track positions in a new Section of Cell Growth, Regulation, and Oncogenesis at the level of assistant professor. Investigators working at the molecular level in any area of cancer biology are encouraged to apply, but special consideration will be given to those working in the areas of growth and differentiation factors, signal transduction, molecular basis of oncogene action include recessive oncogenes and multiple drug resistance. Applicants with postdoctoral experience should have demonstrated high potential for imaginative substantial independent research. Successful candidates will also be appointed into a basic science department within the Medical Center.

Applicants should send curriculum vitae, and a brief description of present and proposed research to: **Dr. Robert M. Bell, Head, Section of Cell Growth, Regulation and Oncogenesis, Duke Comprehensive Cancer Center, Box 3814, Durham, NC 27110**. Applicants should arrange for three or more letters of recommendations to be forwarded to the same address.

To be assured of full consideration, application should be received by 5 December 1988.

Duke University is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSORS—Applications are invited for two tenure-track positions: (i) genetics/molecular genetics, botanical expertise preferred and (ii) vertebrate anatomy/functional morphology starting fall 1989. Commitment to liberal arts undergraduate education/research. Ph.D. required. Salary competitive with excellent fringes. Send application, résumé, three reference letters, transcripts, statement of teaching philosophy/research to: **Dr. James R. Hodgson, Division of Natural Sciences, St. Norbert College, De Pere, WI 54115** by 15 January 1989. *Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSORS—BIOCHEMISTRY—ECOLOGY—PHYSIOLOGY. Several tenure-track positions (requiring research and teaching) are anticipated in an expanding department for fall 1989. Research areas of special interest are: biochemistry, protein-nucleic acid interaction, protein engineering; aquatic ecology, aquatic biology; comparative or cellular physiology. Consideration of candidates will begin on 12 December 1988. Submit inquiries, curriculum vitae, statement of interests and three letters of reference to: **Dr. Wayne E. Magee, Head, Department of Bioscience and Biotechnology, 118 Stratton Hall, Drexel University, Philadelphia, PA 19104**.

Women and minorities are strongly encouraged to apply. Drexel University is an Equal Opportunity/Affirmative Action Employer.

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BIOMEDICAL SCIENCES**

March 5-11, 1989

This course covers the fundamental techniques of modern optical microscopy and the newest video and photographic imaging and enhancement methods used in biomedical research. Designed for research scientists, physicians, post-doctoral trainees and advanced graduate students.

Through hands-on experience with state-of-the-art microscopes, video cameras, image processing equipment and recorders, students will obtain, interpret, process, record and analyze high quality microscope images. Lectures, demonstrations, and discussions complement the above. Confocal laser scanning microscopy will be covered. Applications of optical methods to live cells, plant and animal, will be emphasized. Students are encouraged to bring their own research specimens. Enrollment limited to 20 students.

Co-Directors: Colin S. Izzard, SUNY, Albany and Nina Ström-gren Allen, Wake Forest University. Faculty: K. A. Jacobson, UNC, Chapel Hill; S. J. Smith, Yale University; R. Y. Tsien, UC, Berkeley. Guest Lecturers: S. Inoué, Marine Biological Laboratory; E. Keller, Carl Zeiss, Inc., NY. Others to be announced.

Costs: \$1,350 includes Tuition, Materials, Room/Board

Application Deadline: January 6, 1989

For further information contact

Office of Sponsored Programs
Marine Biological Laboratory
Woods Hole, MA 02543

Telephone: (508) 548-3705, Ext. 216

**BASIC SCIENCE RESEARCH TRAINING
FOR PHYSICIAN ANESTHETISTS**

Applications are invited from physicians, who have completed the clinical training requirements of the American Board of Anesthesiology, for two to three year research fellowships in the laboratories of Harvard University, Massachusetts Institute of Technology, or Massachusetts General Hospital.

The object is to develop broadly educated scholars who have the inclination, training, and experience to follow a career in laboratory research on problems of importance to anesthesia and the basic sciences to which it rests.

Candidates must show the utmost promise for a future career in fundamental research. Two appointments will be made annually under US PHS National Research Service Award for advanced training in physiology, biochemistry, pharmacology, biophysics, biomedical engineering, endocrinology, or metabolism.

Interested persons should apply enclosing current curriculum vitae to **Dr. Richard J. Kitz, Department of Anesthesia, Massachusetts General Hospital, Boston, Massachusetts 02114.**

**REGULATORY
AFFAIRS
SCIENTIST**

The Procter & Gamble Company and its Richardson-Vicks and Norwich Eaton Divisions have career opportunities for individuals interested in regulatory affairs positions. Successful candidates will have experience in regulatory policy and drug approval regulations. A doctoral level degree or equivalent training in biological sciences is preferred. These regulatory scientists will be integral members of drug development teams and manage the submission and approval issues with regulatory authorities in the United States and abroad.

For consideration, send your resume to:

Dr. Robert A. Libby, Director
Professional and Regulatory Affairs Division

Norwich Eaton Pharmaceuticals, Inc.
P.O. Box 191 Norwich, New York 13815

Procter & Gamble is an Equal Opportunity Employer, M/F

POSITIONS OPEN

UNIVERSITY OF CALIFORNIA— RIVERSIDE ASSISTANT PROFESSOR—ZOOLOGY

The Department of Biology, University of California, Riverside, invites applications for a tenure-track position at the assistant professor level. The appointment will be effective 1 July 1989, with duties commencing in September. Minimum qualifications include postdoctoral training, demonstrated excellence in research, and a commitment and demonstrated ability to teach. Acceptable areas of research include behavior, physiology, and population biology of animals in their natural environment. Teaching duties are graduate and undergraduate courses in the individual's specialty and may include general biology, vertebrate anatomy, and/or field biology. To apply, send curriculum vitae, statement of research and teaching interests, and copies of representative publications. Also arrange to have sent three to five letters of recommendation, which speak to research and teaching, by 15 January 1989 to: **Zoology Search Committee, Department of Biology, University of California, Riverside, CA 92521.** *The University of California is an Equal Opportunity/Affirmative Action Employer and minority and female candidates are encouraged to apply.*

ASSISTANT PROFESSORS OF BIOLOGICAL SCIENCES

Applications are invited for three tenure-track faculty positions. Successful candidates will be expected to establish vigorous, independent research programs, and to reinforce our strong commitments to research, graduate training, and undergraduate instruction. Postdoctoral experience is required. Competitive salaries as well as attractive facilities and start-up funds are available. Teaching responsibilities will include introductory course work in biology for undergraduates and graduate-level course work in the area of expertise. To join established research clusters of interactive faculty members, we are searching for the following:

A **BOTANIST**, with research focus in ecology and/or evolution. Teaching will include plant anatomy.

A **DEVELOPMENTAL NEUROBIOLOGIST**, with research emphasis at the cellular level. Vertebrate systems preferred.

A **MOLECULAR CELL BIOLOGIST**, using a microbial research system (viruses, bacteria, lower eukaryotes).

Send curriculum vitae, statement of research interests, and names of at least three references by 15 December 1988 to:

**Faculty Search Committees
T. H. Morgan School of Biological Sciences
University of Kentucky
Lexington, KY 40506-0225**

An Equal Opportunity/Affirmative Action Employer

ASSISTANT SCIENTIFIC DIRECTOR

Immunodiagnostics, Inc., is seeking a Ph.D. bio/organic chemist and a Ph.D. molecular biologist, each with at least 2 years of postdoctoral experience. Prefer individuals with peptide synthesis/characterization or DNA sequencing/PCR/probe experience, at least ten publications and interest/experience in development of diagnostic tests. Send curriculum vitae and three references to: **Mark Buchanan, Ph.D., Vice President, Immunodiagnostics, Inc., 562 1st Avenue South, Seattle, WA 98104.** Applications deadline: 2 January 1989. *An Equal Opportunity/Affirmative Action Employer.*

ASSISTANT/ASSOCIATE PROFESSOR. We invite applications for a tenure-track position available immediately. We seek individuals with a Ph.D. and at least 3 years of postdoctoral training to join a group investigating the structure of extracellular matrix and chondrocyte metabolism, and animal models of arthritis. For full consideration, applicants should submit curriculum vitae, a brief description of current research interests, and three letters of reference to: **Roland W. Moskowitz, M.D., Director, Rheumatic Disease Unit, Department of Medicine, University Hospitals, Cleveland, OH 44106.** *Case Western Reserve University is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

ASSISTANT/ASSOCIATE PROFESSOR: MOLECULAR BIOLOGY

The Department of Pharmacology at SUNY Health Science Center at Syracuse invites applications for a tenure track position available from July 1989. Candidates using molecular biological techniques to study cardiovascular cell biology, neurobiology, or membrane transport are especially encouraged to apply. The qualified individual will be expected to have or to develop a productive, extramurally funded research program and to participate in teaching, medical and graduate students. Send a statement of research interests, curriculum vitae, and direct three letters of reference by 1 January 1989 to: **Dr. Karina Meiri, Department of Pharmacology, SUNY Health Science Center at Syracuse, 766 Irving Avenue, Syracuse, NY 13210.**

An Equal Opportunity/Affirmative Action Employer.

ASSISTANT OR ASSOCIATE PROFESSOR. We invite applications for a tenure-track position available immediately. We seek an individual with an M.D. or M.D./Ph.D. with postdoctoral training in rheumatology and either immunology and/or molecular biology with a demonstrated research program in normal animal or human immunobiology and/or autoimmune diseases. For full consideration, applicants should submit curriculum vitae, a brief description of current research interests, and three letters of reference to: **Roland W. Moskowitz, M.D., Director, Rheumatic Disease Unit, Department of Medicine, University Hospitals, Cleveland, OH 44106.** *Case Western Reserve University is an Affirmative Action/Equal Opportunity Employer.*

ASSOCIATE DEAN FOR ACADEMIC AFFAIRS—The University of Medicine and Dentistry of New Jersey is seeking a dynamic individual to serve as the key person in the administration for the provision of leadership in development, implementation, and monitoring of educational programs. Applicants should have a relevant doctoral degree, a substantial track record on a medical school faculty, and experience in educational administration. The school has campuses in Piscataway, New Brunswick, and Camden, New Jersey, with a total enrollment of approximately 520 medical students. Send curriculum vitae to: **Office of the Dean, UMDNJ—Robert Wood Johnson Medical School, (SM) 675 Hoes Lane, Piscataway, NJ 08854-5635.** *The UMDNJ is an Affirmative Action/Equal Opportunity Employer M/F/H/V.*

ATMOSPHERIC SCIENTIST (RESEARCH ASSOCIATE): The Research Foundation of the State University of New York seeks applicants with doctorate in atmospheric science for a position involving research in various areas of physical meteorology including atmospheric electricity, cloud physics and instrumentation, and adapting meteorological instruments for projects. Will use anemometer, microconductivity cell, microcomputers. Requirements: graduate concentration in physical meteorology with courses in atmospheric electricity and cloud physics, a graduate course in advanced electronics, and 2 years of experience in the design, development, construction, and testing of electronic and mechanical meteorological instruments. Salary: \$25,000 per year, full-time. Send résumé, three references to: **Dr. Bernard Vonnegut, SUNYA Atmospheric Science, 1400 Washington Avenue, Albany, NY 12222.** *Affirmative Action/Equal Employment Opportunity Employer.*

California—**BIOCHEMISTRY FACULTY POSITION,** California State University, Sacramento (CSUS). Applications are invited for a tenure-track position requiring a Ph.D. in biochemistry by 1 September 1989 and an undergraduate degree in chemistry. Position involves teaching both lower division chemistry and general biochemistry, and developing a vigorous research program in biochemistry that involves both undergraduate and master's students. Preference given to candidates with recent research and teaching experience. Applications including curriculum vitae, three letters of reference attesting to teaching and research abilities, publications, and statement of future research work should be sent to: **Professor James C. Hill, Chair, Department of Chemistry, CSUS, 6000 J Street, Sacramento, CA 95819,** by 15 January 1989. *CSUS is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

TRUDEAU INSTITUTE, INC. BASIC RESEARCH SCIENTISTS

The Trudeau Institute is always interested in receiving applications for tenure-track, full-time research staff positions, from appropriately trained individuals. Appointments may be made at the assistant, associate, or full member (professor) levels, depending on scientific ability and past performance. Successful applicants will be expected to develop independent research programs in immunology, immunopathology, molecular immunology or related fields.

The Trudeau Institute is a free-standing, not-for-profit, basic research institute with modern facilities, up-to-date equipment, in-house animal production, efficient management and an international reputation for excellence. Current staff interests include: cancer immunology, transplantation immunology, immunity to infectious and parasitic diseases, regulation of immune responses, and the production and function of cytokines. Adequate start-up funding for new projects is available from Institute resources. Salaries and benefits are competitive, and working conditions are conducive to a productive career in research.

Applications consisting of curriculum vitae, the names and addresses of three references, and a brief description of research interests, should be addressed to:

**Dr. Robert J. North, Director
Trudeau Institute, Inc.
P.O. Box 59
Saranac Lake, NY 12983**

BEHAVIORAL NEUROSCIENTIST

The Department of Psychology of the University of Minnesota seeks applications for an assistant professor, tenure-track position from individuals specializing in the study of the neural mechanisms of memory, learning, motivation or perception. Applicants should have the Ph.D. Postdoctoral work desirable. The individual will be expected to initiate an active research program using neuroanatomical, electrophysiological, neuropharmacological or other modern approaches, preferably at the cellular level. Applicants should also have broad interests in brain/behavior relations compatible with teaching an undergraduate course in physiological psychology and participating in graduate instruction in psychology and the university-wide Graduate Neuroscience Program. Salary is competitive and will depend on the candidate's qualifications and experience. This is a faculty position, 100% time appointment during the academic year, with the initial appointment to begin 16 September 1989. *The University of Minnesota is an Equal Opportunity Employer and Educator and specifically invites and encourages applications from women and minorities.* Candidates should submit curriculum vitae, at least three letters of reference, recent publications, and a concise statement of long-term research interests to: **Professor Dwight A. Burkhardt, Chair, Neuroscience Search Committee, Psychology Department, University of Minnesota, 75 East River Road, Minneapolis, MN 55455.** Application deadline: 1 December 1988.

BIOCHEMIST—MOLECULAR ENDOCRINOLOGIST: Research assistant professor, research associate, postdoctoral research positions available for studies related to biochemistry of reproduction. Emphasis is on mechanism of hormone action, receptor purification and chemistry, hormone binding inhibitors, synthesis and characterization of hormone analogs. Postdoctoral training grant positions also available. Please forward curriculum vitae, summary of research skills and experience, and names of three references to: **Leo E. Reichert, Jr., Ph.D., Department of Biochemistry A-10, Albany Medical College, Albany, NY 12208.** *Albany Medical College is an Equal Opportunity Employer.*

BIOCHEMISTS

GS12 and GS13 positions open U.S. Army Institute of Dental Research, Washington, D.C. Individual needed to extract and isolate bioactive bone factors from bone, prepare bone implants for experimental animal use, and investigate and characterize biodegradable polymers. Individual should have some background in protein and/or polymer chemistry and biomedical engineering, and a good background in analytical chemistry. Both positions require Ph.D. in biochemistry or related science. GS13 position requires 3 to 5 years of postdoctoral experience. Positions are available immediately. Contact: **Dr. Jeffrey Hollinger at 202-576-3764.**

POSITIONS OPEN

BIOCHEMISTRY AND MICROBIOLOGY

Two ASSISTANT PROFESSOR (tenure-track) positions anticipated, August 1989, in Department of Biological Sciences, University of New Orleans. Postdoctorate required. Biochemist expected to conduct independent research in comparative or adaptive biochemistry; teaching includes a basic course in biochemistry. Microbiologist expected to apply modern molecular techniques to microbial systems; teaching includes a basic course in microbiology. Applicants should send résumé and statement of research goals and have three letters of reference sent to: **Dr. G. R. Welch, Department of Biological Sciences, University of New Orleans, New Orleans, LA 70148.** Deadline: 10 January 1989. An Affirmative Action/Equal Opportunity Employer.

BIOCHEMISTRY, SENIOR FACULTY POSITION. The Chemistry Department, Wayne State University, is seeking an outstanding individual whose research interests are in a contemporary biochemical area to fill a tenured full professor position. A candidate should have a strong record of attracting extramural funding, an excellent publication record and considerable stature in the field. An attractive, competitive package including excellent research and office space, and research support will be offered the successful candidate. *Women and members of minority groups are encouraged to apply.* The Department is housed in a modern research building and is very well equipped including core facilities for oligonucleotide synthesis and automated DNA sequencing, fermentation, high field NMR, mass spec, molecular modeling, and x-ray crystallography. Collaborative interactions with the adjacent Medical School faculty and the Detroit Medical Center are facile and convenient as are interactions with the Center for Molecular Biology, Center for Chemical Toxicology and the Comprehensive Cancer Center. Send curriculum vitae and other pertinent information to: **Dr. Richard L. Lintvedt, Chairman, Department of Chemistry, Wayne State University, Detroit, MI 48202.** Wayne State University is an Equal Opportunity/Affirmative Action Employer.

BIOLOGY, ASSISTANT PROFESSOR/ASSOCIATE PROFESSOR. Tenure-track, to begin August 1989, in developmental genetics, neurobiology and some introductory level biology. Research to complement teaching duties. Preference given to applicants with teaching experience. Ph.D. required; salary competitive. Opportunities for collaborative research with nearby universities and laboratories. Send request for application with detailed curriculum vitae and statement of career goals to: **Dr. Dorothy F. Chappell, Chair, Department of Biology, Wheaton College, Wheaton, IL 60187.** Closing date for application, 1 December 1988.

HEALTH PROFESSIONS COORDINATOR/COMPARATIVE ANATOMIST. Non-tenure track, to begin August 1989, will coordinate health and allied health professions advising, communication, and other affairs; teaching load including comparative anatomy. Preference will be given to comparative anatomist with neuroanatomy training and histology. Send request for application with detailed curriculum vitae and statement of career goals to: **Dr. David Bruce, Department of Biology, Wheaton College, Wheaton, IL 60187.** Closing date for applications, 1 December 1988. Wheaton is a college in the broad evangelical tradition, located in the western suburbs of Chicago, with a biology department of seven members. It complies with federal guidelines for nondiscrimination.

BIOLOGY (BACTERIOLOGY/MICROBIOLOGY): Midwestern State University, Wichita Falls, Texas. **ASSISTANT PROFESSOR,** tenure-track position, Ph.D. required, beginning fall 1989. Teaching responsibilities will include: introductory courses in biology, microbiology, and immunology, and undergraduate and graduate courses in bacteriology. Development of a research program is expected. The successful candidate will be responsible for supervision of thesis research for master's students. A complete résumé and three or more letters of recommendation should be received by 10 February 1989. Address inquiries and materials to: **Dr. Norman Horner, Chairman, Search Committee, Department of Biology, Drawer A, Midwestern State University, Wichita Falls, TX 76308.**

An Equal Opportunity/Affirmative Action Employer.

BROOKHAVEN NATIONAL LABORATORY

Biology Department Postdoctoral Research Associate Positions

Applications are invited for postdoctoral positions in the Biology Department of Brookhaven National Laboratory (BNL). Operated by Associated Universities, Inc., under contract with the U.S. Department of Energy, BNL is one of the nation's leading institutions dedicated to scientific research. It is situated in a rural setting in the center of Long Island, 65 miles east of Manhattan. Research in the Biology Department encompasses studies on molecular structure, molecular genetics, DNA damage and repair, and cell biology of plant and animal systems. The Department contains the Scanning Transmission Electron Microscope Facility and also operates stations for molecular structural studies at the National Synchrotron Light Source and the High Flux Beam Reactor.

Positions are available for collaborative studies with the principal investigator(s) named:

- **Human Cell Protein Kinase** that is activated by double-stranded DNA. Involves protein purification, protein sequence analysis, monoclonal antibodies, cDNA cloning and sequencing. (C.W. Anderson)
- **Adenovirus Phosphoproteins** that affect virus host-range. Involves protein purification, protein sequencing and site-directed mutagenesis. (C.W. Anderson)
- **New Anti-Viral Agents.** Involves characterization of an adenovirus serine endoproteinase and development of proteinase-specific inhibitors by site-directed mutagenesis. (C.W. Anderson and W.F. Mangel)
- **Intermediate Protein Assemblies.** Important in the initiation of transcription and replication of eukaryotic promoters and origins. Measurement of molecular mass and geometry *in situ* using Scanning Transmission Electron Microscopy and molecular biology in collaboration with leading biochemists. (P.V.C. Hough)
- **Bacteriophage T7 Gene Expression,** replication and packaging; interactions of T7 RNA polymerase; rapid genome sequencing. (F.W. Studier and J.J. Dunn)
- **Electron Energy Loss Spectroscopy** of biological specimens at the BNL Scanning Transmission Electron Microscopy Facility. Equipment development for new 4°K STEM as well as basic research with the present -90° STEM on elemental mapping, radiation damage and image analysis. (J.S. Wall)
- **Far Ultraviolet Circular Dichroism and Fluorescence Spectroscopy** using synchrotron radiation and ultraviolet radiation-induced damage and repair of DNA. (J.C. Sutherland)

Applicants should submit a curriculum vitae, the names of three sources for reference and a letter stating the position desired with details of relevant experience. Appointment is initially for one year, renewable for up to two additional years. Salaries are competitive and commensurate with experience.

Send applications to: **H.Z. Kondratuk, Biology Department, Brookhaven National Laboratory, Associated Universities, Inc., Upton, L.I., NY 11973.** Inquiries may also be sent through BITNET to: **HIND@BNLUX0.** Equal Opportunity Employer m/f.

BNL BROOKHAVEN
NATIONAL LABORATORY
ASSOCIATED UNIVERSITIES INC.

PROFESSOR AND HEAD OF THE DEPARTMENT OF AGRONOMY

University of Nebraska-Lincoln

The Department Head is responsible for the administrative leadership of teaching, research, extension, and international programs, and for staff development in the Agronomy Department. Departmental faculty are located on the East Campus in Lincoln and at the District Research and Extension Centers at Clay Center, Concord, North Platte and Scottsbluff.

The Agronomy Department is a part of the Institute of Agriculture and Natural Resources and has programs in **crop physiology and production, plant breeding and genetics, soil science, range and forage management, and weed science**. The Department offers the B.S., M.S. and Ph.D. degrees. Currently there are 85 undergraduate students and 145 graduate students in the program.

The Department consists of 49 faculty members, with 17 faculty located at the District Research and Extension Centers, 96 full time staff, and 16 affiliate faculty employed by the USDA-ARS. Most faculty have joint appointments between research and either teaching or extension.

Ph.D. in Agronomy/Soil Science or closely related field and meet the qualifications for the rank of Professor in the Department. Experience in teaching, research, extension or related industry experience is required. Experience in administration is preferred, but evidence of administrative ability is required. Demonstrated ability to communicate effectively, to work well with people with varied backgrounds and interests, to organize and coordinate, to provide a strong liaison with the Agronomy profession, and to foster unity of faculty and staff is necessary.

Nominations or applications will be accepted until **December 10, 1988** (or until suitable candidates apply thereafter). Applicants are requested to remit letter of application, vitae, and names of three references to:

Dr. Irvin T. Omtvedt, Vice Chancellor
Institute of Agriculture and Natural Resources
University of Nebraska-Lincoln
202 Agricultural Hall
Lincoln, Nebraska 68583-0708
Phone: (402) 472-2871

Affirmative Action/Equal Opportunity Employer

NATIONAL CANCER INSTITUTE
National Institutes of Health, Public Health Service

CANCER PREVENTION FELLOWSHIP PROGRAM (CPFP)

The DIVISION OF CANCER PREVENTION AND CONTROL (DCPC) is accepting applications for the Cancer Prevention Fellowship Program (CPFP). The primary purpose of this program is to attract individuals from a multiplicity of health science disciplines into the field of cancer prevention and control research. The program provides for: participation in the DCPC Cancer Control Academic Program (a formal four-month course in cancer prevention and control); 20 months at NCI working directly with individual preceptors on ongoing cancer prevention and control projects; and, one year at a DCPC-approved cancer control program or State Health Department (may be optional). Funding permitting, up to 10 Fellows will be accepted for up to three years of training, beginning August 27, 1989.

APPLICANTS MUST (BY THE DEADLINE):

1. Possess an M.D. or D.O. degree from a U.S., territorial, or Canadian medical school OR foreign medical graduates must have current ECFMG/FMGEMS certification and have completed one year residency in a training program approved by the Accreditation Council for Graduate Medical Education --OR-- Possess other accredited U.S., territorial, or Canadian doctoral degree (Ph.D., Dr. P.H., D.D.S., etc.) in a discipline related to cancer prevention and control research (biomedical, medical, nutritional, public health or behavioral sciences). Foreign doctoral graduates must provide documented evidence that the foreign education is comparable to doctoral education received in accredited institutions noted above;
2. Possess U.S. citizenship or be a resident alien eligible for citizenship within four years;
3. Complete and return the application packet by the deadline (including arranging for official academic transcripts and four current, original letters of reference to be sent directly by the academic institutions and referees to the CPFP Coordinator).

For questions concerning the program's scientific or administrative aspects, please contact Dr. Peter Greenwald or Mrs. Barbara Redding at (301) 496-8640. Application packets may be obtained by sending a POSTCARD with your name and home address to CPFP Coordinator, NIH/NCI/DCPC/CCAB, EXPS Terrace Level, 9000 Rockville Pike, Bethesda, MD 20892. Please do not send any material until after you have read the instructions in the application packet.

DEADLINE FOR RECEIPT OF APPLICATIONS: JANUARY 11, 1989

NIH is an Equal Opportunity Employer

POSTDOCTORAL SCIENTIST EXPLORATORY RESEARCH

Amgen is a recognized leader in the development of human pharmaceuticals through applied biotechnology. Our Exploratory Research Group has an opening for a Postdoctoral Scientist to investigate proto-oncogene regulation of cellular proliferation. The research program will focus on nuclear proteins that modulate cellular responses to growth factors, lymphokines and colony stimulating factors.

Qualified candidates must have a recent Ph.D. in molecular biology or a related discipline. Experience in one or more of the following areas is desirable: molecular cloning, gene expression, monoclonal antibody development, tumor biology, or immunocytometry.

Amgen offers a stimulating and challenging research environment as well as an attractive location (about one hour northwest of Los Angeles). **Amgen** also provides an excellent compensation and benefits package.

Qualified applicants should send a complete CV, including references, to:

Recruitment, Dept. #354
AMGEN
1900 Oak Terrace Lane
Thousand Oaks
CA 91320

Equal Opportunity
Employer

AMGEN

Product Development Professional Opportunities

PRAXIS BIOLOGICS is aggressively pursuing new challenges and developments in human vaccines. This means exciting career opportunities for achievement-oriented professionals.

Working in this area, you will develop innovative industrial-scale processes to produce potential vaccine products and participate in laboratory, pilot and full-scale production.

Research Scientist—Fermentation

This position requires a PhD in Microbiology or Biochemical Engineering and at least three years post-doctoral or related experience in small-scale and pilot plant fermentation.

Research Associate—Chemical Development

This position requires a BS with at least three years of relevant work experience or an MS in Chemistry or a related field. In this position, you will be responsible for developing and performing biochemical reactions, purifications and analyses under cGMP's.

Associate Scientist—Purification

This position requires a BS or MS in the Sciences plus four years of related experience or a PhD in Biochemistry or Biochemical Engineering with up to three years' post-doctoral or related experience in large-scale protein or carbohydrate purification.

We offer competitive salaries and a complete benefits package. Please send your resume and salary requirements to: **PRAXIS BIOLOGICS, Human Resources Department, 4300 Oak Park, Sanford, NC 27330.**

PRAXIS BIOLOGICS

An equal opportunity employer, m/f



The International Atomic Energy Agency seeks for its Laboratories in Seibersdorf, near Vienna a **Head of the Agriculture Laboratory** for the application of nuclear techniques in agriculture. The incumbent coordinates the activities of a staff of 70 engaged in research and training activities in crop nutrition, plant breeding, insect control, agrochemicals and residues and animal production and health. Emphasis is on research, training courses and fellowships in relation to agricultural programmes in developing countries. Provides liaison between the Director of IAEA's Laboratories at Seibersdorf and the Director of Joint FAO/IAEA Division in Vienna. PhD in an agricultural science, research and administrative experience required. Background in nuclear techniques essential.

Tax free emoluments of approx. US \$59,000.-p.a. Additional allowances if married. Six weeks annual leave. Travel and removal expenses paid. Interested persons should send their curriculum vitae quoting VN No. 88/042 to the Division of Personnel, International Atomic Energy Agency, P.O. Box 100, Wagramerstrasse 5, A-1400 Vienna, Austria.

Dean, College of Engineering University of California Riverside

The University of California, Riverside, invites applications and nominations for the Dean of Engineering in the newly created College of Engineering. The Dean will be responsible for: recruiting the initial faculty and working with them to prepare the final undergraduate curricula in chemical engineering (with a biochemical engineering emphasis), electrical engineering, and environmental engineering; assisting in designing the permanent facilities; and preparing for graduate instruction. Other majors will be added later.

The successful candidate should have: (1) a record of achievement appropriate for appointment as full professor in the University of California; (2) a proven record of administrative accomplishment; (3) an educational perspective and philosophy consonant with strong undergraduate education within the context of a research and land grant university, and (4) a demonstrated capacity for innovative leadership and for consultative and collaborative work.

UCR is an equal opportunity/affirmative action employer. Applications from and nominations of qualified women and minority candidates are particularly encouraged. Salary is commensurate with experience.

Consideration of candidates will begin on January 1, with a contemplated appointment date of July 1, or earlier if mutually agreeable. Nominations and applications, including a current professional resume containing the names and addresses of at least 3 referees, should be sent to:



**Chair of the Search Committee
for the Dean of Engineering
Office of the Chancellor
University of California
Riverside, CA 92521**

Assistant/ Associate Investigator

**The Lindsley F. Kimball
Institute of The
New York Blood Center**

Position available for **Ph.D. in molecular biology/immunology** to work with Dr. A.R. Neurath, biochemical virology laboratory.

Applicant must have four or more years of postdoctoral experience, past grant support and publication record demonstrating innovative and independent research accomplishments. Will also be expected to participate in the design of immunogens eliciting B- and T-cell immunity against human viruses, including the human immune deficiency virus. Salary range \$32,000-\$50,000, depending upon experience and rank of appointment.

Send resume and three letters of recommendation to:

**S.L./Human Resources Dept
The New York Blood Center
310 East 67th Street, NY, NY 10021**



**THE NEW YORK
BLOOD CENTER**

Equal Opportunity Employer M/F

Due to an expansion in research activities, IMMUNEX CORPORATION, a Seattle-based biotechnology company on the forefront of research and development in immune regulation, has openings for the following:

Staff Scientists Biochemistry/Process Development

We are seeking Biochemists and Protein Chemists for Staff Scientist positions in our Biochemistry/Process Development Group to work on the purification, characterization and renaturation of recombinant proteins expressed in microbial and mammalian cell hosts.

Candidates should possess a PhD and significant post-doctoral experience. Applicants must demonstrate independent research skill and creativity and have the ability to work well in a collaborative environment.

Immunex Corporation offers excellent opportunity for career development as well as competitive salaries and an excellent benefits package. For consideration, please submit CV., names of three references, and a list of publications to: **Immunex Corporation, Human Resources Director, 51 University St., Seattle, WA 98101.** Immunex is an equal opportunity employer, m/f/h.

IMMUNEX

POSITIONS OPEN

LYNCHBURG COLLEGE IN VIRGINIA

Lynchburg College seeks modern **BIOLOGIST** to chair six-person department revising curriculum, improving instruction, and planning facilities renovation and addition. Seek individual who can teach microbiology, plus either physiology or cell biology. The position is tenure-track and requires the doctorate. Review of applications will begin in late November and continue until an appointment is made.

The College is a coeducational, liberal arts institution of over 2,400 students, affiliated with the Christian Church (Disciples of Christ), a liberal Protestant denomination. Lynchburg is a community of 150,000 persons located near the Blue Ridge Mountains, 3½ hours southwest of Washington, D.C. The city has a diversified economic base, excellent public schools, a mild climate, and many opportunities for recreation. Five colleges enhance its cultural life.

Lynchburg College strongly encourages applications from women and from members of minority groups. Please send credentials, including curriculum vitae and names of references to: **Dr. Orrie O. Stenroos, Chair, Department of Biology, Lynchburg College, Lynchburg, VA 24501.** *Equal Opportunity Employer.*

BIOLOGY—INSTRUCTOR

The joint Biology Department of the College of St. Benedict and St. John's University is seeking to fill a 1-year position, possibility of renewal for up to 3 years, beginning fall term 1989. A Master's of Science degree in biology is required and some teaching experience at the undergraduate level is preferred. Duties will include coordinating and teaching introductory biology laboratories and teaching nonmajors courses in environmental and life science. Send curriculum vitae, three letters of recommendation, and transcripts to: **Kathy Flynn, Wage and Benefit Coordinator, College of St. Benedict, St. Joseph, MN 56374.** Applications received after 28 December 1988 cannot be guaranteed consideration. *Women and minorities are encouraged to apply.*

BOTANIST

The Department of Botany expects to have a tenure-track position available for an assistant professor at the Hamilton (first semester) and Middletown (second semester) regional campuses of Miami University beginning 23 August 1989. Responsibilities include teaching introductory botany and other courses that meet the university science requirements. A broad background and Ph.D. in botany or related field are required for this position as is an enthusiastic dedication to teaching. Professional service to the campus, community, and region is another major component of the position. Scholarship is also required and may be either discipline- or pedagogy-oriented. Curriculum vitae, a one-page explication of teaching philosophy, a one-page summary of scholarships goals, and at least three letters of recommendation should be received by 6 January 1989. Material should be mailed to: **Martha J. Powell, Search Committee Chair, Department of Botany, Miami University, Oxford, OH 45056.** *Miami University is an Affirmative Action/Equal Opportunity Employer.*

AGNES DUGGAN BROWN CHAIR IN ONCOLOGIC RESEARCH

The James Graham Brown Cancer Center of the University of Louisville is seeking a qualified individual to fill the Agnes Duggan Brown Chair in Oncologic Research. In addition to the generous support provided by the chair, there will be an unusual opportunity to develop a research program of substantial dimensions with currently available institutional resources. The individual should hold an M.D. or Ph.D. and have a demonstrated, though not necessarily long record of accomplishment in cancer research. Individuals with expertise in the areas of oncogene and/or antioncogene regulation, growth factors, signal transduction, or other areas relating to molecular carcinogenesis are particularly encouraged to apply. Interested individuals should submit a brief description of their research interest, curriculum vitae, and the names of three knowledgeable references on or before 1 January 1989 to: **Warren E. Ross, M.D., Director, James Graham Brown Cancer Center, University of Louisville, Louisville, KY 40292.** *The University of Louisville is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

BIOLOGY: FULL-TIME POSITION beginning September 1989. Ph.D. in biology with strong competence in zoology. Rank and salary open depending on experience. Teaching courses such as anatomy, physiology, genetics, embryology and related general education courses. Send letter of application, résumé and transcripts and arrange for three letters of reference to be sent to: **Dr. Arden Slotter, Dean of Academic Affairs, Bluffton College, Bluffton, OH 45817.** *An Affirmative Action/Equal Opportunity Employer.*

CELL/MOLECULAR BIOLOGIST—The Biology Department is seeking a cell/molecular biologist working on eukaryotic systems for a tenure-earning position at the level of assistant/associate professor. The 9-month salary will be negotiable. Postdoctoral experience is desirable. Candidates will be expected to teach an upper level cell biology course, graduate courses in area of expertise and to develop extramural support for an active research program. Application should include complete curriculum vitae, statement of research interests and three letters of recommendation. Closing date: 31 January 1989. Send to: **Search Committee Cell Biology, Department of Biology, University of South Florida, Tampa, FL 33620-1510.** *USF is an Equal Opportunity/Affirmative Action Employer and invites applications from qualified individuals.*

CHAIRMAN AND PROFESSOR PRITZKER DEPARTMENT OF ENVIRONMENTAL ENGINEERING ILLINOIS INSTITUTE OF TECHNOLOGY

Illinois Institute of Technology (IIT) invites applications and nominations for the position of Chairman and Professor in the Pritzker Department of Environmental Engineering, to be filled by August 1989. The department has six regular faculty members and one research professor and awards M.S. and Ph.D. degrees. There are approximately 80 current full-time and part-time graduate students. The department conducts externally sponsored research in excess of \$1 million annually, much of it through the Industrial Waste Elimination Research Center (IWERC)—a U.S. EPA-supported Center of Excellence. A major research thrust of the department is industrial and hazardous waste management. This area benefits from extensive collaboration with the IIT Research Institute, for example, through the jointly sponsored Center for Hazardous Waste Management. Other areas of interest include water and wastewater engineering, environmental monitoring and assessment, air resources engineering, environmental chemistry, and microbiology and related policy issues. The successful candidate will be a nationally recognized individual with a strong track record in sponsored research who can provide leadership to an active and diverse group of faculty and students, and who can increase interactions with industrial sponsors and governmental organizations. The successful candidate must have an earned doctorate in environmental engineering or in a related field, and be qualified for appointment at the rank of full professor. Please send résumé and names of three references or letters of nomination to: **Dr. Darsh T. Wasan, Chairman of the Environmental Engineering Search Committee, Office of the Vice President for Research and Technology, Illinois Institute of Technology, Chicago, IL 60616.** The search will remain open until the position is filled. *IIT is an Equal Employment Opportunity/Affirmative Action Employer.*

UNIVERSITY OF GUAM is seeking qualified candidates for DEAN OF GRADUATE SCHOOL AND RESEARCH

Applicants must be either U.S. citizens or have permanent resident status, have a Ph.D. from an accredited university, have suitable administrative experience, and have academic qualifications normally expected for appointment in senior professorial rank.

Position begins 1 August 1989 or earlier. Application, curriculum vitae, official transcripts, and three recent letters of recommendation should be sent before 1 February 1989 to: **Dr. Hans C. Blaise, Chair, Search Committee, c/o College of Business and Public Administration, University of Guam Station, Mangilao, Guam, 96923.**

An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

CHAIR, BIOLOGY DEPARTMENT

Applications or nominations are invited for the position of Professor and Chair of the Biology Department at George Mason University. This is an excellent opportunity for a dynamic leader with a commitment to undergraduate and graduate education, a nationally recognized research program, and proven administrative abilities. The chair must lead a department of 28 faculty with a broad range of research interests. The department offers B.S./B.A. degrees in biology and medical technology, and M.S. degrees in the following areas: environmental, organismal, interpretive, molecular/microbial/cellular, systematic/evolutionary/population biology. The department also offers an innovative, broadly based Ph.D. in environmental biology-public policy.

George Mason is a rapidly growing state university in the metropolitan Washington, D.C., area, convenient to funding agencies and government and industry search facilities. Candidates should send a letter of interest and curriculum vitae, and request that three letters of reference to be sent to: **Dr. Jane Flinn, Psychology Department, George Mason University, University Drive, Fairfax, VA 22030.** Applications are due by 10 January. *George Mason University is an Equal Employment Opportunity/Affirmative Action Institution.*

CLINICAL PHARMACOLOGIST: Tenure-track position. Accepting applications at assistant/associate/full professor level. Must have M.D. or M.D./Ph.D. degree, significant postdoctoral research experience and demonstrated ability to be productive in an academic setting. Salary will be commensurate with experience. Special consideration will be given to candidates with expertise in cancer/immune pharmacology. Successful applicants will be expected to have or develop strong, independent research programs with external funding as well as participate in teaching at both graduate and medical student levels. A wide variety of interactions with current faculty members is possible and encouraged. Closing date is 30 December 1988. Candidates should submit a letter of application, a brief statement of research objectives, curriculum vitae, and five letters of recommendation to: **Diane H. Russell, Ph.D., Professor and Chairperson, Department of Pharmacology and Therapeutics, College of Medicine, MDC-9, University of South Florida, Tampa, FL 33612.** *The University of South Florida is an Equal Opportunity/Affirmative Action Employer.*

DIRECTOR IRA C. DARLING CENTER MARINE LABORATORY CENTER FOR MARINE STUDIES UNIVERSITY OF MAINE

Scientist with administrative and research experience is sought as director of the Ira C. Darling Center, the marine laboratory of the University of Maine. The Darling Marine Center is used by University faculty and students (resident and Orono-based) as well as visiting scientists working on a variety of marine problems related to the environment and resources (including aquaculture) of the Gulf of Maine. The Center is close to the Bigelow Laboratory for Ocean Sciences and the Bureau of Marine Sciences of the Marine Department of Marine Resources with which it and the University have growing ties.

Responsibilities will include management of the Center and supervision of its staff; the development of its research, educational, and public service activities; expanding its support and use by visiting investigators; and the development of public and private sources of support.

This position reports to the Director of the University's Center for Marine Studies.

Opportunities exist for an academic appointment with an appropriate department. Field of expertise is open. Salary is competitive. *The University of Maine is an Equal Opportunity Employer. Applications from women and minorities are strongly encouraged.*

Send curriculum vitae and names of three references by 15 December 1988 to: **Chair, Search Committee, Center for Marine Studies, 14 Coburn Hall, University of Maine, Orono, ME 04469-0114.**

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

Department of Biology UCLA

Graduate Training Course

Marine Molecular Biology

Sponsored by the Office of Naval Research

When

April 3–June 10, 1989

Where

Catalina Island Marine Science Center
Two Harbors, Catalina Island, CA 90704
Facilities include lecture hall, wet/dry labs, dormitory, cafeteria, apartments, boats, dive locker. There is immediate access to a rich marine flora and fauna. A fast commercial boat serves the island from San Pedro, CA.

Faculty

Drs. Clifford Brunk Leonard Muscatine
David Chapman and visiting faculty.
Elma Gonzalez

Fees

Tuition (UCLA credit 12 units)
\$470 (California resident)
\$1902 (non-resident)
Room and board at CMSC
\$1150

Intended for Beginners

No previous experience in molecular biology is required or expected, but basic background in cell biology and biochemistry is assumed. The course will include lectures, seminars, field and laboratory exercises and independent research projects. Emphasis will be placed on learning advanced techniques. These will include aseptic inoculation, growth rate measurement, nutrient analyses, gas fluxes, chromatography, HPLC, gel electrophoresis, enzyme assays, ultracentrifugation, protein purification, antibody preparation, western blotting, immunostaining, fluorescent antibody detection, isolation of organelles and nucleic acids, restriction endonuclease analysis, Southern blotting and hybridization, nucleotide sequencing, preparation of gene probes and construction of genomic libraries. Techniques will be applied exclusively to marine organisms.

Intensive Hands-on Laboratory Experience

This 10-week course is intended to train marine biologists to become versatile in techniques of cell and molecular biology and biochemistry. Preference will be given to graduate students in marine sciences.

ONR Fellowships

available on a competitive basis.

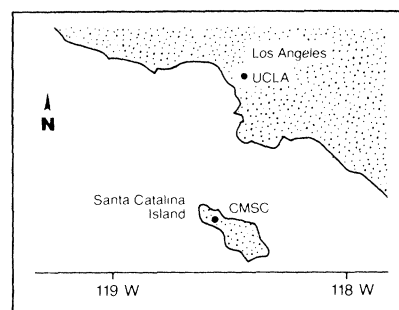
For Applications & Information Contact:

Department of Biology
UCLA, Los Angeles 90024
(213) 825-3481

Application deadline:

December 16, 1988

Late applications may be reviewed



RJR-LEON GOLBERG MEMORIAL FELLOWSHIPS

Postdoctoral Training Opportunities in Integrated Toxicology

Duke University and RJR Tobacco Company now have established training fellowships honoring the eminent toxicologist, the late Dr. Leon Golberg. The program consists of over 50 faculty members representing a wide variety of disciplines including chemistry, ecotoxicology, biochemistry, cell biology, molecular biology, pathology and pharmacology. Emphasis is placed on molecular mechanisms of toxicology, in which this Program is pre-eminent. A competitive stipend will be offered. Fellows will have the opportunity to spend at least 2 years at Duke or RJR, under the guidance of one faculty member and to interact extensively with other faculty members. Interested individuals should send a C.V., a description of their current research project, and the name and addresses of 3 references to:

The logo for RJR, consisting of the letters 'RJR' in a stylized, bold, blocky font.

Doyle G. Graham, M.D., Ph.D.
Integrated Toxicology Program
Box 3712

Duke University Medical Center
Durham, N.C. 27710

Duke University and RJR Tobacco Company are Equal Opportunity Employers

POSITIONS OPEN

COGNITIVE SCIENTIST

The Department of Psychology of the University of Minnesota is seeking applications for a tenure-track position in cognitive science, at the assistant professor level. The applicant should have a Ph.D. and demonstrated competence in both computational modeling and empirical research. The individual should be qualified to teach graduate and undergraduate courses in cognitive science and would be expected upon hiring to initiate an active research program. Preferred specialization is in the area of computational vision, particularly in the interface between lower and higher level vision but candidates with strong research credentials in other areas of cognitive science are also encouraged to apply. This is a faculty position, 100% time appointment during the academic year, with the initial appointment to begin 16 September 1989. Salary is competitive and will depend on the candidate's qualifications and experience. *The University of Minnesota is an Equal Opportunity Employer and Educator and specifically invites and encourages applications from women and minorities.* Candidates should submit curriculum vitae, at least three letters of reference, recent publications, and a statement of long-term research interest to: **Cognitive Science Search Committee, Psychology Department, University of Minnesota, 75 East River Road, Minneapolis, MN 55455.**

Application deadline: 1 December 1988.

DIRECTOR. The Thomas Burke Memorial Washington State Museum, University of Washington, seeks a scholar in a relevant academic discipline with extensive museum experience and demonstrated research, teaching, and development skills to serve as director. As the state's oldest and largest natural history institution, the Burke Museum emphasizes a Pacific Rim perspective; contains significant anthropological, geological, and zoological collections; and maintains active research, exhibition, and public service programs. The museum is an academic unit of the College of Arts and Sciences and the director reports to the Dean. Applicants should have a substantial background in museum management and the academic qualifications appropriate for appointment at the rank of professor in a University of Washington department. A letter of interest, curriculum vitae, and at least four references should be sent to: **Professor Stephen Porter, Chair of the Burke Museum Director Search Committee, Geological Sciences AJ-20, University of Washington, Seattle, WA 98195.** Nominations received prior to 1 December 1988 and applications submitted prior to 15 December 1988 will receive priority consideration. *The University of Washington is an Equal Opportunity/Affirmative Action Employer.*

HARVARD MEDICAL SCHOOL DIRECTOR OF THE ANIMAL RESOURCE CENTERS

The Director of the Animal Resource Centers (ARC) will be responsible for overall management of veterinary care and animal husbandry, long- and short-range facilities and financial planning, billing, purchasing, management information, personnel and related functions. The Director will become a major participant in the expansion and management of new animal care facilities, and will supervise the professional staff of three veterinarians, an Associate Director of Animal Care, and a supporting staff of approximately 36. The Director will report to the Associate Dean for Business and Finance.

A D.V.M./V.D.M. from an AVMA-accredited institution is preferred. A Ph.D. with significant animal care management experience would be an acceptable alternative. Minimum of 3 years of experience managing finance and personnel in a complex operation, preferably one involving animal care is required. Applicant must have demonstrated negotiating, managerial and communication skills as well as an ability to design, develop and implement administrative procedures and laboratory animal training programs. Familiarity with an academic medical environment required.

Interested individuals should send résumé, curriculum vitae, professional qualifications, salary requirements, and a letter outlining their views on management of a central animal resource facility to: **Mr. John M. Deeley, Associate Dean for Business and Finance, Harvard Medical School, 25 Shattuck Street, Boston, MA 02115.**

Harvard Medical School is an Affirmative Action/Equal Opportunity Employer. Female and minority candidates are encouraged to apply.

POSITIONS OPEN

DEAN OF SCIENCE BIOLOGY/SCIENCE EDUCATION

DEAN OF SCIENCE: 12-month contract—\$64,812. Contact: **Dr. Nancy Grayson, Department of English.**

Department of Biology announces tenure-track, entry level positions at rank of **ASSISTANT PROFESSOR** starting fall 1989; Ph.D. required. Successful candidates must have strong commitment to excellence in teaching and maintenance of a productive research program, including grantsmanship and supervision of graduate students, in the specified field.

Limnology: Modeling and plankton experience with chemistry background preferred. Research program in limnology and water quality, teaching in limnology and introductory biology. Contact: **B. G. Whiteside.**

Aquatic Ecology: Background in aquatic ecology and specialization in aquatic invertebrates preferred. Teaching in aquatic biology, ecology, and introductory biology. Contact: **B. G. Whiteside.**

Science Education: Minimum of 3 years of secondary school teaching experience required with background in physical and earth sciences. Teaching and general science for future elementary teachers, secondary science methods, laboratory coordination, and supervision of student teachers seeking state certification at secondary level. Contact: **M. Lewis.**

ASSISTANT PROFESSORSHIPS: One or more nontenure-track, 1-year positions with possible renewal for 1990 to 1991. Contact: **E. L. Schneider.**

Application deadline is 10 January 1989 for tenure-track positions; 6 March 1989 for 1-year positions. Send curriculum vitae, publications, official graduate/undergraduate transcripts, and names of three references to the appropriate contact person at the following address: **Search Committee, Department of Biology, Southwest Texas State University, San Marcos, TX 78666.** The University reserves the right not to proceed with any appointment for financial or programmatic reasons. *An Equal Opportunity/Affirmative Action Employer.*

DIRECTOR, COASTAL FISHERIES INSTITUTE LOUISIANA STATE UNIVERSITY

The Coastal Fisheries Institute (CFI) of Louisiana State University's Center for Wetland Resources is seeking applicants for the position of Director. Established in 1982, the CFI conducts fundamental and applied research relevant to marine fisheries of the northern Gulf of Mexico. Its multidisciplinary staff has grown to nine Ph.D.'s, one J.D., and fifteen research associates and includes fisheries scientists with various interest fields, a marine economist and a fisheries attorney. Ph.D. in fisheries, marine sciences or related area is required. The Director's position will be at the full or associate professor level and tenurable through the Department of Marine Sciences. Although final hiring approval is pending, a hiring date of 15 August 1989 is anticipated. Salary is commensurate with qualifications and experience. Applicants should send curriculum vitae, names, addresses, and telephone numbers of at least three references, and a statement of research goals to: **Dean, Center for Wetland Resources, Louisiana State University, Baton Rouge, LA 70803-7503.** Applications will be accepted until 15 January 1989 or until a suitable candidate pool is established. *LSU is an Equal Opportunity Employer.*

THE NATURE CONSERVANCY FOUR KEY POSITIONS

DIRECTOR OF BIOLOGICAL MANAGEMENT. Responsible for scientific aspects of the world's largest system of privately owned nature preserves. Design, implement, and manage biological monitoring, research and preserve design programs. Location: Arlington, Virginia.

REGIONAL DIRECTOR OF STEWARDSHIP (three positions). Manage biological monitoring, research, preserve design, and land management programs in a 12-state region. Help recruit and train land managers. Locations: Minneapolis, San Francisco, and Chapel Hill.

Advanced degree, experience in management of rare species and natural areas or biological inventory methods required. Submit résumés to: **John W. Humke, Vice President, Director of Stewardship, The Nature Conservancy, 1815 North Lynn Street, Arlington, VA 22209.**

An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

DIRECTOR OF RESEARCH

The National Undersea Research Center at Fairleigh Dickinson University (NURC-FDU) seeks a dynamic individual for its St. Croix, U.S. Virgin Islands facility. With expansion plans for science and technology research in the marine environment, NURC-FDU seeks a versatile scientist with a record of research, administration and managerial accomplishment and proven leadership interest. Primary responsibilities will include overall planning, developing and administration of the research programs, coordination of interdisciplinary subcontracted research, and exploration of new fields of inquiry. The director should have current research knowledge in his field. Salary will be consistent with achievement and background. Interested individuals should submit their curriculum vitae or résumé by 6 January 1989 to:

**Chairman, Search Committee
National Undersea Research Center
at Fairleigh Dickinson University
40 Estate Castle Coakley
Christiansted, St. Croix
U.S.V.I. 00820**

Fairleigh Dickinson University is an Equal Opportunity/Affirmative Action Institution.

WASHINGTON STATE UNIVERSITY COLLEGE OF PHARMACY DISTINGUISHED PROFESSOR OF PHARMACEUTICAL SCIENCES

A permanent, full-time position at the rank of associate or full professor is available 1 June 1989. The Distinguished Professor is expected to initiate and maintain a strong self-sustaining research program in the pharmaceutical sciences. The incumbent will contribute to the professional and graduate programs of the College of Pharmacy and participate in other research, educational and service activities of Washington State University. Qualifications for the position include: Ph.D., a minimum of 5 years of experience in biomedical research, a strong record of research accomplishments, and a sustained extramurally funded independent research program. Preference will be given to applicants who have a professional degree in pharmacy or experience in pharmacy education, and who have research interest and experience in the study of molecular mechanisms of biological responses including computer aided drug design. Letters of nomination or application, a current résumé, and names, addresses, and telephone numbers of at least three references should be sent before 1 February 1989, to:

**William L. Hayton, Ph.D.
Chair, Search Committee, Distinguished Professor
College of Pharmacy
Washington State University
Pullman, WA 99164-6510**

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

ENDOCRINE ASSAY LABORATORY MANAGER: Position available immediately for experienced endocrine technician (B.S./M.S.) with management experience. Located in rural Piedmont of Blue Ridge Mountains. Duties include personnel supervision, budgetary management, development/application of technology and quality control. Experience with immunoassay, radioiodination, steroid technology, ligand binding assays, and bioassays desirable. Contact: **Dr. Don Koritnik, Department of Comparative Medicine, Bowman Gray School of Medicine, 300 South Hawthorne Road, Winston-Salem, NC 27103.** *Affirmative Action/Equal Opportunity Employer.*

ENGINEERING OPPORTUNITIES

Collier County seeks degreed engineers for positions in their Public Works, Utilities and Community Development Divisions. Join our growing organization and enjoy a satisfying living and working environment in beautiful Naples, Florida. For specific job titles, call our **Jobs Available Hotline at 813-774-8112**, or for further considerations, send your résumé with salary requirements by 1 January 1989 to: **Collier County Government, Human Resources Department, 3301 East Tamiami Trail, Naples, FL 33962.** *Equal Opportunity Employer. Veterans and their spouses may receive preference in employment and are encouraged to apply.*

DIRECTOR, MEDICAL TECHNOLOGY

We are an expanding Cincinnati-based, private company which invests in, develops and manages medical technology ventures.

We are seeking a broadly knowledgeable individual to establish and direct the activities of our company relative to the evaluation, acquisition and development of emerging medical technologies. Reporting directly to the Vice President of Business Development, you will forecast technological trends and propose technology direction and strategy for the company; you will research and evaluate potential investments in a wide array of technologies for medical applications; and ultimately you will provide technical and clinical consultation and direction for the multiple business ventures of the company.

If you are the person we seek, you have the intellectual curiosity, confidence and capability to identify, synthesize and communicate the key elements and status of any physical and life sciences technology; you have knowledge of FDA interfaces and clinical investigation management, with strong ties to the public and private medical research communities; and you have distinguished academic and professional accomplishments which amply demonstrate your exceptional management and technical capabilities.

If this sounds familiar, we would like to talk to you about an opportunity... an opportunity to fully apply your unique capabilities in an attractive, knowledge-based environment as part of a creative management team.

We have the right compensation and benefits package awaiting the right person. Please contact us with a letter and resume in confidence to:

BOX 171, SCIENCE

Equal Opportunity Employer

HHMI-NIH Research Scholars at the National Institutes of Health

The Howard Hughes Medical Institute (HHMI) and the National Institutes of Health are accepting applications for the 1989-1990 class of Research Scholars to begin in the summer of 1989.

- HHMI-NIH Scholars are selected from medical schools, usually after the first two years, for a year of laboratory research at the NIH in Bethesda.
- Scholars must be U.S. citizens or permanent residents attending medical school in the United States or Puerto Rico.
- Scholars are paid as employees of HHMI and housed on the NIH campus.
- Applications must be received by January 15, 1989. Candidates will be notified of results by April 1, 1989.
- Application kits and brochures have been sent to the deans' offices of all medical schools. Additional kits and brochures can be obtained from:

Howard Hughes Medical Institute
1 Cloister Court
Bethesda, Maryland 20814-1460
(301) 951-6710

HHMI is an Equal Opportunity Employer.

Howard Hughes Medical Institute Announces a New Program

Medical Student Research Training Fellowships

The Howard Hughes Medical Institute will award up to 60 fellowships to medical students who wish to spend a year in intensive research during the 1989-90 academic year.

Eligibility:

- Applicants must be attending a U.S. medical school, but there are no citizenship requirements.
- The fellowship research may be undertaken at any academic or research institution in the United States.
- Students enrolled in M.D./Ph.D. programs are not eligible.
- Applicants may not apply simultaneously to the HHMI-NIH Research Scholars Program.

Fellowship Awards:

- \$12,300 stipend.
- \$7,700 allowance to the fellowship institution for research supplies (\$4,000) and institutional expenses (\$3,700).

Deadlines:

- January 13, 1989, for completed applications.
- Awards announced by early April 1989.
- Fellowship tenure must begin by October 1989, at the latest.

For information:

Call (301) 571-0324
or write:

Medical Student Research Training Fellowships
Office of Grants and Special Programs
Howard Hughes Medical Institute
6701 Rockledge Drive
Bethesda, Maryland 20817

The Howard Hughes Medical Institute welcomes all qualified applicants and encourages women and members of minority groups to apply.

POSITIONS OPEN

ECOLOGY AND EVOLUTION

The University of Iowa's Department of Biology is currently reviewing candidates for appointment at the assistant and associate professor levels. Our search is now expanded to include the **PROFESSOR** level. We will consider outstanding scholars and leaders engaged in theoretical or experimental analyses of any major problems in ecology or evolution. Applicants should submit curriculum vitae, statement of research interests and should arrange for at least three reference letters to be sent to: **Professor Richard V. Bovbjerg, The University of Iowa, Iowa City, IA 52242. Telephone: 319-335-1073.**

The University of Iowa is an Equal Opportunity and Affirmative Action Employer; we encourage applications from women and minorities.

ENDOCRINOLOGY AND METABOLISM—

Two positions (Ph.D. or M.D.) to join a multidisciplinary research group in diabetes and obesity are available immediately. Interest could include in vitro metabolism in human hepatocytes, adipocytes and muscle fibers; insulin signals; insulin receptors structure and function; assessment in vivo insulin action and metabolism in man using isotopes; application of molecular genetic techniques to the etiology and pathogenesis of diabetes. Please send curriculum vitae to: **Jose F. Caro, M.D., Department of Medicine/Endocrinology, East Carolina University School of Medicine, Greenville, NC 27858.** An Equal Opportunity/Affirmative Action Employer. Federal law requires proper documentation of identity and employability at the time of employment. It is requested this documentation be included with your application.

ENVIRONMENTAL HEALTH

The Program in Social Ecology at the University of California, Irvine, is recruiting for an **ASSISTANT PROFESSOR**, tenure-track, position in the area of environmental health. Ph.D. in environmental sciences, organic chemistry, molecular genetics, or biochemistry is preferred with experience in laboratory of field research related to environmental health sciences. Ability to teach statistics and environmental testing methodology is desirable. Please send cover letter, curriculum vitae, and names of three referees to: **Dr. Betty H. Olson, Environmental Health Search Committee, Program in Social Ecology, University of California, Irvine, CA 92717, by 15 January 1989.** UC is an Equal Opportunity Employer/Affirmative Action Employer.

EVOLUTIONARY BIOLOGIST. The Department of Biology, University of North Carolina at Chapel Hill, seeks an outstanding scientist investigating evolutionary mechanisms at the population level. The appointment to enhance our program in ecology, behavior, evolution, and organismic biology will probably be made at the rank of assistant or associate professor, although all levels will be considered. Appointment will begin in July 1989 or later at the evidence of the appointee. Applicants should send curriculum vitae, a description of research interests, selected publications and four letters of recommendation by 1 March 1989 to: **Evolutionary Biology Search, Department of Biology, University of North Carolina, Chapel Hill, NC 27599-3280.** The University of North Carolina is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and minorities.

The Department of Surgery, University of North Carolina School of Medicine, is seeking a full-time **FACULTY MEMBER** who has completed his/her graduate education in general surgery and who has demonstrated ability as a teacher and clinician. Academic rank is dependent upon qualifications of individual. The successful applicant should have completed fellowship training in surgical oncology. He/she should have a special competence in tumor immunology with the ability to carry out basic and clinical investigations in this field. Interested applicants should forward their curriculum vitae and bibliography to: **George F. Sheldon, M.D., Chairman, Department of Surgery, University of North Carolina, 136 Burnett-Womack Building 229H, CB, #7050, Chapel Hill, NC 27599.** The University of North Carolina is an Equal Opportunity/Affirmative Action Employer. Minority and female applicants are encouraged to voluntarily identify themselves.

POSITIONS OPEN

Dickinson College. The Environmental Studies Program invites applications for a full-time, tenure-track **FACULTY POSITION** beginning in September 1989. We seek a candidate with a background in one or more of the natural sciences, interdisciplinary experience and interests including environmental policy analysis. Applicants should submit curriculum vitae and three letters of reference by 1 February 1989 to: **Dr. Candie Wilderman, Coordinator, Environmental Studies Program, Dickinson College, Carlisle, PA 17013.** Affirmative Action/Equal Opportunity Employer.

Emory University, Department of Radiology, seeks a Ph.D. or M.D. with either NMR spectroscopy or imaging experience for a full-time **FACULTY POSITION**. The candidate must be able to originate fundable research projects using NMR and collaborate with other faculty members (in or out of radiology) on NMR research. Knowledge of spin behavior is essential, and medicine, biology, or biochemistry, analog electronics, and computer science are useful skills.

Two 1-meter clinical imagers operating at 0.5 and 1.5 T and a 30-cm 200 MHz instrument, all fully programmable, will be available. The department is part of an 800-bed tertiary care complex giving ample opportunity for collaborations requiring clinical material. Seven Ph.D. scientists in the radiology department are currently involved, full-time, in NMR. Qualified candidates please contact:

**Dr. Thomas Dixon, Director
Frits Philips Magnetic Resonance
Research Center
419 Woodruff Memorial Building
Emory University
Atlanta, GA 30322**

Emory University is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION IN BIOPHYSICS AT HAVERFORD COLLEGE

The Department of Physics invites applications for a special assistant or associate professorship in biophysics for a period of up to 4 years. Applicants must have a Ph.D. and be strongly motivated toward creative research and undergraduate teaching. The successful candidate will assist in developing a new interdisciplinary biophysics program. Substantial startup funds for research are available. The position is part of a major program funded by the Howard Hughes Medical Institute to enhance the biological sciences through interaction between the various science departments.

Haverford is a liberal arts college with an international reputation for strong research and instruction in the physical and life sciences. We have active collaborations in the sciences with the University of Pennsylvania, Bryn Mawr College, and Swarthmore, among others. Please send curriculum vitae, list of publications, a statement of research interests, and at least three letters of recommendation by 16 January 1989 to: **Professor David Pine, Department of Physics, Haverford College, Haverford, PA 19041.** An Equal Opportunity/Affirmative Action Employer.

FACULTY POSITIONS

Atlanta University invites applications for tenure-track faculty positions at the assistant or associate professor level. Postdoctoral training is expected. Positions are available in the Department of Chemistry in the area of biochemistry and in the Department of Biology in the areas of the cellular and molecular aspects of developmental biology or molecular biology. Successful candidates are expected to maintain an independent vigorous research program and be dedicated to graduate and undergraduate instruction. All candidates should send curriculum vitae, representative publications, a brief research proposal and have three letters of recommendation sent to: **Dr. Frank Cummings, Associate Dean of Arts and Sciences, Atlanta University, Atlanta, GA 30314 by 23 December 1988.**

Atlanta University is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

DEPARTMENT OF BIOLOGY FACULTY POSITION IN BIOCHEMISTRY MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Candidates are sought for a position in the field of biochemistry.

Candidates should have significant research experience in the area of biochemistry of proteins, enzymes, nucleic acids, or membranes. While a broad latitude in research interests will be considered, we are particularly interested in candidates engaged in studies on chemistry, structure, and mechanism of action of biological molecules.

Responsibilities associated with this position include maintaining an active research program and participating in the teaching program of the department.

Applicants should send curriculum vitae and a summary of proposed research, and arrange to have letters from at least three scientists who can provide an evaluation of the candidate's accomplishments and future potential.

Applicants should be sent to:

**Professor Uttam L. RajBhandary
Chairman, Biochemistry Search Committee
c/o Biology Headquarters, Room 56-511
Massachusetts Institute of Technology
Cambridge, MA 02139**

An Equal Opportunity/Affirmative Action Employer

FACULTY POSITION IN BIOMECHANICS/NEUROSCIENCE

Twelve-month, tenure-track appointment. Responsibilities include baccalaureate and graduate level teaching, research and service. Opportunity to interact with bioengineering and conduct research in laboratory equipped for measurement in EMG, torque, motion, and ground reactions; analyses via computer and on-line imaging system. Minimum requirements are 3 years of clinical experience, licensure or eligibility in Kentucky, and a Ph.D. Opportunity to work clinically, in Outpatient University Hospital rehabilitation center. Applications will be accepted until position is filled. Send letter of application, curriculum vitae, and names of three references to:

**Dean P. Currier, P.T., Ph.D.
Division of Physical Therapy
Department of Clinical Sciences
University of Kentucky
Medical Center
Annex I, Room 4
Lexington, KY 40536-0079**
Equal Opportunity Employer.

FACULTY POSITIONS DEPARTMENT OF BIOCHEMISTRY AND MOLECULAR BIOLOGY

The E. A. Doisy Department of Biochemistry and Molecular Biology at St. Louis University intends to make two faculty appointments at the junior or senior level to strengthen current expertise in the following areas: **PROTEIN STRUCTURE AND FUNCTION**, individuals with research experience and interest in the mechanisms of enzyme catalysis, protein-protein and/or protein-muscle acid recognition, and allosteric effects are encouraged to apply for this position; **CELLULAR REGULATION**, individuals with research experience and interest in membrane biochemistry and function, biosynthesis of membrane lipids and carbohydrates, organelle biogenesis and transport mechanisms are encouraged to apply for this position. Of particular interest are those applicants who combine classical biochemistry and modern strategies in an innovative independent research program. Successful candidates will complement ongoing research in the areas of metabolism and regulation, molecular and developmental biology, genetics, cell biology, and physical biochemistry and can participate in the multidisciplinary cell and molecular biology program at St. Louis University School of Medicine. Excellent start-up funds and salary are available. Curriculum vitae, description of research plans, and at least three letters of recommendation should be sent by 1 February 1989 to: **Search Committees c/o Dr. William S. Sly, Chairman, Department of Biochemistry and Molecular Biology, St. Louis University School of Medicine, 1402 South Grand Boulevard, St. Louis, MO 63104.** St. Louis University is an Equal Opportunity/Affirmative Action Employer.

PhD, BS, MS Research Staff Members

Lawrence Livermore National Laboratory, located in the San Francisco Bay Area, is seeking applicants for ten different positions including postdoctoral appointments, term appointments and career staff in the Biomedical Sciences Division.

All candidates must have a degree (BS, MS or PhD for different positions) preferably in Molecular Biology, Biochemistry, Biophysics, or Genetics. Experience in one or more of the following areas is desirable: nucleic acid chemistry, nucleic acid electrophoresis, *in situ* hybridization, molecular cloning in cosmid or yeast artificial chromosomes, analytical chemistry, immunochemistry, fluorescent methods for DNA labeling, biochemistry of DNA repair, cytochrome P450 analysis.

Openings are available in:

Molecular Biology

A team research effort to order, map and sequence components of the human genome.

- Development and applications of clone fingerprinting/walking strategies, large fragment mapping by pulse-field electrophoresis, or development of vector-host systems to clone large pieces of DNA, or rapid, novel methods of DNA sequencing.

Molecular analysis of human mutations (either somatic or heritable).

- Genetics, molecular biology and mutagenesis of humans using DNA restriction, phage/cosmid cloning, nucleic acid electrophoresis, *in situ* DNA hybridization, and enzymatic amplification of DNA.

Multidisciplinary effort to understand human DNA repair.

- Emphasis is on expression of cloned human repair genes and biochemical analysis of their products.

Biochemical Toxicology

Analysis of human metabolism of dietary mutagens and carcinogens.

- Develop immunochemical and analytical chemical methods for detecting urinary metabolites, carcinogen-protein adducts and carcinogen-DNA adducts. Experience with P450 metabolizing enzymes, aromatic amine toxicology, *in vitro* neoplastic transformation or immunochemical methods is desirable.

Biophysics

Large scale efforts to improve *in situ* hybridization with nucleic acid probes and to classify and purify nucleic acid probes according to size and DNA sequence.

- Emphasis will be on the application of novel biophysical techniques and robotics. A background in biophysics or biomedical engineering and an interest in automation is helpful.

We offer a highly competitive salary and benefit package. Send curriculum vitae to **Earl G. Morrell, Personnel Operations Division, Lawrence Livermore National Laboratory, P.O. Box 5510, L-725, Dept. KSCBI802B, Livermore, CA 94550.** U.S. Citizenship Required. Equal Opportunity Employer.

University of California



**Lawrence Livermore
National Laboratory**

**GRADUATE PROGRAM
CELL AND MOLECULAR BIOLOGY
(MULTI-DEPARTMENTAL)**

- GENE REGULATION
- MOLECULAR GENETICS
- DEVELOPMENTAL BIOLOGY
- ONCOGENES AND GROWTH FACTORS
- STRUCTURAL BIOLOGY
- NEUROBIOLOGY
- MOLECULAR VIROLOGY AND IMMUNOLOGY

The Graduate School at BAYLOR COLLEGE OF MEDICINE has recently created a graduate program in CELL AND MOLECULAR BIOLOGY stressing basic research in the above areas. Students accepted for studies leading to the Ph.D. degree will receive financial support. For further information contact:

Dr. Savio Woo, Director
Graduate Program in Cell and Molecular Biology
Baylor College of Medicine, Room 185A
One Baylor Plaza
Houston, Texas 77030
Phone: (713) 799-6557

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IRRITATION RESEARCH

Applications are invited for the position of Research Scientist in our Biological Sciences Group. You will initiate and perform research on the problems of tissue irritation (mainly GI and cutaneous); evaluate relevance of current *in vitro* and *in vivo* models in use at ALZA; and establish expertise applicable to all new areas of research where irritation is likely to be of concern, including transdermal, electrotransport, peptide delivery and parenteral delivery.

PhD in relevant biological science with post-doctoral experience and proven ability to independently conduct research are required. Applicant must have experience in a research field with relevance to irritation biology, such as the study of microvascular pharmacology or biology. Experience in electrophysiology would be desirable.

To apply, please send your resume to: Darlene Markovich, Director of Employment, ALZA Corporation, 950 Page Mill Road, P.O. Box 10950, Palo Alto, CA 94303-0802. We are an equal opportunity employer.

alza



ONCOGEN

**Manager, Protein
Purification**

Oncogen, a division of Bristol-Myers and a leader in biotechnology, performs research dedicated to pursuing novel approaches to the development of therapeutic products in the area of immunology, infectious diseases and cancer.

We are recruiting for a PhD in Biochemistry with 2-5 years of protein research experience to set up and manage an effort providing pure proteins for clinical trial use. The successful candidate will have responsibility for the development of procedures, equipping the laboratory, directing others in the purification of recombinant proteins produced by mammalian cell culture, development of novel technology for protein purification, investigating formulation and stability of proteins, and analysis of protein structure.

Oncogen offers a stimulating scientific environment and excellent compensation and benefit packages. For consideration, send a curriculum vitae to:
**J. McGough, Oncogen, 3005 First Avenue,
Seattle, WA 98121. EOE/AAP.**

POSTDOCTORAL POSITION

Available to study protein secretion from gram-positive bacteria (lactic streptococci) at the Biotechnology Department of CIBA-GEIGY in Basle, Switzerland.

Applications including curriculum vitae, a description of research, the names and addresses of three references from whom we may request letters of evaluation should be sent under ref. "Science 952" to Dr. W. Reber, CIBA-GEIGY Ltd, Personnel Department, Postfach, CH-4002 Basle.

CIBA-GEIGY

DIRECTOR CARDIOVASCULAR/ PULMONARY RESEARCH INSTITUTE

Deborah Research Institute has a position available for Ph.D. with broad research experience to serve as Scientific Director of our cardiovascular and pulmonary institute. The successful candidate should have experience with myocardial protection, new perfusion methods, left-ventricular assist devices, laser surgery, heart transplantation research or valve and blood vessel transplantation research.

In addition, the candidate will be able to bring about a balance between basic and clinical research, as well as direct efforts in extramural grant writing, grant distribution and the direction and planning of the scientific activities of our institute.

We adjoin Deborah Heart and Lung Hospital. For confidential consideration, please forward your resume to:

Chairman of the Board



**DEBORAH RESEARCH
INSTITUTE**

Trenton Road
Browns Mills, NJ 08015
Equal Opportunity Employer



NATIONAL UNIVERSITY OF SINGAPORE INSTITUTE OF MOLECULAR AND CELL BIOLOGY

Applications are invited from suitably qualified scientists at the level of principal investigators to join the Institute of Molecular and Cell Biology. The Institute, operational since the end of 1987, consists of the Cell Regulation, the Infectious and Genetic Diseases and the Plant Genetic Engineering Groups. It provides comprehensive support facilities including capital equipment, substantial operating and conference expenses, supporting staff at the pre- and post-doctoral levels and laboratory space ranging from 500 to 1000 square feet.

Applicants should have experience in one of the following fields: yeast genetics, molecular virology, molecular basis of genetic disorders, developmental biology, cellular immunology, biochemical virology, cytokines and immunohormones.

Salaries will be competitive and commensurate with experience, including excellent fringe benefits. Applicants should send their curriculum vitae and addresses of 4 referees to the:

Director
Personnel Department
National University of Singapore
10 Kent Ridge Crescent
Singapore 0511

Enquiries may also be sent through BITNET to:

PERSEPT @ NUSVM

Senior Research Entomologist Agricultural Research

The Agricultural Research department of the Merck Sharp & Dohme Research Laboratories located in Three Bridges, New Jersey, is seeking a Senior Research Entomologist interested in field research and development of agricultural pesticide products. The candidate will be responsible for establishing and monitoring field trials, reviewing efficacy data, and making recommendations to management regarding product development.

The position requires a Ph.D. degree or equivalent in entomology or related science with 2-3 years relevant experience. The successful candidate must have a good working knowledge of insecticides, economic entomology, and pest and disease control.

The Three Bridges Facility is located in Hunterdon County in West central New Jersey.

Salary and benefits are excellent. Please send resume to **Ms. Dolores L. Barefield, Merck Sharp & Dohme Research Laboratories, P.O. Box 2000, WBD-362, Rahway, New Jersey 07065.**

Equal Opportunity Employer



Merck & Co., Inc.

BIOMEDICAL SCIENTIST/ CELL BIOLOGIST

The Research Division of W.R. Grace & Co., a Fortune 100 Company in the specialty chemical and health care arenas, has an excellent opportunity in its Biomedical/Biotechnology Research Program.

As part of a multidisciplinary team, you will conduct research developing new technologies and products relating to mammalian cell culture systems, hybrid artificial organs, hemoperfusion systems, and specialty biochemicals.

This position requires an M.S. or Ph.D. in Cell or Molecular Biology, Pharmacology or Biomedical Sciences with experience in mammalian cell culture and cell modulators.

Grace offers an attractive salary, an excellent benefits program and a rewarding, growth-oriented career. We actively encourage the publication of technical papers. We are located in the picturesque community of Columbia, Maryland, close to both Baltimore, Maryland and Washington, D.C.

Please send your resume in confidence, including salary history to:

Manager, Employment
Department MC
W.R. Grace & Co.
Washington Research Center
7379 Route 32
Columbia, Maryland 21044

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An international specialty chemical company with
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service businesses.

An Equal Opportunity Employer M/F/H/V

POSITIONS OPEN

FACULTY POSITION IN PLANT PHYSIOLOGY

The Department of Botany, University of Iowa, invites applications for a tenure-track position in plant physiology effective 1 July 1989. We seek candidates whose research interests emphasize molecular/biochemical approaches to fundamental problems in plant physiology. The position is approved at the assistant professor level, but applications from individuals with outstanding research records may be considered at a more senior level. Please send a current curriculum vitae, reprints, a brief summary of research goals, and three letters of reference to: **Professor Richard Sjolund, Department of Botany, University of Iowa, Iowa City, IA 52242.**

The University of Iowa is an Equal Opportunity and Affirmative Action Employer. We encourage applications from women and minorities.

FACULTY POSITION, MICROBIAL PHYSIOLOGY. The Department of Botany and Microbiology at the University of Oklahoma invites applications for a tenure-track appointment at the assistant professor level. Applicants should have a strong background in microbial physiology, a Ph.D., and relevant postdoctoral research experience. The successful candidate will be expected to develop and maintain a strong extramurally supported research program in microbial physiology and to participate in the undergraduate and graduate teaching programs of the department. Preference will be given to applicants who are able to apply modern methods of molecular biology in their research endeavors. Initial screening of applicants will begin 10 February 1989 and continue until filled. Applicants should arrange for three letters of reference to be submitted and mail curriculum vitae, a statement of current research activities, and future research goals to: **Dr. Joseph M. Suflita, Microbial Physiology Search Committee, Department of Botany and Microbiology, The University of Oklahoma, Norman, OK 73019.** OU is an Equal Opportunity/Affirmative Action Employer.

DEPARTMENT OF BIOLOGY UNIVERSITY OF VIRGINIA

FACULTY POSITIONS at the junior or senior level are available in the research group investigating basic mechanisms of biological rhythmicity. We seek applicants with research interests in circadian rhythms, neuronal oscillations, reproductive cycles or other aspects of temporal organization, as well as expertise in a contemporary biological field such as neurobiology, molecular genetics or cell biology. Successful applicants will combine outstanding research accomplishments or potential with ability to contribute to the intellectual life of a department dedicated to the highest level of undergraduate and graduate education. Please send curriculum vitae, including a description of research plans and three letters of reference by 1 February 1989, to: **Michael Menaker, Chairman, Department of Biology, Gilmer Hall, University of Virginia, Charlottesville, VA 22901.** Equal Opportunity/Affirmative Action Employer.

FACULTY POSITIONS IN PLANT BIOLOGY AND MARINE BIOLOGY FLORIDA STATE UNIVERSITY

The Department of Biological Science will be expanding faculty research strengths in two areas of organismal biology: plant biology and marine biology. Recruitment for an **ASSISTANT PROFESSOR** in each of these areas will be broadly based. Applications representing a diverse array of interests and disciplines are encouraged. We especially want faculty who will complement our present strengths in ecology, evolution, and marine/aquatic biology. In addition to quality undergraduate teaching, faculty are expected to establish productive research programs and to contribute to the professional development of graduate students. Send a letter of application, résumé, statement of research and teaching goals, and names and addresses of three references by 9 December 1988 to: **Search Committee, c/o Dr. Lawrence G. Abele, Chairman, Department of Biological Science, Florida State University, Tallahassee, FL 32306.** The Florida State University is an Affirmative Action/Equal Opportunity Employer. Applications from women and minorities are encouraged.

POSITIONS OPEN

FACULTY POSITION IN RADIATION BIOLOGY AT STANFORD UNIVERSITY

The Division of Radiation Biology of the Department of Radiation Oncology is seeking an associate professor (research) to complement existing programs in hypoxic cytotoxins and radiation sensitizers, hyperthermia, cell cycle and tumor biology, DNA repair and mutagenesis, and leukemogenesis. Areas of interest of applicant could include oxygen measurement and transport, blood flow modification, antibodies of tumor detection and treatment and cellular and molecular aspects of predictive assays. Stanford University is committed to increasing representation of women and members of minority groups on the faculty and particularly encourages applications from such candidates. Applicants should submit curriculum vitae and names of three references to: **Dr. J. Martin Brown, Director, Division of Radiation Biology, Department of Radiation Oncology, Stanford University School of Medicine, Stanford, CA 94305.**

IMMUNOLOGIST—VIROLOGIST (search reopened)—The Stephen F. Austin State University Biology Department invites applications for a tenure-track position of assistant professor. A Ph.D. with specialties in immunology and/or virology is required. Duties include teaching immunology, virology and introductory biology; research and publication will be expected. Salary commensurate with training and experience. Duties begin in August and closing date for application is 15 December 1988. Send curriculum vitae including transcripts and have three letters of recommendation sent to: **W. V. Robertson, Search Committee Chairman, Box 13003, SEA, Nacogdoches, TX 75962.** An Equal Opportunity/Affirmative Action Employer.

JUNIOR FACULTY POSITIONS available in the Pharmacology and Developmental Therapeutics of antineoplastic agents targeted for specific human cancer types. Candidates should have the Ph.D. degree with a minimum of 3 years of postdoctoral experience in a related field. The two programs are as follows:

1) Colon adenocarcinoma. The biochemistry and pharmacology of modulation of antimetabolites with thymidylate synthase as the primary target. Studies will focus on biochemical approaches to modulate reduced folate pools and to optimize drug scheduling for therapeutic gain. Research will also identify factors that influence the regulation and turnover of thymidylate synthase in elucidating the importance of the enzyme as a therapeutic target.

Apply: **Dr. J. A. Houghton.** Salary negotiable.

2) Pediatric rhabdomyosarcoma. Drug targeting against differentiation antigens in tumors of skeletal muscle. This will involve the molecular cloning of differentiation antigens together with their identification and characterization, and targeting drugs against appropriate antigens in vitro and in vivo using antibodies as carriers.

Apply: **Dr. P. J. Houghton.** Salary negotiable. Send curriculum vitae and names of three references to: **Laboratories for Developmental Therapeutics, Department of Pharmacology, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38101.** Equal Opportunity/Affirmative Action Employer.

Yale University/METAMORPHIC PETROLOGY. The Department of Geology and Geophysics invites applications for a **JUNIOR FACULTY** appointment in the topic area of metamorphic petrology. We are particularly interested in field-based studies of regional-scale metamorphism. Examples of research areas include the tectonic evolution of metamorphic belts, fluid and heat flow during metamorphism, physico-chemical and kinetic constraints on the history and evolution of metamorphic rocks, and the chronology of metamorphic events. The appointment will complement existing programs in stable isotope geochemistry, diagenesis, reaction kinetics, genesis of mineral deposits, fluid-rock interactions, tectonics of convergent margins, and processes of granitic magmatism.

Applicants should submit a letter of application, curriculum vitae, publications, and the names and addresses of at least three references to: **Dr. Barry Saltzman, Chairman, Department of Geology and Geophysics, Yale University, P.O. Box 6666, New Haven, CT 06520.** Completed applications must be received by 1 March 1989.

Yale University is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

MAMMALOLOGY: ASSISTANT PROFESSOR, tenure-track position. Ph.D. and experience as field biologist required. Teach mammalogy, freshman biology, and biometrics. Direct master's theses and seek funding to support strong research program in regional mammal populations. Send application with transcripts, curriculum vitae, statement of teaching and research interests, and three reference letters by 1 February 1989 to: **Dr. L. A. Jahn, Biological Sciences, Western Illinois University, Macomb, IL 61455.** Western Illinois University is an Equal Opportunity/Affirmative Action Employer. Women, minorities, and handicapped persons are especially encouraged to apply.

MOLECULAR BIOLOGIST

The Department of Biology of Pomona College invites applications for a tenure-track, assistant professorship beginning fall 1989. Applicants should have a broad background in biology with extensive training in molecular biology, including postdoctoral experience. Preference will be given to applicants with expertise in molecular aspects of development and/or endocrinology. The appointee will participate in an interdisciplinary molecular biology program, supported by the Howard Hughes Medical Institute. She/he will be expected to develop two upper division courses in areas of specialization. Start-up funds are available for the successful candidate to establish an active research program that can involve the participation of undergraduates. Send curriculum vitae, statements of research and specific teaching interests, and three letters of recommendation by 31 December 1988 to: **Dr. Bruce Telzer, Search Committee, Department of Biology, Pomona College, Claremont, CA 91711.** Pomona College is an Affirmative Action/Equal Opportunity Employer.

MOLECULAR BIOLOGIST UNIVERSITY OF PITTSBURGH SCHOOL OF MEDICINE

The Department of Pathology at the University of Pittsburgh School of Medicine is seeking a molecular biologist with a Ph.D. and postdoctoral training to join its Clinical Molecular Biology Unit at the level of assistant professor. A strong background in cloning and hybridization methods is desirable. Responsibilities will include the application of molecular techniques to the diagnosis of disease and development of an independent research program. Send curriculum vitae and three references to: **Dr. Joseph Locker, Associate Director, Clinical Molecular Biology Unit, c/o A. Roman-Koller, University of Pittsburgh, School of Medicine, Department of Pathology, 776 Scaife Hall, Pittsburgh, PA 15261.**

MOLECULAR BIOLOGIST/MEMBRANE BIOCHEMIST Brigham and Women's Hospital/Harvard Medical School is seeking scientists (Ph.D. or M.D.) with experience in biochemistry and molecular biology of ion transport proteins. Successful candidates will join established programs in membrane transport physiology and cell volume regulation. Send statement of interests, full curriculum vitae, and names of three references to: **Dr. B. M. Brenner, Director, Renal Division, Brigham and Women's Hospital, 75 Francis Street, Boston, MA 02115.** An Equal Opportunity Employer.

THE COLLEGE OF STATEN ISLAND OF THE CITY UNIVERSITY OF NEW YORK NEUROSCIENCE FACULTY POSITION

The College of Staten Island invites applications for a full-time tenure-track position (beginning 1 September 1989) in developmental neurobiology. Candidates must be qualified to participate in the City University Ph.D. program in biology or biochemistry. A strong record of research, publication and grant support is required. Rank and salary commensurate with experience and record of scholarship. Salary range \$30,000 to \$65,000. Excellent fringe benefits, ample research space and start-up funds are available. The successful candidate is expected to participate in the programs of the CSI/IBR Center for Developmental Neuroscience. Send curriculum vitae and names of three references by 16 January 1989 to: **Dr. Barry Bressler, Vice-President for Academic Affairs, The College of Staten Island/CUNY, 715 Ocean Terrace, Staten Island, NY 10301.**

Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

MOLECULAR/CELLULAR BIOLOGIST IOWA STATE UNIVERSITY

Iowa State University invites applications at any level for a tenure-track or tenured faculty position. The successful applicant will be expected to lead a vigorous, externally funded research program involving state-of-the-art molecular, cellular and/or genetic approaches to study areas related to **endocrinology** such as: signal transduction, control of secretion or the regulation of growth and development. This position is part of a multimillion dollar, campus-wide effort to promote excellence in molecular biology and biotechnology. Central nucleic acid, protein, image analysis, fermentation, molecular structure and cell-sorting facilities with the most advanced equipment available have already been established. Salary will be competitive and research start-up funds of up to \$150,000 are available. Teaching responsibilities will be modest. A description of research interests, curriculum vitae and at least three references should be sent to: **Dr. T. Ingebritsen, Department of Zoology, Iowa State University, Ames IA 50011, by 15 January 1989.**

Women, minorities, and members of other protected groups are strongly encouraged to apply. Iowa State University is an Equal Opportunity/Affirmative Action Employer.

MOLECULAR GENETICIST. Fort Lewis College Biology Department—molecular geneticist tenure-track position to begin September 1989. Teaching load will include general biology, composition seminar, cell/molecular biology, molecular genetics. Candidate must be dedicated to liberal arts education. Send résumé, three letters of recommendation, and official transcripts to: **Dr. Page Lindsey, Department of Biology, Fort Lewis College, Durango, CO 81301.** Screening will begin on 9 January 1989. *Fort Lewis College is an Affirmative Action/Equal Opportunity Employer. Women and minorities are urged to apply.*

MOLECULAR IMMUNOLOGIST

The Rocky Mountain Multiple Sclerosis Center (RMMSC), a private, nonprofit research and comprehensive care facility at Swedish Medical Center in Denver, is recruiting for a Ph.D. scientist to conduct research into the molecular immunology of MS. Competitive salary and benefit package. Submit curriculum vitae to: **Ron Murray, M.D., RMMSC, Box 2901, 501 East Hampden Avenue, Englewood, CO 80110.**

MOLECULAR RETROVIROLOGIST RESEARCH ASSOCIATE position is available immediately in the Department of Infectious Diseases and Microbiology, at the Graduate School of Public Health, to study the genetic variation, gene regulation and latency of HIV. Candidates must have experience in retrovirus pathogenesis and molecular biology and be capable of independent research. Salary commensurate with experience. Send curriculum vitae and three names of references to: **Dr. Phalguni Gupta, 426 Parran Hall, Graduate School of Public Health, University of Pittsburgh, Pittsburgh, PA 15261.** *The University of Pittsburgh is an Affirmative Action/Equal Opportunity Employer.*

ORTHOPEDIC BIOMECHANICAL ENGINEER WEST VIRGINIA UNIVERSITY SCHOOL OF MEDICINE

West Virginia University School of Medicine invites applications from biomechanicians for a tenured-track faculty position with joint appointments in the Departments of Orthopedic Surgery and Mechanical Engineering.

Candidates must hold a Ph.D. in mechanical engineering and have a background in mechanical testing, modeling, and motion analysis. Position involves research and teaching.

Salary and rank will be commensurate with experience. Send applications with résumés by 31 December 1988 to:

**Eric L. Radin, M.D.
Professor and Chairman
Department of Orthopedic Surgery
West Virginia University School of Medicine
3606 HSN, Health Sciences Center
Morgantown, WV 26506**

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

DPC

Diagnostic Products Corporation

Diagnostic Products Corporation, a leading independent and well-established biotechnology company in Southern California, is seeking qualified and experienced individuals for the following scientific positions. Salary and benefits are competitive and will be commensurate with experience.

SCIENTISTS, MOLECULAR BIOLOGY

Career-oriented candidates with a PhD degree and at least 3 years post-doctoral training in molecular biology and immunology are encouraged to apply to this team of scientists that will form the nucleus of the molecular biology department scientific staff. Candidates should have experience with nucleic acid biochemistry, recombinant DNA technology and DNA sequencing as well as tissue culture. This challenging appointment requires good communication skills and aggressive scientific talents. Reference: R-1

SCIENTISTS, PROTEIN BIOCHEMISTRY

Candidates with a PhD with a post-doctoral training in protein biochemistry are encouraged to apply to this team of scientists that will participate in the isolation and physical characterization of a variety of proteins and/or peptides. A thorough background in peptide synthesis, classical and solid-phase, is essential. Knowledge of carbohydrate and nucleic acid biochemistry is preferred. Also, candidates should have experience with HPLC, FPLC, affinity chromatography and other methods of protein purification. Reference: R-2

TECHNICAL PRODUCT MANAGER

Candidate will supervise all technical aspects of several *in vitro* diagnostic product lines, including introduction of new products, process and product improvements, technical training of distributors and technical interactions of customers. This challenging position will give personal growth within and beyond the laboratory.

Candidates with a PhD and up to 2 years of experience or a Masters degree and 4-5 years of experience in Biochemistry, Immunology, or related disciplines should apply. Previous experience with *in vitro* diagnostics is a definite plus. Reference: T-1

Please send your resume and salary requirements,
plus reference to position of interest to:

Diagnostic Products Corporation
5700 West 96th Street
Los Angeles, CA 90045

Attention: Personnel

ONCOLOGY RESEARCH

WASHINGTON DC AREA

Molecular Oncology, Inc. is a young, fast-growing biotech research company involved in the transfer of the latest molecular diagnostics to the clinical laboratory. If you're an enthusiastic individual with the demonstrated ability to apply advanced management and research skills to cancer diagnosis, we have a place for you on our team.

LABORATORY DIRECTOR—MOLECULAR BIOLOGY

Duties include the daily supervision of a staff of investigators examining the correlation of DNA arrangement and protein expression with tumor identification and progression. M.D., Ph.D., or M.S. degree with 2 to 5 years supervisory experience required.

LABORATORY DIRECTOR—CYTOMETRY

Responsible for the daily supervision of a staff of investigators applying the latest techniques in flow cytometry and image analysis to problems of protein expression and DNA analysis related to tumor diagnosis and progression. M.D., Ph.D., or M.S. degree with 2 to 5 years supervisory experience required.

Send employment history and c.v. to:



Molecular Oncology, Inc.
Personnel Manager
19 Firstfield Road
Gaithersburg, MD 20878

MOI is an equal opportunity employer.

STATE UNIVERSITY OF NEW YORK AT BUFFALO

BIOLOGICAL SCIENCES—FACULTY OPENINGS

TWO ASSISTANT PROFESSORSHIPS: We anticipate that we will be hiring two faculty for Fall 1989. Those appointed will be individuals whose research program is in the forefront of their field and who will be able to interact with other members of our faculty.

One position in **ECOLOGY/EVOLUTIONARY BIOLOGY** is open to candidates with all specialties, however we are particularly interested in the area of aquatic and plant population ecology.

The second position will be open to candidates who will be expected to be utilizing modern genetic and molecular approaches to the study of one of the following areas: (a) the immune system at the cellular level, (b) the development of an organism which provides a model system for studies in development, or (c) regulation in an organism to provide a model for studies of regulation at the level of gene transcription.

Successful candidates will be expected to have completed at least two to three years of post-doctoral experience, demonstrate experience in a productive research program, be able to describe in detail plans for future research activities, and show promise for establishing a fundable independent research program.

Candidates will also be expected to demonstrate above average teaching ability for both undergraduate and graduate teaching. Salary will be nationally competitive; excellent laboratory space and equipment available.

To apply, candidates must submit a curriculum vitae, including a statement of research background and teaching experience, and at least three letters of reference, to **Dr. Darrell Doyle, Chairman, Department of Biological Sciences, 109 Cooke Hall, State University of New York at Buffalo, Buffalo, NY, 14260**. Applications will be received until January 13, 1989, or until the position is filled thereafter.

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

RESEARCH FELLOW

A\$30,100-A\$43,861

DIVISION OF PLANT INDUSTRY
CANBERRA AUSTRALIA

GENERAL: The CSIRO Division of Plant Industry undertakes research in plant sciences and rural industries directed towards improving the profitability of agriculture and the management and utilisation of the Australian flora and vegetation. Its plant improvement investigations range from basic molecular biology to applied plant breeding. Over the past 30 years the breeding program on the drought, hardy pasture grass, *Phalaris acutata*, provided all of Australia's new cultivars.

THE JOB: The appointee will conduct grazing experiments to analyse the effects of seed retention, asynchronous tiller elongation, vernalisation requirement and other factors on the nutritive value and persistence of *P. acutata* cultivars and breeding lines. The appointee will also study quantitative genetics of key factors to design optional breeding strategies.

THE PERSON: Applicants should have a Ph.D or equivalent qualifications in a relevant field. A sound knowledge of breeding of herbaceous perennial or annual plants, preferably open-pollinated pasture plants, is required.

CONDITIONS: Appointment will be for a term of 3 years with Australian Government Superannuation benefits available.

MORE INFORMATION: Prospective applicants are invited to telephone Dr R.N. Oram 61 62 46 5082 for further information. A copy of the detailed duty statement and selection criteria may be obtained by telephoning 61 62 46 5357.

APPLICATIONS: Applications should be submitted by 4 weeks after publication, 1988 and quote reference number N9109. They should be framed against the selection criteria, and state relevant personal particulars including details of qualifications and experience. Applicants should nominate at least two professional referees and address their applications to:

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



CSIRO IS AN EQUAL OPPORTUNITY EMPLOYER

AB1-PL88/072

Pathology

Section Chief

Diagnostic Molecular Pathology

Saint Barnabas Medical Center is a 705-bed regional acute care hospital located in suburban NJ. The Department of Pathology performs a diversity of diagnostic tests and is among one of the most sophisticated of its kind in the healthcare field to-date. We currently have a position available for a Section Chief of Diagnostic Molecular Pathology to work in this highly specialized and advanced department.

As the Section Chief, under the direction of the Chief of The Diagnostic Molecular Pathology Service, your responsibilities include: establishing recombinant DNA technology, supervising and assisting laboratory personnel in your section, as well as working with other sections in the Department of Pathology. Other duties include: lecturing to students, technologists, and house staff, as well as participating in educational and research projects.

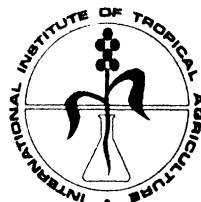
Applicants should be capable of working independently and must have a Doctoral Degree in Molecular Biology, preferably with 3-5 years experience.

We offer a highly competitive salary and a unique array of benefits including: an employer funded tax-sheltered annuity program, complete medical coverage, and a new KinderCare Learning Center! **Please submit resume with salary requirement to Dr. J. Manning, (201) 533-5705, Department of Pathology, Saint Barnabas Medical Center, Old Short Hills Road, Livingston, NJ 07039. We are an equal opportunity employer M/F/H/V.**

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**International Institute of Tropical Agriculture
Ibadan, Nigeria**

LEADER, RESOURCE MANAGEMENT UNIT

IITA invites applications for the senior research position of Leader, Resource Management Unit.

IITA is an international agricultural research institute in a world-wide consortium of 13 centers organized by the World Bank, Food and Agriculture Organization and United Nations Development Program. The Institute has outreach programs in many countries of sub-Saharan Africa. IITA scientists from 45 nations work in partnership with national agricultural agencies to increase food production in tropical Africa, and ultimately to raise the productivity and income of family farmers.

The goal of resource management research at IITA is to develop economically viable farming systems which permit increased and sustainable production by family farmers. Good management practices should enable them to make more effective use of their resources: soil, radiation, vegetation, water, material inputs, labor and other energy sources. The development of farming systems to support the population of Africa in the 21st century is one of the most profound challenges to international agriculture. For this reason, IITA plans to increase the strength of its research effort in this field over the coming years.

The Leader of the Resource Management Unit will direct a multidisciplinary team of soil scientists, agronomists, ecologists, weed scientists, an agroclimatologist, an economist and agricultural engineers in (a) studying the physical, chemical, biological and socio-economic elements of the natural resource base; (b) analyzing the determinants of stability, productivity and degradation; and (c) designing improved resource management systems and in adapting them to the farming systems of the major ecosystems of West and Central Africa.

Candidates should possess a relevant research background (PhD or equivalent degree in an appropriate subject), and have had a minimum of five years of international experience. They should be keen scientists with a vision of how applied research can address practical problems. They must be capable of organizing their team in a coherent program to make their vision a reality.

The salary and benefits are competitive, and include housing, use of a personal car, children's educational allowances, annual home leave travel, health services and other benefits. The Institute's headquarters, research facilities, and residential and recreational areas are situated on an attractive 1,000-hectare campus outside of Ibadan.

Applicants for the position of Leader, Resource Management Unit, are invited to send their curriculum vitae, date of availability, and names and addresses of three referees to Dr. Laurence D. Stifel, Director General, c/o L.W. Lambourn & Co. Ltd., Carolyn House, 26 Dingwall Road, Croydon CR9 3EE, England.

IITA currently also has the following positions open: agricultural economist, plant breeder, Striga biologist, soil chemist, training materials specialist and senior science writer/editor. The full announcements of any of those positions will be sent on request.

August 1988

DIAGNOSTIC PRODUCTS

R & D/Product Support

Amersham Corporation, a respected leader in the diagnostic industry, is expanding its Diagnostic Systems Division at a rapid pace and is seeking a broad range of scientific talent to assume key roles in that expansion. Exciting growth will be occurring in research and development, marketing, product support, and field service over the next several months. Opportunities in product development have created an immediate need for the following individuals possessing Ph.D. degrees in Biochemistry, Immunology or other appropriate fields.

RESEARCH SCIENTIST

Applicants should have a minimum of 5 years industrial experience in the area of immunodiagnostics. Individuals with product development and launch experience on instrumentation-based thyroid, cancer, hormone, or infectious disease products are being sought. Preference will be given to individuals who have worked closely with parallel instrumentation development. Supervisory experience and interpersonal skills required for a team approach are essential.

PRODUCT SUPPORT SCIENTIST

The ideal candidate will possess 3 to 5 years experience in product support or development of diagnostic products specifically thyroid immunoassay products. Individuals with extensive experience in method development, experimental design and product problem solving are sought. Managerial skills would be an asset in the supervision of a product support group.

Amersham Corporation is located in a pleasant suburban area 25 miles northwest of downtown Chicago. We are offering excellent starting salary, an attractive benefits package, and the opportunity to make a significant contribution to our Diagnostic Systems team. To apply for our immediate openings, or apply for future opportunities in marketing, product support, and field service, please submit your resume in confidence to:

Human Resources Manager
AMERSHAM CORPORATION
2636 S. Clearbrook Drive
Arlington Heights, IL 60005-4692

Equal Opportunity Employer, M/F/V/H

Amersham

POSITIONS OPEN

SEARCH EXTENDED MOLECULAR STRUCTURAL BIOLOGY

The Department of Cell Biology and Neuroanatomy, in cooperation with the newly established Center for Structural Biology at the University of Minnesota, is extending its search for a structural biologist with expertise in electron microscopy of macromolecules (including proteins, glycoproteins, membranes and chromatin) and in computer image analysis. Areas of research interest of the successful applicant must complement ongoing programs in the department in the areas of cytoskeleton, membrane proteins or extracellular proteins that interact with cells. The appointment may range from ASSISTANT PROFESSOR (TENURE-TRACK) to PROFESSOR (TENURED) depending upon qualifications (guidelines for appointment at each level will be sent on request). Applicants must have a relevant graduate degree [either Ph.D. or M.D. (or both), or equivalent foreign degree] with at least 2 years of productive postdoctoral experience. Teaching will be in courses taught to medical and dental students by the department. In addition, training of graduate students and teaching in appropriate graduate programs will be required.

Applications (which should include a letter of intent, curriculum vitae, three letters of recommendation, and a brief statement of research goals) or nominations must be received no later than 1 February 1989, and should be sent to Search Committee, Department of Cell Biology and Neuroanatomy, 4-135 Jackson Hall, 321 Church Street, S.E., Minneapolis, MN 55455.

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

Tenure-track faculty position for NEUROSCIENTIST. Research focus in CNS neural plasticity and at least 2 years of postdoctoral training preferred. Assistant professor rank, but higher level appointment may be considered. Send curriculum vitae with three letters of recommendation, statement of research goals, and no more than three reprints to: L. C. Skeen, Chair, Biopsychology Search Committee, Department of Psychology, University of Delaware, Newark, DE 19716, by 31 January 1989. Women and members of minority groups are especially encouraged to apply. Equal Opportunity/Affirmative Action Employer.

PHARMACOLOGIST

The Department of Pharmacology at the University of North Dakota School of Medicine has a tenure-track vacancy to be filled by July 1989 at the associate professor level. Applicants must have a Ph.D. and teaching experience with preference given to those with demonstrated research productivity in autonomic, cardiovascular, chemotherapy, endocrine, or renal pharmacology and a demonstrated ability to gain extramural research funding. Excellent laboratory space is available to support the research effort in a developing department. Candidates should submit curriculum vitae, a summary of research plans, and names of three referees by 15 January 1989.

Dr. John W. Vennes, Acting Chair, Department of Pharmacology, School of Medicine, University of North Dakota, Grand Forks, ND 58202. An Equal Opportunity Employer.

PHARMACOLOGY

The Department of Pharmacology, Division of Functional Biology, of the West Virginia School of Osteopathic Medicine (WVSOM), seeks an ASSISTANT OR ASSOCIATE PROFESSOR of pharmacology. Applicants must have a background in general physiology and pharmacology, with experience in cardiovascular and renal pharmacology. Significant teaching experience and a demonstrated ability to conduct independent research are also required.

Rank and salary will be commensurate with qualifications. Send current curriculum vitae and three letters of recommendation to: Chairperson, Pharmacology Search Committee, c/o Personnel Office, WVSOM, 400 North Lee Street, Lewisburg, WV 24901. The position is available immediately.

WVSOM is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

PHARMACOLOGIST

We seek to appoint a research assistant professor with interest and experience in parasitic disease(s). Preference will be given to those with expertise in geohelminths, schistosomiasis and possibly filariasis. Available 1 July 1989. Applications should include current curriculum vitae and the names of three references. Application deadline: 1 January 1989. These should be sent to: Ms. Carol Taylor, Department of Biomedical Sciences, University of Illinois College of Medicine at Rockford, 1601 Parkview Avenue, Rockford, IL 61107. Equal Opportunity/Affirmative Action Employer.

PHYSIOLOGY FACULTY POSITION—The Department of Physiology, Chicago College of Osteopathic Medicine, invites applications for a tenure-track position at the rank of ASSISTANT/ASSOCIATE PROFESSOR. The successful candidate will develop a vigorous, fundable research program, preferably in an area that complements existing programs in cardiovascular, diabetes and vascular smooth muscle research. Highly qualified candidates with research interests in other areas will also be given serious consideration. Two years of postdoctoral experience, and the ability to teach human physiology to medical students are required. Candidates should send their curriculum vitae, reprints of selected articles, a statement of current research interests, and the names of three references to: Stephen J. Kopp, Ph.D., Chairman, Department of Physiology, Chicago College of Osteopathic Medicine, 555 31st Street, Downers Grove, IL 60515. Affirmative Action/Equal Opportunity Employer.

PLANT CELLULAR/MOLECULAR BIOLOGIST. Applications are invited for a tenure-track position in molecular or cellular biology with experience in plant systems. Initial responsibilities include participation in a core course for majors on genetics and development, developing a general education course in science and technology, and additional courses in area of specialization. Ph.D. strongly preferred. Send letter of application outlining research and teaching interests, curriculum vitae, and letters from three references before 15 December 1988 to: Dr. Jack Harclerode, Department of Biology, Bucknell University, Lewisburg, PA 17837. Telephone: 717-524-1961. Applications from women and members of minority groups are encouraged.

PLANT ECOLOGY AND PLANT PHYSIOLOGY MIAMI UNIVERSITY

The Miami University Department of Botany invites applications for two tenure-track positions at the assistant professor level to begin 23 August 1989. One position is for a PHYSIOLOGIST emphasizing plant metabolism. The second position is for a POPULATION or EVOLUTIONARY ECOLOGIST. Responsibilities include teaching undergraduate and graduate courses, research and the direction of master's and doctoral students. A Ph.D. in an appropriate discipline is required. Preference will be given to candidates with postdoctoral experience and demonstrated success in both teaching and independent research. Curriculum vitae, a one-page statement of teaching goals, a one-page statement of research objectives, and three letters of recommendation should be received by 6 January 1989. Address materials to: Dr. Jerry W. McClure (Physiology) or Dr. John L. Vankat (Ecology), Department of Botany, Miami University, Oxford, OH 45056. Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL FELLOW

A 2-year appointment of postdoctoral fellowship in speech science is available at The Ohio State University, Division of Speech and Hearing Science. Strong research backgrounds in phonological theory and/or AI-oriented computational methods are desirable. Large amounts of articulatory data from the University of Wisconsin microbeam facility are available as well as an advanced computational environment including several SUN-4 workstations. Candidates from any discipline are invited to contact: Professors Larry Feth and Osamu Fujimura, Division of Speech and Hearing, The Ohio State University, 154 North Oval Mall, Columbus, OH 43210. Applications should include curriculum vitae as well as names, addresses, and telephone numbers for at least two recommendations, and must arrive by 9 December 1988. OSU is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

PLANT GROWTH AND DEVELOPMENT

The Division of Sciences at Washington State University is accepting applications for a tenure-track faculty position in plant biology at the level of ASSISTANT PROFESSOR. The position requires participation in teaching core curriculum courses in the areas of plant development and structural botany, and appropriate teaching experience is desirable. The successful candidate will be expected to develop a strong externally funded research program concerned with the regulation of plant development at the molecular, biochemical and/or physiological level. Preference will be given to candidates employing contemporary methods to study the regulation of organ or whole plant development. A Ph.D. with academic training in a pertinent area of plant biology is required, and postdoctoral experience is preferred. Applicants should submit curriculum vitae, statement of research and teaching interests, selected reprints, and names of four references to: Dr. Vincent R. Franceschi, Chair, Search Committee, Department of Botany, Washington State University, Pullman, WA 99164-4230. Application deadline is 9 January 1989. WSU is an Equal Opportunity/Affirmative Action Employer and Employer. Protected group members are encouraged to apply.

PLANT SYSTEMATICS HARVARD UNIVERSITY DEPARTMENT OF ORGANISMIC AND EVOLUTIONARY BIOLOGY TWO POSITIONS

FULL PROFESSOR—evolution and phylogeny of vascular plants, and non-tenured professor at the ASSISTANT OR ASSOCIATE rank—systematics of plants or fungi. Candidates should employ molecular techniques in their research.

Applicants should have demonstrated excellence in research and a strong commitment to teaching at the graduate and undergraduate levels. Curriculum vitae, statement of interest and names of three recommendations should be sent to the committee no later than 1 January 1989. Committee: Plant Systematics Search, Department of Organismic and Evolutionary Biology, 26 Oxford Street, Cambridge, MA 02138.

Harvard University is an Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL ASSOCIATE IN PLANT/INSECT RELATIONS: Available immediately with 2-year appointment to study effects of biological nitrogen fixation in legumes on herbivorous insects. Requires strong interest and background in physiological responses of plants to environment and insect behavior/nutritional ecology. Applications, including curriculum vitae, a summary of research interests and experience, and names of three references should be forwarded to: Dr. Patrick R. Hughes, Boyce Thompson Institute for Plant Research, Cornell University, Ithaca, NY 14853.

POSTDOCTORAL FELLOW: A biochemist with strong background in analytical food chemistry and/or toxicology is required to work on a National Research Council-funded research project focused on "domoic acid" shellfish toxin. Previous experience in related field is desirable. Two-year appointment. Applications should include curriculum vitae, names and address of three references, and pertinent publications. Submit to: Dr. M. S. Nijjar, Department of Anatomy and Physiology, University of Prince Edward Island, Charlottetown, P.E.I., Canada, C1A 4P3.

POSTDOCTORAL FELLOWSHIP PSYCHONEUROIMMUNOLOGY

The Departments of Microbiology and Psychiatry of Boston University School of Medicine are offering a postdoctoral fellowship in the field of psychoneuroimmunology. The position is available 1 January 1989. Training will involve laboratory research on the effect(s) of stress on the immune system of small rodents and will include aspects of neuroendocrinology, psychiatry/psychology and statistics. Please apply in writing, and provide curriculum vitae and the names of three references. Please reply by 1 December 1988 to: Paul H. Black, M.D., Department of Microbiology, Boston University School of Medicine, Boston, MA 02118. Equal Opportunity/Affirmative Action Employer.

"If Research Is What You Do Best..."

Consider the Variety of Possibilities at Genetics Institute."

As the innovative leader in today's dynamic industry...biotechnology, Genetics Institute can offer you a research environment that's rich in creativity and entrepreneurial spirit. Whether your background stems from academia or another research setting, we at Genetics Institute encourage our research professionals to explore their talents in a stimulating, scientific atmosphere. It is this type of environment that has enabled our research team to make the kind of contributions deserving of our reputation in the application and creation of recombinant DNA technology.

Mammalian Cell Expression/ Protein Analysis

We are seeking exceptional individuals at the BA, MA and/or Ph.D. level, with skills in Mammalian cell expression and protein analysis, to join a group studying recombinant immunoglobulins intended for therapeutic purposes. The ideal candidate has experience in propagation of transformed cell lines, DNA transfections and/or protein characterization. A background in immunology or rDNA experience is also beneficial, but not a prerequisite for the position.

Immunology

We are currently accepting applications from qualified individuals in the area of Applied Immunochemistry. Ideal candidates will have MS or PhD in Immunology or Biochemistry, and 2-4 years' relevant experience in the purification, characterization, and utilization of monoclonal and polyclonal antibodies. Familiarity with isotopic and enzymatic immunoassay procedures, including chemical modifications to antibodies and/or antigens are essential for the successful candidate. A background in molecular biology, although desirable, is not required.

Analytical Biochemistry

We have an immediate opening for an analytical biochemist in our Carbohydrate Chemistry group. Primary responsibilities will include analysis of the oligosaccharides from glycoproteins by gas and liquid chromatography, maintenance of chromatographic instrumentation, and interpretation of data. The ideal candidate should possess a BS in Chemistry/Biology with one year of laboratory experience and have excellent written and verbal communications skills. Previous experience with GC or LC desirable, though not necessary.

Assay Development

We are expanding our research activities to include a dedicated assay development group to be responsible for performing and developing assays to support our research and clinical development organization in the areas of hematopoietic and other growth factors, fibrinolysis and hemostasis. We are seeking several assay specialists in the following areas to be a part of this start-up group:

Immunoassays

A Bachelor's or Master's degree as well as experience in running validated assays for clinical or in vitro diagnostics is desired.

In addition, we are seeking a Ph.D. with significant experience in immunoassay development and implementation for protein therapeutics. This individual would be expected to take a lead role in developing immunoassays, providing supervision for the other assay areas within the group, and interacting with scientists and physicians in research and clinical development.

Enzymatic assays Bioassays

Molecular Biology

DNA Sequencing

An opportunity exists for a Bachelor's or Master's level candidate with 1-2 years of experience in molecular biology. This individual will be responsible for DNA sequencing by molecular biology techniques.

Tissue Growth & Repair

A position is available in our Tissue Growth and Repair laboratory conducting bone growth factor research. This position requires a Bachelor's or Master's and 2-3 years of experience in molecular biology techniques including cDNA library screening, clone characterization and RNA techniques.

Microbial Expression

We are currently seeking a Bachelor's or Master's level scientist to join our Microbiology group. This individual will be involved in expression and analysis of heterologous gene products in microbial systems, principally in *E. coli*. A background in microbiology is preferred, and familiarity with rDNA techniques is desirable.

Protein Engineering

We seek a highly motivated scientist to contribute to the synthesis of novel recombinant protein. The ideal candidate will be actively involved in DNA mutagenesis, vector construction/design, and enzymatic assays. This opportunity requires a BS degree in Biology or related life science with a minimum of one year's experience in molecular biology.

Mammalian Cell Culture

An opportunity exists within the Biochemical Engineering group of our Mammalian Cell Culture laboratory for an individual with a Bachelor's or Master's degree in a biological science or an engineering discipline. Experience in cell culture as well as analytical techniques such as gel electrophoresis, Western blot analysis, autoradiography, wet chemistry and enzymatic assays is required. Experience in the operation of bioreactors would be an advantage but is not essential.

We offer a stimulating scientific environment in addition to an excellent salary and a complete benefits package. Qualified applicants should forward their resumes, in confidence, to Sheri Rist, Genetics Institute, 87 Cambridge-Park Drive, Cambridge, MA 02140.

An Equal Opportunity/Affirmative Action Employer

Genetics Institute

POSITIONS OPEN

POSTDOCTORAL FELLOW: Molecular biologist to study prolactin-stimulated genetic transcription in lymphocytes. Expertise in cell culture, RIA or EIA, Western and Northern blots. Opportunity to uncover new insight into cell function related to proliferative diseases. Salary commensurate with NIH guidelines. Closing date will be 30 December 1988. Résumé to: **Diane H. Russell, Ph.D., Professor and Head, Department of Pharmacology and Therapeutics, University of South Florida, College of Medicine, MDC-9, Tampa, FL 33612.** An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL FELLOWSHIP POSITIONS (two) available immediately to study cellular and molecular biology of atherosclerosis and lipid metabolism. Research projects include: regulation of apolipoprotein gene expression; cellular assembly and secretion of lipoproteins; modeling of intravascular lipoprotein transformations; and molecular genetics of human lipoprotein disorders. Background in cell biology and/or biochemistry desirable. Must be citizen or permanent resident. Send résumé and names and addresses of three references to: **Trudy M. Forte, Ph.D., Lawrence Berkeley Laboratory, University of California, #1 Cyclotron Road, Berkeley, CA 94720.** An Equal Opportunity Employer, M/F/H.

POSTDOCTORAL FELLOWSHIP/RESEARCH ASSOCIATE in studying protein folding and dynamics using site-directed labeling and time-resolved fluorescence spectroscopy. A 2-year position with optional extension is available immediately. Experience in fluorescence spectroscopy and protein chemistry is an advantage. This project is a collaboration of Bar-Ilan University and the Weizmann Institute. Send curriculum vitae and names of three referees to: **Dr. Elisha Haas, Chemical Physics Department, Weizmann Institute of Science, Rehovot 76100, Israel.** Bitnet: CFHAAS at WEIZMANN.

POSTDOCTORAL POSITION available immediately to study myelin antigens and characterize immune responses to them in multiple sclerosis. A background in immunology or molecular biology required. Send curriculum vitae and three references to: **Jeffrey I. Greenstein, M.D., Department of Neurology, Temple University School of Medicine, 3401 North Broad Street, Philadelphia, PA 19140.** An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION

A postdoctoral position is expected available summer-fall 1989 for an outstanding individual with a strong background in cellular immunology. The individual selected will join a group investigating the regulation specificity of the immune response to vesicular stomatitis virus in mice at the clonal and molecular level. Appointment will be held in the Department of Pathology at Harvard Medical School. Send curriculum vitae, statement of research interests, and names and addresses of three references by 1 March 1989 to: **Dr. Carol Reiss, Division of Pediatric Oncology, Dana-Farber Cancer Institute, 44 Binney Street, Boston, MA 02115.** An Affirmative Action/Equal Opportunity Employer.

COASTAL TOXICOLOGY PROGRAM

POSTDOCTORAL POSITION available to characterize the petroleum hydrocarbons present in seawater, surficial sediments, and fauna, and their environmental fates. The position begins 1 January 1989 through 31 October 1989, with strong possibility of extension contingent upon renewal of funding. Applicants should have a Ph.D. in either analytical, organic, or physical chemistry and experience with basic GC-MS and analytical methodology. Familiarity with sector and high-resolution MS desirable. Send curriculum vitae and three letters of recommendation to: **Postdoctoral Search Committee, Institute of Marine Sciences, 272 Applied Sciences Building, University of California, Santa Cruz, CA 95064.** Please refer to job # T88-11. Closing date has been extended to 15 December 1988. UCSC is an Equal Employment Opportunity/Affirmative Action/IRCA Employer.

POSITIONS OPEN

POSTDOCTORAL POSITION. Postdoctoral position available to investigate the biosynthesis of secondary metabolites in *Streptomyces*. Applicant should have experience in microbiology and in prokaryotic molecular biology. Research to involve preparation of blocked mutants, cosynthesis experiments with mutants, and cloning of antibiotic biosynthesis genes. Send résumé and three letters of reference to: **R. J. Parry, Department of Chemistry, Rice University, P.O. Box 1892, Houston, TX 77251.** An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION available 15 November 1988 for studies on the pathogenesis of a bacterial disease in salmon and the development of immunodiagnostics. Salary range: \$21,000 to \$24,000. Submit curriculum vitae and three letters of reference by 2 December 1988 to: **Dr. S. Kaattari, Department of Microbiology, Oregon State University, Corvallis, OR 97331-3804.** Oregon State University is an Affirmative Action/Equal Opportunity Employer and complies with section 504 of the Rehabilitation Act of 1973 and has a policy of being responsive to the needs of dual-career couples.

POSTDOCTORAL POSITION available to study calcium channels of presynaptic terminals and the role of G-proteins and phosphorylation in the regulation of Ca^{2+} -dependent neurotransmitter release. This study is part of a multidisciplinary investigation into the molecular mechanisms and regulation of synaptic transmission using a combination of approaches including molecular biology, protein purification, patch-clamp, caged molecules and Fura-2 in a preparation of giant synaptic terminals. Send curriculum vitae and names and addresses of three references to: **Dr. P. G. Haydon, Department of Zoology, Iowa State University, Ames, IA 50011.**

POSTDOCTORAL POSITION IN MARINE SCIENCE

Skidaway Institute of Oceanography invites applications for a 2-year, postdoctoral position in marine science. The position is open to scientists interested in participating in interdisciplinary oceanographic research. Special consideration will be given those whose research interests include marine sedimentary geology, sediment transport and boundary-layer processes, or interactions of ocean circulation and biological processes. A letter of application including curriculum vitae, a statement of current and future research interests, and names and addresses of three persons who can be contacted for letters of reference should be sent to: **Dr. James Eckman, Skidaway Institute of Oceanography, P.O. Box 13687, Savannah, GA 31416.** Telephone: 912-356-2467. The deadline for application is 31 January 1989.

Skidaway Institute of Oceanography is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION IN MOLECULAR BIOLOGY available immediately to study a cloned DNA repair gene in both *Drosophila* and humans. Candidate must have experience with standard molecular techniques and will be expected to take an active role in developing and carrying out research in the analysis of the cloned genes. Send curriculum vitae and three letters of reference to: **Dr. Mark R. Kelley, Department of Biochemistry, Loyola University of Chicago, Stritch School of Medicine, 2160 South First Avenue, Maywood, IL 60153.**

POSTDOCTORAL POSITION IN PALEOBIOLOGY available 1 December 1988 to collaborate in studies on the origin and evolution of major vascular plant groups emphasizing morphometric and computer-based modeling techniques. Background in plant sciences and experience with computers desirable. Salary approximately \$22,000 per year. Reply with curriculum vitae, statement of research goals/interests, and three letters of reference to: **Dr. William Stein, Center for Evolution and Paleoenvironment, SUNY-Binghamton, Binghamton NY 13901.** SUNY-Binghamton is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

POSTDOCTORAL POSITION. Available in January 1988 to join group investigating the cell biology, biochemistry and molecular biology of growth factor receptors, novel tumor promoters and related signal transduction pathways. Experience in protein analysis and/or recombinant DNA techniques highly desirable. Send curriculum vitae to: **Dr. Marsha Rosner, University of Chicago, Ben May Institute, 5841 South Maryland Avenue, Box 424, Chicago, IL 60637.** The University of Chicago is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION in cellular toxicology available early 1989 to develop in vitro systems to evaluate the toxicity of xenobiotics to the eye and skin. A 3-year project will focus on the development of eye and skin cell cultures as experimental tools to identify and predict the toxicity of dermal and ocular toxicants. A strong background in toxicology and biochemistry is required; knowledge of cell culture techniques is desirable. Send vitae and the names of three references to:

**Daniel Acosta
College of Pharmacy
The University of Texas
Austin, TX 78712**

POSTDOCTORAL POSITION—January 1989. To study structure-function relationships of contractile proteins utilizing chemical, physical, and immunological methods. Experience in protein and peptide chemistry would be desirable. Send curriculum vitae and names of three references to: **Dr. Morris Burke, Department of Biology, Case Western Reserve University, Cleveland, OH 44106.** An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION IN HORMONE RECEPTOR MOLECULAR BIOLOGY AND BIOCHEMISTRY. Parathyroid hormone receptor isolation, characterization, sequencing, and molecular biology. Immediate opening for beginning postdoctoral candidates. Excellent salary and fringe benefits. Stimulating intellectual environment in a basic science department. Call or apply directly to: **J. E. Zull, Department of Biology, Case Western Reserve University, Cleveland, OH 44106.** Telephone: 216-368-3572. CWRU is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITIONS

Immediately available to study human humoral response to HIV. Immunochemistry, molecular biology, or retrovirology background required. Candidate must qualify for postdoctoral appointment in the Department of Medicine at Brown University. Send curriculum vitae, names of references to: **Marshall Posner, M.D., Director, Human Monoclonal Antibody Laboratory, Roger Williams Cancer Center, 825 Chalkstone Avenue, Providence, RI 02908.** An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITIONS IN MOLECULAR BIOLOGY

Two positions are available immediately in an active laboratory for Ph.D.'s in biochemistry or microbiology. Research areas include plasmid DNA replication and regulation of gene expression. Send curriculum vitae and names of two references to: **Dr. Saleem Khan, Department of Microbiology, University of Pittsburgh School of Medicine, 720 Scaife Hall, Pittsburgh, PA 15261.**

POSTDOCTORAL/RESEARCH ASSOCIATE. Position available immediately for recent Ph.D. interested in electrophysiological and pharmacological studies of axon-Schwann cell interactions and nervous system ionic homeostasis. Experience in small cell electrophysiology, ion selective electrodes and/or patch clamp given preference. Salary up to \$21,000, renewable. Send curriculum vitae and three references to: **Dr. Edward M. Lieberman, Department of Physiology, East Carolina University School of Medicine, Greenville, NC 27858-4354.** ECU is an Affirmative Action/Equal Opportunity Employer. Federal law requires proper documentation of identity and employability at the time of employment. It is requested this documentation be included in your application.

POSITIONS OPEN

POSTDOCTORAL POSITIONS available 1 January 1989 for studies of the expression of carbohydrate antigens in human cancers [*JBC*, 262, 11331 and 15649 (1987)] involving glycosyltransferase purification and characterization, differentiation and molecular biological aspects of expression. Applicants should have appropriate training in biochemistry, cell or molecular biology. Send letter describing training and future goals, curriculum vitae, and names of three references to: **Dr. Eric Holmes, Pacific Northwest Research Foundation, 720 Broadway, Seattle, WA 98122.**

POSTDOCTORAL POSITIONS

The Department of Physiology and Biophysics at the University of Tennessee, Memphis, has openings at the postdoctoral level in the areas of cardiovascular (microcirculatory, role of autotoxins in control of regional vascular beds, and CNS mechanism), control of fluid and electrolyte balance, CNS (temperature regulation, sleep, and the interaction of the immune system and the CNS), neuroendocrinology, neonatal cerebral circulation (eicosanoids, activated oxygen, neurotransmitters, pathophysiology), and renal-endocrine (renin-angiotensin-aldosterone axis) physiology. Individuals with Ph.D., M.D., or equivalent degrees should send curriculum vitae and the names, addresses, and telephone numbers of three individuals to give reference to: **Dr. Edward G. Schneider, Associate Professor and Acting Chairman, University of Tennessee, Memphis, Department of Physiology and Biophysics, 894 Union Avenue, Memphis, TN 38163.** *The University of Tennessee, Memphis, is an Equal Opportunity Affirmative Action Employer. Minorities and women are encouraged to apply.*

POSTDOCTORAL POSITIONS IN IMMUNOLOGY

Recent expansion of the immunology program at St. Jude Children's Research Hospital has created new opportunities for Postdoctoral Fellows. The major interests of individual faculty members include viral immunity (**P. Doherty, J. Allan**), lymphocyte ontogeny (**J. Hurwitz, M. E. Conley**), regulation of gene expression (**C. Coleclough**), macrophage biology (**W. Walker, M. Fishman**) and B cell and idiotypic interactions (**D. Metzger, A. Brown**).

St. Jude Children's Research Hospital is a multidisciplinary biomedical research institution providing many opportunities for collaborative interactions with, in particular, strong programs in molecular virology, tumor biology and growth factors. Annual salary begins at \$22,000, commensurate with experience, and there is an excellent benefits package.

Send curriculum vitae and three letters of recommendation to: **Peter C. Doherty, Chairman, Department of Immunology, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38101.**

POSTDOCTORAL RESEARCH ASSOCIATE to study the genetic effects of carcinogenic metal compounds. Background in biochemistry or molecular biology. Experience with tissue culture and recombinant DNA technology desirable. Laboratory located in rural area, 50 miles north of New York City. Salary negotiable. Send curriculum vitae and names and telephone numbers of three references to: **Dr. Toby G. Rossmann, Institute of Environmental Medicine, New York University Medical Center, 550 First Avenue, New York, NY 10016.** *An Equal Opportunity Employer M/F.*

NEW YORK UNIVERSITY MEDICAL SCHOOL POSTDOCTORAL RESEARCH OPPORTUNITIES

Applications are invited for postdoctoral research beginning in winter/spring 1989 to study: (i) Mechanisms of signal transduction and induction of gene transcription through cell surface receptor activation of mammalian cells by cytokines; and (ii) Role of interferons and other cytokines in the regulation of cell growth.

Experience in eukaryotic molecular biology and/or biochemistry is desirable. Applicants must be eligible for funding from the NIH (*U.S. citizens and permanent residents*). Send letters of application, curriculum vitae, and names and addresses of three references to: **Dr. David E. Levy, Department of Pathology, NYU Medical Center, 550 First Avenue, New York, NY 10016.**

Minorities are particularly encouraged to apply.

POSTDOCTORAL POSITIONS IN MOLECULAR GENETICS

Applications are invited for several postdoctoral positions in the Molecular Genetics Group of CIBA-GEIGY Ltd, Basle, for periods of up to three years. We are a group of young scientists working on the isolation of new genes for proteins of pharmaceutical interest, the expression of foreign genes in mammalian cell cultures, molecular aspects of allergic reaction and the modulation of macrophage differentiation. Candidates should have a PhD with 0-3 years postdoctoral experience, preferably with training/expertise in one or more of the following areas: (1) DNA cloning methodologies, (2) Expression of recombinant genes, (3) Mammalian tissue culture.

CIBA-GEIGY is a major pharmaceutical company with an active interest and engagement in molecular biology. The Molecular Genetics section is located in the company's main research facility situated in the heart of Basle, northwest Switzerland. Basle is a major centre of excellence for both pure and applied research in molecular biology in central Europe, and it provides a stimulating academic and cultural environment.

Applications, including a *curriculum vitae*, a summary of relevant research background and interests and the names of two referees should be sent under ref. "Science 950" to **Dr. W. Reber, CIBA-GEIGY Ltd, Personnel Department, Postfach, CH-4002 Basle.**

CIBA-GEIGY

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



FACULTY POSITIONS

DEPARTMENT OF PHYSIOLOGY NATIONAL UNIVERSITY OF SINGAPORE

The Department of Physiology of the National University of Singapore invites applications for faculty positions from individuals with MD, PhD or equivalent degrees and at least two years of postdoctoral experience in either of the following areas: (a) aspects of cellular or molecular physiology related to the regulation of cell growth and differentiation and (b) mechanism of action of hormones and hormone antagonists. The successful candidate will be expected to develop an independent research programme in his or her area of interest and to teach human physiology at undergraduate and postgraduate levels. The level of appointment will be commensurate with qualifications and experience. The applicants should submit their curriculum vitae, a description of research plans, and the names of three referees to the **Director, Personnel Department, National University of Singapore, 10 Kent Ridge Crescent, Singapore 0511.**

PHARMACEUTICAL RESEARCH OPPORTUNITIES

OCULON CORPORATION, a pioneer in the development of diagnostic and prophylactic modalities for human cataract disease, has opportunities available in its Seattle research laboratories. Successful candidates will enjoy an exceptional environment in which to hone their professional skills, as well as the benefits of significant equity participation in an early-stage venture.

PHARMACOLOGIST

Individual will be responsible for the design, initiation, and monitoring of preclinical and clinical studies to assess pharmacokinetics, bioavailability, and metabolism of new drug candidates. Requires Ph.D. or Pharm.D. degree with a minimum of 5 years postdoctoral experience in pharmacology, preferably in the ophthalmic area. Supervisory and industry experience preferred.

ANALYTICAL CHEMIST

Responsible for the development and application of advanced analytical methods to the characterization of new drug candidates and their metabolites in support of preclinical and clinical studies. Requires Ph.D. in chemistry or biochemistry, with a minimum of three years postdoctoral experience and familiarity with HPLC methods.

OCULON Corporation combines a competitive salary and benefits package with a strong appreciation of the elements necessary to a successful drug discovery program. The Company's Pacific Northwest location provides easy access to recreational and cultural opportunities without state or local income taxes. To explore these positions further, please send your CV in confidence to:

OCULON CORPORATION
130 Nickerson Street
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EQUAL OPPORTUNITY EMPLOYER

POSTDOCTORAL FELLOWSHIPS

at the University of Washington COLLEGE OF OCEAN AND FISHERY SCIENCES

Applications are requested from new or recent doctorates in science, engineering and from individuals with equivalent degree stature in related fields for fellowships to be awarded in the College.

The College consists of four units covering all aspects of marine science and marine policy. Fellowship holders will be appointed in one of the following departments:

The School of Oceanography carries out basic research in physical oceanography, marine chemistry, marine geology, and geophysics and biological oceanography.

The Institute for Marine Studies focuses multidisciplinary research on marine policy issues arising from man's use of the oceans; relevant disciplinary training may be in any of the social or natural sciences or in law.

The Applied Physics Laboratory carries out research in physical oceanography, polar science, underwater acoustics, and a wide range of engineering disciplines.

The School of Fisheries specializes in fish and shellfish systematics and ecology, aquaculture, quantitative fishery management, environmental toxicology and food science.

Fellowships are awarded for one year, renewable for a second year, with a stipend of \$25,000 and a modest research budget. Health insurance is also provided. A complete application consists of transcripts of the applicant's graduate record, a vita, addresses and telephone numbers of three referees, a synopsis of the doctoral dissertation (not to exceed 2 pages) and month Ph.D. expected if not in hand, as well as a statement (not to exceed 2 pages) outlining the research the applicant proposes to undertake at UW. Applicants should cite their unit of primary interest and identify possible faculty mentor(s) in the College. Direct contact with such mentors is encouraged. All materials must be received by 1 January 1989. Awards will be announced in late March or early April, 1989.

Applications and any questions should be addressed to: **Search Committee, COFS Postdoctoral Program, Office of the Dean HN-15, College of Ocean and Fishery Sciences, University of Washington, Seattle, WA 98195.**

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Wildlife Conservation International is the conservation program of the New York Zoological Society. W.C.I., supporting a full time staff of field scientists as well as short-term projects, strives to obtain a better understanding of the biology of endangered species, the structure, function and stability of large ecosystems, and applies this understanding to conservation. W.C.I. seeks a N.Y. City-based Director with the following credentials:

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- Talent & experience with fundraising at the corporate, foundation & individual levels
- Experience in dealing with governmental agencies, both foreign & domestic

Send resume to Ms. K. Rangel, Personnel Office

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The National Research Council in cooperation with the National Institute for Occupational, Safety and Health, Division of Respiratory Disease Studies in Morgantown, West Virginia will offer competitive research awards in 1989 for independent scientific research. Recipients will be free to work on problems of their own choice as guest investigators at NIOSH. Duration of awards is one year renewable to a maximum of two. This program is open to experienced senior scientists as well as to recent PhD and MD graduates. Stipends begin at \$28,000 for recent graduates and are appropriately higher for seniors. Relocation reimbursement and funds for professional travel on tenure are available, and a health insurance program is offered.

For further information and application materials please write to:

Associateship Programs (GR 430A/NS)
NATIONAL RESEARCH COUNCIL
2101 Constitution Avenue, N.W.
Washington, DC 20418

Deadline for application
January 15.

LABORATORY ANIMAL VETERINARIAN/TOXICOLOGIST

Amgen is a recognized leader in the development of human and animal health care products through applied biotechnology. As a result of our continued growth we have an immediate opportunity for a laboratory Animal Veterinarian/Toxicologist to participate and consult with Amgen scientists in the development of animal care programs related to exploratory research and toxicology studies.

Candidates for this position must have a DVM/VMD degree and be ACLAM board certified or eligible for certification. Essential requirements include a background and interest in clinical pathology and toxicology as well as familiarity with current NIH and AAALAC guidelines for animal research. Research experience and the ability to conduct independent research are desirable.

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POSITIONS OPEN

POSTDOCTORAL RESEARCH on the effects of incorporating nucleoside analogs into DNA. A position is available in an ongoing research project for a candidate with experience in enzymology or nucleic acid research. Training will be provided in methods of studying enzymes involved in DNA synthesis, including the use of transient state kinetics. Starting salary: \$22,000 or higher depending on relevant experience. To apply send curriculum vitae and three references to: **Dr. R. L. Blakley, Department of Biochemical and Clinical Pharmacology, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38101.** An Equal Opportunity Employer.

POSTDOCTORAL OR RESEARCH ASSOCIATE position available for an individual to study mammalian fertilization at the Population Council's Center for Biomedical Research located on the campus of Rockefeller University. The research to be undertaken will depend on the interests and qualifications of the individual who is chosen. Send curriculum vitae and the names of three references to or contact: **Dr. David M. Phillips, The Population Council, Center for Biomedical Research, 1230 York Avenue, New York, NY 10021; telephone: 212-570-8744.**

Johns Hopkins School of Medicine. **POSTDOCTORAL RESEARCH POSITION** immediately available to study the regulation of acetylcholine receptors (AChRs) in skeletal muscle cells in a variety of model systems in vivo and in culture. Ph.D. or M.D. and some previous research experience required. Opportunity available immediately for qualified person. Send curriculum vitae and names of three references to: **Daniel B. Drachman, M.D., Department of Neurology, Johns Hopkins School of Medicine, 600 North Wolfe Street, 5-119 Meyer Building, Baltimore, MD 21205 or call 301-955-5406.**

RESEARCH ASSISTANT Ph.D. to study molecular mechanisms of B cell development and genetics of differentiation. Experience in molecular genetics, recombinant DNA technology, primary tissue explanation and long term tissue culture, preparation of dendritic cells and helper T cells, and a working knowledge of immunology, bacteriology and virology required. Qualified persons contact: **Johanna A. Griffin, Department of Microbiology, University of Alabama at Birmingham, Birmingham, AL 35294.**

RESEARCH ASSISTANT PROFESSOR position available, Thyroid Laboratory, Department of Medicine, University of Miami School of Medicine. Requires a Ph.D. in areas of molecular biology with proven background in investigation of mechanism of action of polypeptide hormones. Salary \$32,000 to \$36,000. Send résumé and three letters of reference to: **Mrs. Arlene Gunn, Department of Medicine (R-760), P.O. Box 016760, Miami, FL 33101.** Equal Opportunity/Affirmative Action Employer.

Stanford University—**RESEARCH ASSOCIATE**—The Division of Clinical Pharmacology has a vacancy for an analytical chemist/pharmacokineticist to participate in studies of anti-HIV agents. Candidates should hold a Ph.D. degree and have training in analytical methods including HPLC and pharmacokinetic analysis. This position is funded by the Stanford AIDS Clinical Trials Unit. Send curriculum vitae and the names of three references to: **Dr. Terrence F. Blaschke, S-169, Stanford Medical Center, Stanford, CA 94305-5113.** An Equal Opportunity Employer through Affirmative Action.

RESEARCH ASSOCIATE: Research biochemist/neurochemist position available to study the process of myelination at the molecular level. Three to 4 years of postdoctoral experience required in protein purification/characterization, protein sorting/targeting, tissue culture, and recombinant DNA technology. Send curriculum vitae and references to: **Dr. Gihan Tennekoon, Department of Neurology, Meyer 6-119, The Johns Hopkins University School of Medicine, 600 North Wolfe Street, Baltimore, MD 21205.**

POSITIONS OPEN

RESEARCH ASSOCIATE. Conducting research into the biochemical nature of normal and diseased articular cartilage; investigating cartilage matrix structure and function, with special interest in the proteoglycan molecules, using various biochemical techniques such as gel chromatography and electrophoresis as well as histochemical techniques; developing new techniques to study cartilage and proteoglycan structure; monitoring the loss of cartilage components during the process of fibrillation; studying knee stability and the role of osteophytes in osteoarthritis; assisting in the design of a goniometer to be used in knee replacement surgery to measure instabilities of the knee; preparing research findings for publication attending and participating in the various teaching conferences and academic meetings of the Orthopaedic Surgery Department. Applicant must have an M.D. degree in medicine as well as 1 year of experience as a Research Associate or 1 year of experience as a Resident in Orthopaedic Surgery. Experience must have included orthopaedic research in the area of diseased cartilage or ligaments. Will accept applicants whose functional title may have been "medical officer" rather than "resident". Forty hours per week, Monday to Friday, with no overtime, 9:00 a.m. to 5:00 p.m.; \$24,500 per annum. Send résumé to: **The Illinois Department of Employment-Training, 401 South State Street-3 South, Chicago, IL 60605.** Attention: **Marie Ninneman, Reference #8671-N.** An employer-paid ad.

RESEARCH ASSOCIATE, spring 1989 to investigate the role of sex steroids in bone cell biology. Postdoctoral experience in molecular biology and cell culture needed for collaboration with a group of endocrinologists/cell biologists. Appointment 1 to 3 years. Academic rank for salary (\$23,000 to \$28,000) depend upon experience. Send curriculum vitae and letters of reference to: **Dr. Eric Orwoll, Oregon Health Sciences University (L346), 3181 Sam Jackson Park, Portland, OR 97201.** OHSU is an Equal Opportunity Employer.

RESEARCH ASSOCIATE: Ph.D. in biochemistry with three or more years of experience. Background in cell separation and cell biology. Salary commensurate with experience and training. Send résumé with letters of recommendation to: **Dr. Wayne L. Ryan, University of Nebraska Medical Center, Department of Obstetrics and Gynecology, 42nd and Dewey Avenue, Omaha, NE 68105.** Application deadline 15 February 1989. Equal Employment Opportunity/Affirmative Action Employer.

Several **RESEARCH ASSOCIATE AND POSTDOCTORAL FELLOW** positions in the area of vascular smooth muscle excitation-contraction coupling are available for January and July 1989 for work with a multidisciplinary group whose activities include muscle mechanics, ion transport, phosphoinositide metabolism, laser photolysis of caged compounds, fluorescent analysis of cell ions, cellular electrophysiology, contractile protein biochemistry and cell biology of contractile and cytoskeletal proteins. Interest and experience in these areas will be beneficial. Applicants should send their curriculum vitae, names of references, and a summary of research experience and goals to: **Robert H. Cox, Ph.D., Director, Bockus Research Institute, The Graduate Hospital, One Graduate Plaza, Philadelphia, PA 19146.** Affirmative Action/Equal Opportunity Employer.

RESEARCH PLANT PHYSIOLOGIST: EPA Environmental Research Laboratory, Corvallis, Oregon. Seeking a quantitative physiological ecologist to conduct research in effects of air pollutants on terrestrial ecosystems. This is a full-time GM-14 position and requires a Ph.D. in quantitative ecology, plant physiology, forest science, or a closely related discipline. Candidates must be able to demonstrate the following skills: (i) an ability to plan, implement, and lead complex research programs; (ii) experience in developing ecological and physiological process models, in particular with tree species; and (iii) proven ability to communicate research results both orally and in the peer reviewed literature. Position only open to U.S. citizens. Salary range: \$48,592, to \$63,172 per annum. For technical information on this position contact: **Dr. Robert T. Lackey at the Corvallis Laboratory: 503-757-4634/4600.** To obtain a complete vacancy announcement, application package, and instructions, write: **EPA Personnel Office, P.O. Box 98516, Las Vegas, NV 89193-8516** no later than 30 December 1988.

EPA is an Equal Opportunity Employer.

POSITIONS OPEN

RESEARCH ASSOCIATE: supervises laboratory personnel in ultracentrifugation and lipid chemistry, lipid/lipoprotein research, use of radioisotopes. Requires M.S. and 4 years of experience or 4 years as research assistant/researcher; minimum of 2 years of lipoprotein methodology experience, supervisory experience in the development of new methodology, analysis of results and manuscript preparation. Forty hours, 9 a.m. to 5 p.m., \$21,850 per year. Send résumé to: **Job Service of Florida, 701 SW 27 Avenue, Mezzanine Floor, Miami, FL 33135-3014, Job Order No.: FL-5571981.**

The U.S. Department of Agriculture, Agricultural Research Service (ARS), Fort Collins, Colorado, seeks qualified candidates preferably with a Ph.D. degree in range management, soil science, plant physiology, or directly related discipline for a **RESEARCH LEADERSHIP POSITION** at the GM-14/15 level. Incumbent will provide leadership to an interdisciplinary team of scientists and conduct personal research to increase the efficiency of crop, forage, and livestock production through integrated management of genetic, land, water, and climatic resources. Applicants must meet specific education requirements plus professional experience directly related to the position. Selectee will work in cooperation with university scientists and supervise and assist subordinate scientists in interpreting and publishing their research. Knowledge of crop and livestock production systems and skill in conducting independent research are required, as is knowledge of systems approaches and computer applications to agricultural problems and skill in managing human, physical and financial resources. ARS offers competitive salaries, excellent benefits program and superb working facilities. Rocky Mountains location offers abundant recreational opportunities. For job information, contact: **Dr. Thomas Army, 303-229-5500.** For vacancy announcement and job application forms, contact: **C. Enuton, 301-344-3138, or write: Personnel Division, Room 403, Building 003, BARC-West, Beltsville, MD 20705.** Inquiries must be received by 20 December 1988. Code application: 9W006. Salary based on experience: GM-14, \$46,679 to \$60,683; GM-15, \$54,907 to \$71,377. Must be a U.S. Citizen. An Equal Opportunity Employer.

Rhode Island Hospital seeks a **RESEARCH SCIENTIST** with a Ph.D. in molecular biology (preferably) or biochemistry. Candidates must qualify for a position on the medical faculty of Brown University as Assistant Professor of Medicine (Research). One or 2 years of research training beyond the Ph.D. is required. The successful candidate will develop a research program focused on the molecular biology of control of vascular smooth muscle tone with emphasis on the coronary circulation. This person is expected to collaborate closely with other faculty currently conducting related research in the area. Interested candidates should send curriculum vitae and a one page description of research interests by 31 December 1988 to: **Henry Gewirtz, M.D., Chairman, Search Committee, Division of Cardiology, Rhode Island Hospital, 593 Eddy Street, Providence, RI 02903.** Rhode Island Hospital is an Equal Employment Opportunity/Affirmative Action Employer and actively solicits applications from minority and protected groups.

RESEARCH SPECIALIST to perform research in ongoing projects: development of genetically engineered plants having desirable heavy metal accumulation and accommodation characteristics, and development of plants having improved insect resistance. Specific duties include preparation of transformation vectors, transformation of plants, detection of gene products, and assessment of physiological effects of transformation. Must be proficient in recombinant DNA methods, electroporation, plant transformation, analysis of gene expression, immunological and enzymological methods, HPLC, atomic absorption spectroscopy, radiolabeled metal binding assays, and plant, plant cell and tissue culture. A Ph.D. degree in biochemistry or molecular biology and at least 3 years of relevant postdoctoral experience are required. Forty hours per week, \$22,000 per year. Send résumé to: **T. Moore, KY705865, Department for Employment Services, 300 South Upper Street, Lexington, KY 40508.**

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Interested applicants should send curriculum vitae to:

Giuseppe G. Pietra, M.D.
Chairman, Anatomy Search
Committee
Professor, Department of Pathology
& Laboratory Medicine
University of Pennsylvania School
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6th Floor Founders Pavilion
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The National Research Council in cooperation with 30 selected federal laboratories announces three competitions in 1989 for approximately 450 research awards for independent scientific research. Recipients will be free to pursue research problems of their own choice as guest investigators at the federal laboratories. Duration of award is one year renewable to three. Annual stipend for recent Ph.D's vary from \$27,150 to \$35,000, depending upon the program sponsor, and are appropriately higher for senior researchers. Relocation reimbursement and funds for professional travel on tenure are available, and a health insurance program is provided.

For further information and application materials write to:
Associateship Programs (GR 430A/S4)

NATIONAL RESEARCH COUNCIL
2101 Constitution Avenue, N.W.
Washington, DC 20418

Deadlines for application are: January 15
(December 15 for NASA), April 15 and August 15

POSITIONS OPEN

RESEARCH ASSOCIATE, POSTDOCTORAL, OR MASTER'S DEGREE WITH EXPERIENCE to study theoretical (evolutionary biology, ecology) and applied (fisheries biology) molecular population genetics of marine vertebrates and invertebrates. Experience in techniques of obtaining, and analysis of, mitochondrial or single-copy DNA restriction fragment patterns is required. Knowledge of DNA sequencing techniques and proven publication ability is desirable. Position is available at a multidisciplinary research facility with a state-of-the-art molecular genetics laboratory. Salary is \$22,000 to \$25,000 per annum, benefits not included. Send curriculum vitae, names of three references, recent publications, and transcripts if graduated within the past 3 years, by 20 December 1988 to: **Personnel Office, Florida Marine Research Institute, 100 Eighth Avenue Southeast, St. Petersburg, FL 33701. An Equal Opportunity/Affirmative Action Employer.**

SCIENTIFIC DIRECTOR

For new drug company. Ph.D. in biological sciences or M.D. required, as well as prior hands-on research experience in vascular disease and/or lipid and lipoprotein metabolism. Will work closely with V.P. of Development. Involves working with sophisticated scientific advisory board, maintaining and developing contact and relations with key research centers in the U.S. and abroad. Exciting environment and people with equity participation. Send résumé to: **Cholestech Corporation, 3100 Diablo Avenue, Hayward, CA 94545.**

SECTION HEAD, Museum Education, Museum of Science, Boston, Massachusetts. Applications are invited for this senior level management position where you will be responsible for a broad variety of internal educational programs. Responsible for Courses and Lectures, School Programs, Public Programs, and Volunteer Services in Museum with 2 million visitors annually. You will supervise 40 full-time staff and a budget of \$2 million. Salary range in the \$40's. Excellent benefits. The successful candidate will possess an M.S. degree, minimum of 5 years of experience in science museum education and management, strong interpersonal skills, and commitment to object-based informal science education. Send letter of application and résumé by 1 December 1988 to: **Helen P. Hailer, Human Resources, Boston Museum of Science, Science Park, Boston, MA 02114.**

Washington and Jefferson College, a 1200-student liberal arts college in southwestern Pennsylvania, with approximately 200 biology majors, is adding a **STAFF POSITION** in molecular biology. Departmental duties will include developing and teaching courses in molecular biology and experimental biology, participation in the beginning course, supervising independent studies, and advising. Experimental biology should be molecular in orientation and might include more in-depth work in areas such as recombinant DNA techniques, monoclonal antibody procedures, molecular separations, sequencing, etc. Applicants should send résumés to: **The Executive Assistant to the President, Washington and Jefferson College, Washington, PA 15301.** No references unless requested. *Affirmative Action/Equal Opportunity Employer.*

SYSTEMATIC ENTOMOLOGIST

The Field Museum of Natural History seeks an outstanding scientist for a career track position as Assistant or Associate Curator of Insects in the Department of Zoology. The Field Museum's Entomology Collection contains more than 9 million specimens, and is particularly strong in holdings of Coleoptera and leaf-litter arthropods. The successful candidate will: (i) have a Ph.D.; (ii) have demonstrated a productive research and field program in systematic or evolutionary entomology; and (iii) have experience with curatorial procedures and materials used in entomology collections. In addition to developing and maintaining a world-class, innovative research program, responsibilities include curation for some portion of the collection. The potential exists for participating in graduate and undergraduate training at the University of Chicago. Please send by 5 January 1989, curriculum vitae, copies of publications, a statement of research objectives, and three letters of recommendation to: **Dr. B. Chernoff, Chairman—Search Committee, Division of Fishes, Field Museum of Natural History, Roosevelt Road at Lake Shore Drive, Chicago, IL 60605.** *The Field Museum of Natural History is an Equal Opportunity Employer.*

POSITIONS OPEN

SABBATICAL POSITION—Funds are available to provide partial support for an individual wanting to spend a Sabbatical Leave in a laboratory studying protein toxins that act on the nervous system. The successful applicant will join a multidisciplinary research team composed of persons from medicine, microbiology, pharmacology, physiology and neurology. The new person will have an opportunity to learn and apply numerous techniques, ranging from protein chemistry to micropharmacology. Facilities include a gas phase sequencer, a peptide synthesizer, fluorescence microscopy and FACS, electron microscopy, electrophysiological methods for patch clamp analysis, a variety of isolated tissue preparations, tissue culture and monoclonal antibody facilities, etc. Positions are available for spring and summer of 1989. Interested persons should submit curriculum vitae, list of publications, and names of references to: **Dr. Lance L. Simpson, Jefferson Medical College, Thomas Jefferson University, 1025 Walnut Street, Philadelphia, PA 19107.** *An Affirmative Action/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.*

The Department of Biology, Hartwick College, invites applications for a full-time, **TENURE-TRACK POSITION** in developmental biology. Teaching responsibility will include a course in Developmental Biology for majors and nonmajors, comparative anatomy, general biology. Other responsibilities include directing undergraduate research in animal development. Applicants should have a strong background in molecular biology and be committed to teaching at the undergraduate level. Ph.D. (or near completion) required. Rank and salary commensurate with experience. Send letter of application, résumé and three letters of reference by 9 December 1988 to: **M. Richard Segina, Chair, Department of Biology, Hartwick College, Oneonta, NY 13820.** *An Equal Opportunity Employer.*

The Department of Biology at the University of Southwestern Louisiana (USL) invites applications for **FOUR TENURE-TRACK POSITIONS** in support of the doctoral program in Environmental and Evolutionary Biology. Faculty are expected to participate in undergraduate and graduate instruction, direct graduate research and demonstrate competence in research and grantsmanship.

The biology faculty currently numbers 25 with research ranging from molecular to ecosystem studies. USL has an exceptionally well-equipped Electron Microscopy Center and a Center for Advanced Computer Studies. Other resources include the Primate Research Center, the Center for Crustacean Research, the Louisiana Universities Marine Consortium (LUMCON) marine laboratory and research vessels, and affiliation with the U.S. Fish and Wildlife Service's National Wetlands Research Center.

We are seeking qualified individuals in the following areas:

DEVELOPMENTAL BIOLOGY—research area open.

IMMUNOLOGY—research area open.

MICROBIOLOGY—research interests may include, but are not limited to, plant-microbe interactions and/or genetics.

WILDLIFE AND RESOURCE BIOLOGY—research interests may include, but are not limited to, remote sensing, landscape modeling and restoration, wildlife toxicology and nutrition, and biometrics.

Send curriculum vitae, selected reprints, a concise statement of research goals, and names, addresses and telephone numbers of three referees. Review of applications will begin 1 December 1988 and continue until positions are filled. Direct application to: **Faculty Development Search Committee, Department of Biology, University of Southwestern Louisiana, Lafayette, LA 70504-2451.** *Affirmative Action/Equal Opportunity Employer.*

MEETING

**THE HISTOCHEMICAL SOCIETY
ANNUAL MEETING
Orlando Marriott Hotel
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31 March to 2 April 1989**

For further information, registration and housing forms, please contact:

**The Histochemical Society
Registration Supervisor
6900 Grove Road
Thorofare, NJ 08086-9447**

PROGRAM

DOCTORAL PROGRAM IN MICROBIOLOGY seeks quality candidates to study molecular genetics, cell biology, virology, immunology, pathogenic microbiology, microbial biochemistry, biotechnology, and applied and environmental biology in a cooperative program between Rutgers, The State University of New Jersey, and the University of Medicine and Dentistry of New Jersey. Seventy-five faculty from various university departments, research centers and institutes participate in the program to provide excellent research training and employment opportunities. Fellowships, assistantships, and scholarships provide up to \$11,000 stipend plus tuition to qualified applicants on a competitive basis. Contact: **Dr. Alan D. Antoine, Graduate Program in Microbiology, Rutgers University, P.O. Box 231, New Brunswick, NJ 08903.** Telephone: 201-932-9881. *An Affirmative Action/Equal Opportunity Employer.*

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP

Fellowships are available, supported by an Institutional National Research Service Award (NIH), in the area of Lipid/Lipoprotein Metabolism and Cardiovascular Disease. Research topics include regulation of hepatic production and secretion of lipoproteins, regulation of fatty acid oxidation and carnitine palmitoyltransferase regulation of cholesterologenesis, phosphoinositides and calcium in transmembrane signaling, metabolic aspects of lipid absorption, autonomic mechanisms and vasoactive peptides in arachidonic acid and prostaglandin metabolism, regulation of lipoprotein-lipase, mechanisms of reverse cholesterol transport, and regulation of lipolysis in adipocytes. First-year stipends are \$20,000. *Applicants must be U.S. citizens or permanent residents.* Please send curriculum vitae and names of three references to: **Murray Heimberg, Ph.D., M.D., University of Tennessee, Memphis, The Health Science Center, Memphis, TN 38163.** *Women and minorities are encouraged to apply. The University of Tennessee is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL FELLOWSHIPS IN ENVIRONMENTAL TOXICOLOGY AND PATHOLOGY are available at Northwestern University Medical School (NIH training grant). The preceptors and their research areas are: **Toshio Narahashi** (Mechanisms of action of insecticides on neuronal ion channels by patch clamp); **Philip Iannaccone** (Effects of carcinogens on mammalian embryo); **Michael Morin** (Antineoplastic agents; Signal transduction and therapeutic application); **Ryoichi Oyasu** (Mechanisms of urinary bladder cancer); **M. Sambasiva Rao** (Pancreatic carcinoma); **Janardan K. Reddy** (Pancreatic carcinoma and liver peroxisome proliferators); **Dante G. Scarpelli** (Mechanisms of pancreatic carcinoma); **Jerome Seidenfeld** (Polyamines: Biosynthesis inhibitors and role in growth regulation); **Dennis Solt** (Carcinogen modification of epithelial cells); **Chau H. Wu** (Action of environmental toxins on nerve membranes by patch clamp). *The applicants must be U.S. citizens or permanent residents.* Send a letter stating a specific area of interest, curriculum vitae, and three reference letters to: **Dr. Toshio Narahashi, Program Director, Department of Pharmacology, Northwestern University Medical School, 303 East Chicago Avenue, Chicago, IL 60611.** Telephone: 312-908-8284. *An Affirmative Action/Equal Opportunity Employer.*

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Students interested in applying or receiving further information should write to:

Michael J. Leibowitz, M.D., Ph.D.
Director, Core Curriculum in Molecular and Cell Biology
Department of Molecular Genetics and Microbiology
UMDNJ-Robert Wood Johnson Medical School
675 Hoes Lane
Piscataway, New Jersey 08854-5635

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POSTDOCTORAL FELLOWSHIPS

The Imperial Cancer Research Fund is one of the largest Independent cancer research Institutes in Europe employing approximately 400 scientists and clinicians. It has a wide ranging programme in fundamental, applied and clinical cancer research.

There are approximately seventy research groups encompassing the major disciplines of cellular and molecular biology including biochemistry, genetics, immunology, and virology. Most are housed at the main building in Central London; there are also research units at Clare Hall, North London and at Dominion House attached to St. Bartholomew's Hospital. ICRF's external clinical units based in major teaching hospitals form the link between fundamental research and clinical activities.

Each research group works independently. All have access to centralized services including cell production, oligonucleotide and peptide synthesis, amino acid and DNA sequencing, a library of DNA probes and somatic cell hybrids for gene mapping, experimental animal breeding and maintenance including transgenic mice, electron microscopy, and a large computer facility.

Approximately 40 postdoctoral fellowships are available each year to scientists of any nationality. Most of these are three year fellowships, but visiting fellowships for a period of one or two years, are offered. Salaries for postdoctoral fellows are in the range of £12,500-£16,000, dependent on age and experience.

Further information on the research interests of the groups and details of projects currently available may be obtained from;

Mrs. P. Harwood
Personnel Department
Imperial Cancer Research Fund
P.O. Box 123
London WC2A 3PX, UK
Fax No: 011441 242 1510
quoting ref. no. 1/R

Closing date for applications: 9th December, 1988

Staff Scientists: Sir Walter Bodmer (Director of Research), D. Altman, J. Armstrong, F. Balkwill, D. Bentley, J. Bodmer, D. Cantrell, L. Crawford, A. Creighton, M. Crumpton, J. Cuzick, P. Darbre, N. Dashpande, C. Dickson, G. Evan, J. Fox, M. Fried, A.M. Frisch, S. Gendler, S. Goodbourn, S. Goodfellow, R. Hallows, J. Hart, B. Hill, G. Hodges, N. Hogg, M. Horton, N. Jones, P. Karran, J. Kemshead, I. Kerr, R. King, H. Land, B. Lane, D. Lane, A. Lee, K. Lee, H. Lehrach, T. Lindahl, M. Meuth, C. O'Neill, M. Owen, M. Parker, G. Peters, J. Rothbard, C. Rowlett, E. Rozengurt, D. Sheer, E. Solomon, G. Stark, J. Taylor-Papadimitriou, N. Telch, P. Thorpe, J. Trowsdale, R. Treisman, D. Tucker, D. Wang, R. Watson, F. Watt, S. West, J. Williams, R. Wolf, R. Wood, N. Wright, B. Young.

Smoking is actively discouraged.

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Sr. Scientist Insect Research

The Basic Insect Research Department of Zoecon Research Institute, a division of Sandoz Crop Protection Corporation, is seeking an experienced Ph.D. scientist to work within an interdisciplinary research team studying insect neuropeptide systems.

Work areas include:

1. Enzymology of post-translational processing of proteins to active neuropeptides.
2. Hormone receptor systems.

To apply for this position, send your curriculum vitae and names of three references to:

**Sandoz Crop
Protection Corporation**
Zoecon Research Institute
Human Resources
Dept., #87-341
975 California Avenue
Palo Alto, CA 94304-1104

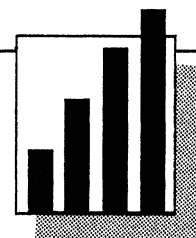


AA/EOE

BIOTECHNOLOGY

RORER

Section Manager Immunology/Dermatology



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Anticipated hiring needs

We are currently seeking a qualified candidate to fill the newly created position of Section Manager, Immuno-Dermatology. The Section Manager will lead a group of 2-3 scientists involved in conducting high-quality research of immunological phenomena related to dermatological diseases and the effect of drugs on these phenomena. A PhD in Dermatology or Immunology and at least 5 years of research experience is required.

In addition to the above position, we are currently expanding our scientific staff and have a number of exciting career opportunities available for scientists with the following expertise:

• Research Scientist

PhD in Immunology required. Responsibilities will involve conducting research in cellular immunology. Post doctoral experience preferred.

• Scientist

Position requires an MS degree in Biological science with 2 or more years experience in molecular biology and biochemistry. Experience in bone research is useful. Position will include studying the growth regulation of cells using molecular approaches.

Rorer offers the opportunity for professional growth, a competitive salary, fully paid benefits package and a pleasant work environment. Qualified candidates should respond to the position titles given above. A detailed resume including salary history should be forwarded to Linda L. Stewart, Personnel Manager, Rorer Central Research, 640 Allendale Road, King Of Prussia, PA 19406. An Equal Opportunity Employer, M/F/H/V.



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FELLOWSHIP IN CARDIOVASCULAR PATHOLOGY. Diagnostic training involves rigorous assessment of autopsy and surgical specimens derived from three major hospitals. Research training is available in an extraordinary environment that includes widely recognized and strongly interdigitated research programs in cardiovascular pathobiology. Applicants should have completed basic training in anatomic pathology. Forward curriculum vitae and statement of career goals to: **Jeffrey E. Saffitz, M.D., Ph.D., Department of Pathology, Washington University, 660 South Euclid Avenue, St. Louis, MO 63110.**

OPENINGS FOR SCIENTISTS

The Weizmann Institute of Science is now offering a limited number of temporary appointments to the position of scientist.

Candidates must have completed 2 years of postdoctoral work.

Appointments will be made in all the areas of scientific research at the Institute.

Biology	Physics
Chemistry	Mathematics
Biochemistry-Biophysics	Science Teaching

Appointments are for a period of 1 year, however, they may be extended for a period not to exceed 5 years from receipt of Ph.D. degree (or equivalent). Successful appointees will be eligible to apply for promotion to the position of senior scientist.

Financial remuneration for a scientist is at the level of lecturer and includes all of the associated benefits. In addition, a relocation stipend is provided.

Application forms and additional information may be obtained from:

**The Feinberg Graduate School
The Weizmann Institute of Science
Rehovot, 76100 Israel**

Applications are reviewed twice each year:
1 January and 15 May.

POSTDOCTORAL FELLOWSHIPS IN THE DEPARTMENT OF ANATOMY AND NEUROBIOLOGY UNIVERSITY OF CALIFORNIA, IRVINE

Several positions for research in individual laboratories in the Department are available for candidates who have demonstrated research promise at the predoctoral or postdoctoral level. The emphasis of research in the Department is in the Neurosciences with special expertise in neuromorphology, sensory physiology, and molecular neurobiology. The faculty of the Department and their research interests are:

- Dr. Robert Blanks:** Eye movement control, physiology of upper airway
- Dr. James Fallon:** Chemical neuroanatomy, transmitters and growth factors
- Dr. Christian Gall:** Limbic/olfactory anatomy, neuropeptides, neurochemical plasticity
- Dr. Roland Giolli:** Visuomotor system
- Dr. Steward Hendry:** Primate visual system
- Dr. Paul Isackson:** Molecular neurobiology
- Dr. Edward Jones:** Sensory-motor anatomy and physiology
- Dr. Leonard Kitzes:** Auditory system anatomy and physiology
- Dr. Charles Ribak:** Epilepsy, neurotransmitters and circuits
- Dr. Richard Robertson:** Thalamocortical development
- Dr. Malcolm Sample:** Auditory processing
- Dr. John Swett:** Spinal cord and peripheral nervous system
- Dr. Yasuhiro Torigoe:** Peripheral nervous system and oculomotor control

Applications or inquiries for additional information should be sent to:

**Dr. Edward G. Jones, Chairman
Department of Anatomy and Neurobiology
University of California
Med Surge II, Room 364
Irvine, CA 92717**

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FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP in intracellular calcium, biochemistry, molecular biology, genetics, renal metabolism and hypertension is available immediately through an NIH Research Training Program at the Medical College of Virginia (MCV). Salary \$24,000 to \$27,000 plus travel, tuition and other benefits. Opportunity for professional growth. Candidate must have a Ph.D., M.D. or equivalent degrees and be a permanent resident or citizen of the United States. Applicants should send curriculum vitae, concise statement of research interest, and the names of three references to: **Dr. J. C. M. Chan, Box 498 MCV Station, Richmond, VA 23298-0498.**

POSTDOCTORAL FELLOWSHIP. We invite inquiries from candidates with a Ph.D., M.D./Ph.D. or M.D. for a 3-year postdoctoral fellowship in immunology. The laboratory studies the biochemical regulation of human T lymphocyte immune effector functions in health and in autoimmune disorders. This position is supported by an NIH training grant. Please address inquiries accompanied by curriculum vitae to: **Gary M. Kammer, M.D., Division of Rheumatic Diseases, Department of Medicine, University Hospitals of Cleveland, 2074 Abington Road, Cleveland, OH 44106.**

POSTDOCTORAL FELLOWSHIPS

The Feinberg Graduate School of the Weizmann Institute of Science is now offering Postdoctoral Fellowships in the following fields of study:

Biology	Physics
Chemistry	Mathematics
Biochemistry-Biophysics	Science Teaching

These Fellowships are intended for young scientists who have recently received a Ph.D. degree.

The fellowship provides a 12-month stipend (with COL adjustments), a relocation allowance, and airfare to Israel. If the Fellowship is renewed for a second year, return airfare is provided.

Application forms and additional information may be obtained from:

**The Feinberg Graduate School
The Weizmann Institute of Science
Rehovot, 76100 Israel**

Applications are reviewed twice each year:
1 January and 15 May.

PREDOCTORAL FELLOWSHIPS are available for studies leading to the Ph.D. in the Physiology Graduate Program in the Temple University School of Medicine. Stipends and tuition waivers are available for eligible candidates. Specific research topic areas include cell biology of normal and diseased myocardium, membrane receptors, developmental cardiopulmonary physiology, liquid ventilation, underwater medicine, membrane transport, gastrointestinal function, and control of microcirculation. Applications may be sent to: **Steven R. Houser, Ph.D., Director, Physiology Graduate Program, Box 1090, Temple University School of Medicine, 3420 North Broad Street, Philadelphia, PA 19140. An Equal Opportunity/Affirmative Action Employer, M/F.**

SURA/CEBAF GRADUATE FELLOWSHIPS IN NUCLEAR PHYSICS, ACCELERATOR PHYSICS AND RELATED SCIENTIFIC AND ENGINEERING FIELDS

The Southeastern Universities Research Association (SURA), Inc., invites applications for graduate fellowships from full-time master's and doctoral students at SURA member institutions. SURA will make up to five awards of \$10,000 each annually, based on a competitive evaluation of the applicants' academic qualifications, proposed plan of study, research potential and relevance to activities at the Continuous Electron Beam Accelerator Facility (CEBAF), Newport News, Virginia. Deadline is 15 January 1989 for the 1989 to 1990 academic year. Contact:

**SURA/CEBAF Fellowship Program
1776 Massachusetts Avenue, N.W., #604
Washington, DC 20036
Telephone: 202-457-0381**

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP. We invite inquiries from candidates with a Ph.D., M.D./Ph.D. or M.D. for a 3-year postdoctoral fellowship in studies of connective tissue cells and matrix, and osteoarthritis, including chondrocyte biology, and animal models of arthritis. This position is supported by an NIH training grant. Please address inquiries accompanied by curriculum vitae to: **Roland W. Moskowitz, M.D., Division of Rheumatic Diseases, Department of Medicine, University Hospitals of Cleveland, 2073 Abington Road, Cleveland, OH 44106.**

C. H. BEST FOUNDATION POSTDOCTORAL FELLOWSHIPS

In diabetes research, molecular endocrinology, molecular biology, differentiation, reproductive biology, immunology, structure and function of membranes or lipid metabolism. Tenable in the Banting and Best Department of Medical Research for 2 years after 1 July 1989 with a competitive stipend. Available to new Ph.D.'s or candidates with less than 2 years of postdoctoral training by 30 June 1989. Send curriculum vitae, transcripts, and three letters of reference, preferably before 30 November 1988 to: **Dr. Arnis Kuksis, Fellowship Committee Chairman, Banting and Best Department of Medical Research, University of Toronto, Toronto, Canada M5G 1L6.**

SMITHSONIAN FELLOWSHIPS IN TROPICAL BIOLOGY

Several predoctoral, postdoctoral and senior postdoctoral fellowships are available to conduct research at the Smithsonian Tropical Research Institute (STRI) in the Republic of Panama. STRI is an international center for advanced study in tropical biology (ecology, human ecology, paleoecology, evolution, behavior, plant physiology, molecular evolution) and archaeology. The Institute has a permanent scientific staff of 26 and supports visiting scientists and fellows. STRI facilities include: a field station at Barro Colorado Island and mainland living and working quarters in nearby Gamboa (tropical moist forest); living quarters at Fortuna in Western Panama (montane forest); marine laboratories on the Pacific and Atlantic coasts and a field station in the Caribbean, and a research library.

For applications, contact:

**Office of Fellowships and Grants
Smithsonian Institution, Drawer TB
L'Enfant Plaza, Suite 7300
Washington, DC 20560
Telephone: 202-287-3271**

Deadline: 15 January annually.

MARKETPLACE

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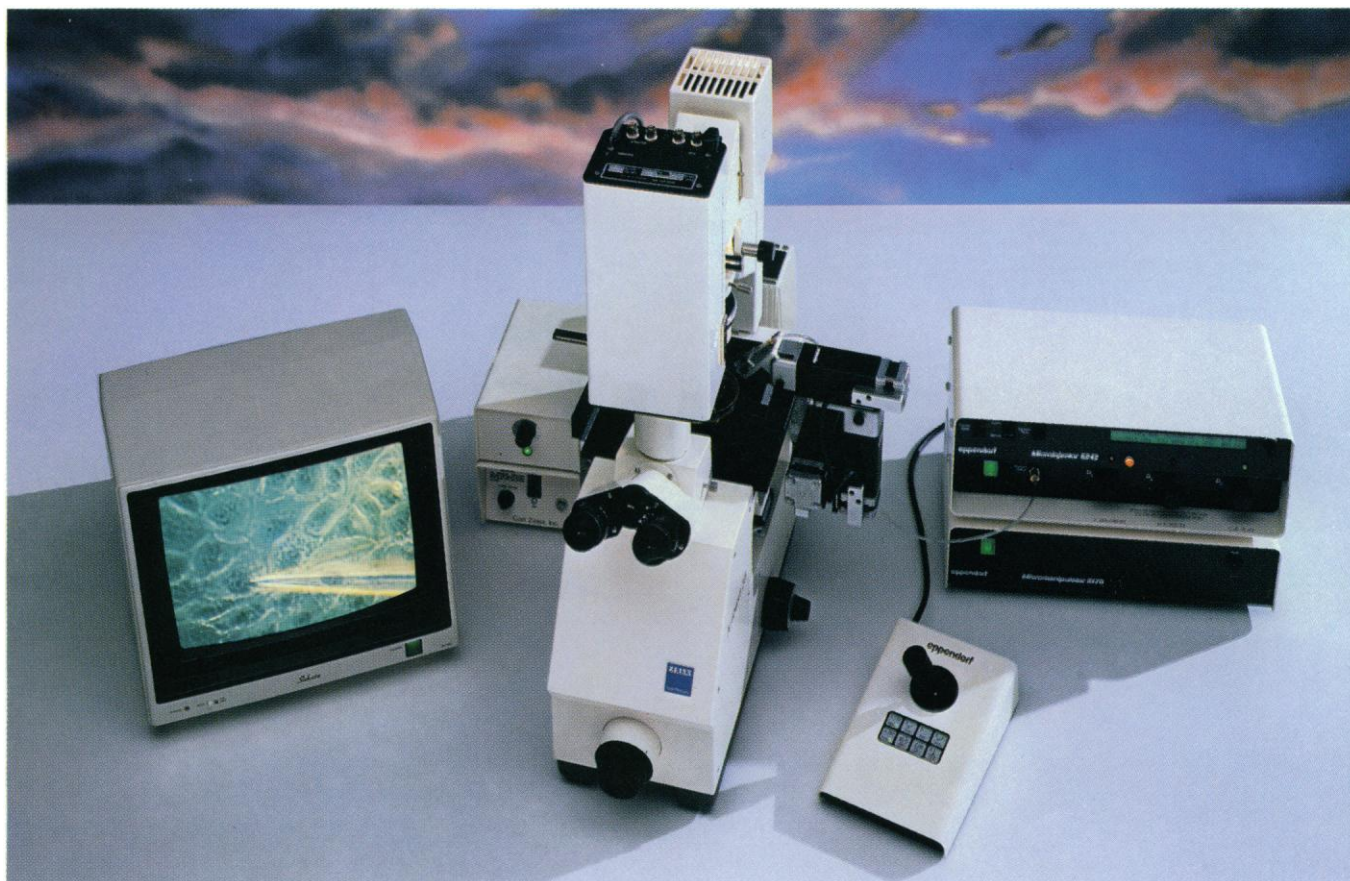
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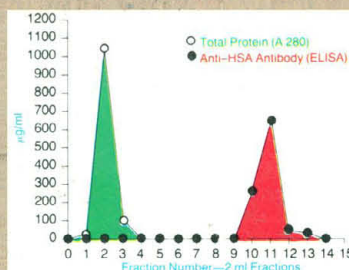
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