

Information for Contributors

THE EDITORS OF *SCIENCE*

Manuscripts should be addressed to the Editor, *Science*, 1333 H Street, NW, Washington, DC 20005. Submit three copies together with a letter of transmittal giving

- 1) the names and telephone numbers of the authors;
- 2) the title of the paper and a statement of its main point;
- 3) three to eight keywords to be used for indexing;
- 4) the names, addresses, telephone numbers, and fields of interest of four to six persons outside your institution who are qualified to referee the paper;
- 5) the names of colleagues who have reviewed the paper;
- 6) the total number of words (including text, references, and figure and table legends) in the manuscript; and
- 7) a statement that the material has not been published and is not under consideration for publication elsewhere.

In addition, include with your manuscript:

- (i) any paper of yours that is in press or under consideration elsewhere and includes information that would be helpful in evaluating the work submitted to *Science*;
- (ii) written permission from any author whose work is cited as a personal communication, unpublished work, or work in press but is not an author of your manuscript;
- (iii) for review of manuscripts based on crystallographic data, two copies of the coordinates;
- (iv) the databank identifier codes for sequence or coordinate data.

By submitting a manuscript, an author accepts the responsibility that all those listed as authors of a work have agreed to be so listed, have seen and approved the manuscript, and are responsible for its content.

Before being reviewed in depth, most papers are rated for their interest and overall suitability by a member of the Board of Reviewing Editors. Papers submitted in disciplines for which there is no appropriate member of the Board of Reviewing Editors may be screened by editorial staff members in consultation with outside experts. Papers that are not highly rated are returned to the authors within about 2 weeks; the title page and abstract from one copy are retained for our files. Approximately 40% of submitted papers are reviewed in depth by two or more outside referees as well as a statistician. Reviewers are telephoned prior to being

sent a paper and are expected to decline to review if they are not qualified or there is a possible conflict of interest. Reviewers are expected to return their comments within two weeks. Tardy reviewers are prodded. Reviewers are instructed that the manuscript is a privileged document that is not to be disseminated or exploited. It is the policy of *Science* that reviewers are kept anonymous.

When the review process is complete, the manuscript and reviewers' comments are discussed by the editors at a weekly space meeting. Manuscripts are evaluated in terms of their technical merit as well as their merit in relation to other papers under consideration. Authors are notified of acceptance, rejection, or need for revision, usually within 6 to 10 weeks. Papers cannot be resubmitted over a disagreement on interest level or relative merit. If the author can demonstrate that a paper was rejected solely on the basis of serious reviewer error, resubmission may be allowed.

Conditions of Acceptance

When a paper is accepted for publication in *Science*, it is understood by the editors that (i) any materials and methods necessary to verify the conclusions of the experiments reported will be made available to other investigators under appropriate conditions; (ii) sequence and crystallographic data will be offered for deposit to the appropriate data bank and the identifier code will be sent to *Science*; and (iii) the paper will remain a privileged document and will not be released to the press or the public before publication. If there is a need in exceptional cases to publicize data in advance of publication, the AAAS Office of Communications (202-326-6440) must be consulted.

Selection of Manuscripts

In selecting papers for publication, the editors give preference to those of general significance that are well written, well organized, and intelligible to scientists in different disciplines. An attempt is made to balance the subject matter in all sections of *Science*. Membership in the AAAS is not a factor in selection.

Accepted papers are edited to improve the accuracy and effectiveness of communica-

tion and to bring them within the specified length limits. When the author's meaning is not clear, the editor may consult the author by telephone; when editing is extensive, the manuscript may be returned for approval and retyping before the type is set.

Categories of signed papers include: general articles, research articles, reports, letters, technical comments, book and software reviews, perspectives, and policy forums.

General Articles. General articles (up to 5000 words) are expected to (i) review new developments in one field that will be of interest to readers in other fields; (ii) describe a current research problem or a technique of interdisciplinary significance; or (iii) discuss some aspect of the history, logic, policy, or administration of science. Readers should be able to learn from a general article what has been firmly established and what are unresolved questions; speculation should be kept to a minimum.

Many of the general articles are solicited by the editor, but unsolicited articles are welcome. Both solicited and unsolicited articles undergo review.

General articles should include a note giving the authors' names, titles, and addresses; a summary (50 to 100 words); an introduction that outlines for the general reader the main point of the article; and brief subheadings to indicate the main ideas. The reference list should not be exhaustive; a maximum of 50 references is suggested. Figures and tables should occupy no more than one printed page.

Research Articles. A research article (up to 4000 words) is expected to contain new data representing a major breakthrough in its field. The article should include an author note, abstract, introduction, and sections with brief sideheads. A maximum of 40 references is suggested. Figures and tables together should occupy no more than one printed page.

Reports. Reports (up to 2000 words) are expected to contain important research results. Addresses for all authors should be listed on the title page and the corresponding author should be indicated by an asterisk. They should include an abstract (no more than 100 words) and an introductory paragraph. A maximum of 30 references is suggested. Figures and tables together with their legends should occupy no more than one printed page.

Letters. Letters are selected for their pertinence to material published in *Science* or because they discuss problems of general interest to scientists. Letters pertaining to material published in *Science* may correct errors; provide support or agreement; or offer different points of view, clarifications, or additional information. Personal remarks

about another author are inappropriate. Letters may be reviewed by outside consultants. Letters selected for publication are intended to reflect the range of opinions received. The author of the paper in question is usually given an opportunity to reply.

All letters are acknowledged by postcard; authors are notified if their letters are to be published. Preference is given to letters that do not exceed 250 words. Letters accepted for publication are frequently edited and shortened in consultation with the author.

Technical Comments. Technical comments (up to 500 words) may criticize articles or reports published in *Science* within the previous 6 months or may offer useful additional information. Minor issues should be resolved by private correspondence. The authors of the original paper are asked for an opinion of the comment and are given an opportunity to reply in the same issue if the comment is published. The comments, and sometimes the reply, are subject to the usual review procedures. Priority disputes undergo extensive review and are published only when action is recommended.

Book and Software Reviews. The selection of books and software packages to be reviewed and of reviewers is made by the editors. Instructions and length specifications accompany items to be reviewed when they are sent to reviewers.

Manuscript Preparation

Typing. Use double-spacing throughout the text, tables, figure legends, and references and notes and leave margins of at least 2.5 centimeters. Put your name on each page and number the pages starting with the title page.

Titles. Titles should be short, specific, and amenable to indexing. For general articles the maximum length is 80 characters and spaces; for research articles and reports the maximum is 100 characters.

Summaries or abstracts. These should include a sentence or two explaining to the general reader why the research was undertaken and why the results should be viewed as important. The abstract should convey the main point of the paper and outline the results or conclusions.

Text. A brief introduction should indicate the broad significance of the paper. The whole text should be intelligible to readers in different disciplines. Technical terms should be defined. All tables and figures should be cited in the text in numerical order.

Symbols and abbreviations. Define all symbols, abbreviations, and acronyms the first time they are used.

Units of measure. Use metric units. If

measurements were made in English units, give metric equivalents.

References and notes. Number references and notes in the order in which they are cited, first through the text and then through the table and figure legends. List a reference only one time. References that are *always* cited together may be grouped under a single number. Use conventional abbreviations for well-known journals; provide complete titles for other journals. Do not use op. cit. For references with up to five authors provide all the names; for more than five, provide the name of the first author only. See issues of the journal for examples.

Unpublished observations. Reference to unpublished data should be given a number in the text and placed, in correct sequence, in the references and notes.

Acknowledgments. Gather all acknowledgments into a brief statement at the end of the references and notes.

Informed consent. Investigations on human subjects must include a statement indicating that informed consent was obtained after the nature and possible consequences of the studies had been fully explained.

Animal welfare. Authors using experimental animals must state that their care was in accordance with institutional guidelines. For animals subjected to invasive procedures, the anesthetic, analgesic, and tranquilizing agents used, as well as the amounts and frequency of administration, must be stated.

Figures. For each figure submit three high-quality glossy prints or original drawings of sufficient size to permit relettering but not larger than 22 by 28 centimeters (8½ by 11 inches). On the back of every figure write the first author's name and the figure number and indicate the correct orientation. *Manuscripts with oversized figures will be returned to the author without review.* Photocopies of figures are not acceptable; transparencies, slides, or negatives cannot be used because they cannot be sent to reviewers.

On acceptance of a paper, authors requesting the use of color will be asked to supply slides or negatives of the color artwork and to pay \$600 for the first color figure or figure part and \$300 for each additional figure or figure part to help defray the cost of obtaining color separations.

Tables. Tables should supplement, not duplicate, the text. They should be numbered consecutively with respect to their citation in the text. Each table should be typed, with its legend (double-spaced), on a separate sheet. Give each column a heading with units of measure indicated in parentheses. Do not change the unit of measure

within a column.

Equations and formulas. Use quadruple-spacing around equations and formulas that are to be set off from the text. Define all symbols.

Uncertainties and reproducibility. Evidence that the results are reproducible and the conditions under which this reproducibility (replication) was obtained should be explicitly stated. The effect of limitations in experimental conditions on generalizability of results should be discussed. Uncertainties should be stated in terms of variation expected in independent repetitions of the experiments; they should include an allowance for possible systematic error arising from inadequacies in the assumed model and other known sources of possible bias. Probabilities from statistical tests of significance should be subordinated to the reporting of results and associated uncertainties.

Permissions and Copyright. Illustrations and tables reprinted from other publications must be credited. It is the author's responsibility to obtain written permission from the copyright owner (usually the publisher) to reprint such illustrations in *Science*. The appropriate credit line is usually supplied by the copyright owner. Papers will not be sent to the printer until copies of all permission letters have been received by the editorial office.

Copyright law requires that we obtain copyright transfer from authors of each paper published in *Science*. Copyright forms are sent to all authors prior to acceptance and must be signed and returned to the editorial office immediately. U.S. government employees sign the section of the form which states that they are exempt from copyright laws. We regret that we cannot allow alterations to or substitutions for our form.

Printing and Publication

Proofs and reprints. One set of galley proofs is sent to the authors. An order blank for reprints accompanies the proofs.

Scheduling. Papers are scheduled for publication after *Science* has received corrected galley proofs from the authors. Papers with tables or figures that present problems in layout, or with color figures or cover pictures, or that exceed the length limits may be subject to delay.

Cover Photographs

Particularly good photographs that pertain to a paper being submitted will be considered for use on the cover. Submit prints (not slides, negatives, or transparencies) with the manuscript.

Personnel Placement

SCIENCE publishes each Friday, except the last Friday of the year, and is mailed on issue date. Personnel advertising is accepted only with the understanding that the advertiser does not discriminate among applicants on the basis of race, sex, religion, age, color, national origin, handicap, or sexual preference. **SCIENCE** reserves the right, in its discretion, to decline to publish advertisements submitted to it.

LINE CLASSIFIED ADVERTISEMENTS

DEADLINE: Thursday, 10 a.m., 2 weeks prior to issue date. Advertising is accepted only in writing.

POLICIES: All classified ads will be edited and typeset according to **SCIENCE** style guidelines. NO ABBREVIATIONS. Any deadline for applications stated in ad must be at least 2 weeks after date of issue in which ad appears.

CLASSIFICATION: **SCIENCE** publishes line classified ads under the following headings: **Positions Open, Employment Agencies, Fellowships, Situations Wanted, Courses and Training, Meetings, Announcements, and Marketplace.** Advertisers should specify classification desired; however, **SCIENCE** reserves the right to decline classification requests which it believes may be misleading to readers.

RATE: \$41 per line, \$410 minimum, per week. One line equals 52 characters and spaces; centered headings equal 32 characters and spaces per line. No charge for use of blind box number. No agency commission for ads less than 40 lines. To ESTIMATE ad cost, structure ad copy on a 52-character line; include any desired heading on 32-character lines. Each line of heading, one line of white space between heading and body of ad, and all partial lines (including centered reply information, if desired) are counted as full lines. Multiply total number of lines x \$41 = approximate cost of ad, per week. (This is an approximate cost ONLY. Allow for variation between estimated lines and actual typeset lines and resulting final cost. Purchase orders must allow for some degree of flexibility and/or adjustment. **SCIENCE** cannot provide proofs of typeset ads.)

PREPAYMENT DISCOUNT: A 3% cash discount is granted to all prepaid line ads. Prepayment in U.S. dollars by checks drawn on U.S. banks is required for all foreign ads.

BOXES AND LOGOS: Any 1-column line classified ad can be boxed and/or published with logo. No extra production charge for use of box or logo. For boxed ads, one line equals 48 characters and spaces; two additional lines will be added to cost of ad to allow for top and bottom rules. Logos are billed according to number of lines needed to accommodate logo.

SITUATIONS WANTED ADS: As a service to AAAS members in good standing, **SCIENCE** offers free placement of Situations Wanted ads for individuals seeking full-time or part-time employment. A blind box may be used. Ads must be submitted in writing with text of 20 words or less, not including address or box number, and are limited to two insertions per member in each calendar year. Please enclose **SCIENCE** mailing label including AAAS membership number when submitting ad.

CANCELLATIONS: Deadline for cancellations is 10 a.m. Tuesday, 10 days prior to issue date.

Address ad copy or requests for information to:

SCIENCE Classified Advertising
1333 H Street, NW, Room 940
Washington, DC 20005
Telephone: 202-326-6555
FAX: 202-682-0816

MARKETPLACE AND DISPLAY PERSONNEL ADVERTISEMENTS

For rates, deadlines, and information about fractional display ads (1/6 page and larger) and all **Marketplace** listings of available products and services, contact:

Scherago Associates, Inc.
1515 Broadway
New York, NY 10036
Telephone: 212-730-1050
FAX: 212-382-3725

RESPONSES TO EMPLOYMENT ADS

Applicants should read Positions Open ads carefully in order to submit all required material when responding, and should especially check for any stated deadline for receipt of applications. **SCIENCE** encourages applicants for positions to investigate employment laws, non-discrimination policies, visa requirements, and cultural differences in the country advertising for employees.

To reply to a blind box ad, address correspondence to:

Box (give number)
SCIENCE Classified Advertising
1333 H Street, NW, Room 940
Washington, DC 20005

POSITIONS OPEN

ASSISTANT PROFESSOR OF PHYSIOLOGY

This full-time faculty position is available immediately. Candidates must have a Ph.D., M.D., D.V.M., or equivalent with recent postdoctoral experience. Position involves teaching and research. Candidates are expected to develop an independent research program with outside funding. Teaching duties include participation in the first-year medical physiology course and courses in a newly developing Ph.D. program. Preference will be given to candidates with experience and interest in cardiovascular, muscle, cellular, or neurophysiology. Screening of applicants will begin 1 August 1990 and continue until the position is filled. Send curriculum vitae and names of three references to: **Dr. Brian K. Lewis, Chairman, Department of Physiology, Ponce School of Medicine, P.O. Box 7004, Ponce, PR 00732.**

ASSISTANT PROFESSOR OF PHYSIOLOGY AND BIOPHYSICS (Ph.D. and/or M.D.). Research areas: membrane biophysics including receptor mechanisms. Physiologist able to teach areas other than research interest; e.g., gastrointestinal to medical, nursing, and graduate students. Minimum of 2 years of postdoctoral training required and ability to develop extramurally supported research. Application deadline: 26 July 1990. Send curriculum vitae, research plans, and list of five references to: **C. H. Baker, Ph.D., Department of Physiology and Biophysics, Box 8, College of Medicine, University of South Florida, Tampa, FL 33612.** *Affirmative Action/Equal Opportunity Employer.*

The Department of Biochemistry and Molecular Biology at Mississippi State University invites applications for two 12-month, tenure-track **ASSISTANT PROFESSOR** positions to be filled by 1 January 1991. Responsibilities include participation in our undergraduate and graduate teaching program and the development of an active research program in any area of biochemistry, molecular biology, or biotechnology. A Ph.D. in biochemistry or molecular biology with postdoctoral experience is required. Send résumé, summary of research interests, and names of three references to: **Dr. John A. Boyle, Head, Department of Biochemistry and Molecular Biology, P.O. Drawer BB, Mississippi State, MS 39762.** *Mississippi State University is an Affirmative Action/Equal Opportunity Employer.*

ASSISTANT/ASSOCIATE PROFESSOR PHARMACEUTICS COLLEGE OF PHARMACY XAVIER UNIVERSITY OF LOUISIANA

Applications are invited for a full-time position in the College of Pharmacy. The applicant should possess a Ph.D. degree in pharmaceutical sciences with an emphasis in pharmaceuticals. The position involves participation in the instruction of undergraduate and graduate courses and the development of an active, independent research program with extramural funding.

Rank and salary will be commensurate with experience. Applications will be accepted until the position is filled. Applicants should submit curriculum vitae including the names and addresses of three references to:

**Chairman, Division of Basic Pharmaceutical Sciences
College of Pharmacy
Xavier University of Louisiana
New Orleans, LA 70125**

Xavier University is an Equal Opportunity/Affirmative Action Employer.

UNIVERSITY OF WISCONSIN-MADISON PRIMATE CENTER AND THE DEPARTMENT OF OBSTETRICS AND GYNECOLOGY ASSOCIATE PROFESSOR

A **REPRODUCTIVE NEUROBIOLOGIST** is required with an excellent research record in sexual differentiation and fertility regulation of New and Old World primates. Proven scientific leadership, success in grant support, and teaching are essential. Over 10 years of postdoctoral experience is needed with expertise in whole-animal, cell and molecular, assay (RIA and ELISA), and quantitative behavioral assessment techniques. Salary is based on qualifications and experience. Send curriculum vitae and the names of three referees by 1 July 1990 to: **Dr. John Hearn, Wisconsin Primate Center, 1223 Capitol Court, Madison, WI 53715.** *The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR MOLECULAR BIOLOGY

Applications are being accepted for a tenure-track assistant professor position in the Department of Veterinary Biomedical Sciences, College of Veterinary Medicine, at the University of Missouri-Columbia. Requirements include the D.V.M. and/or Ph.D. or equivalent degree. The successful candidate must have proven expertise in molecular biology technologies and have extramural research support or demonstrate exceptional potential for the development of a vigorous, sustained research program. Preference will be placed on those whose research utilizes a molecular approach to cardiovascular and/or muscle membrane problems, although outstanding applicants in other related aspects of molecular biology are encouraged to apply. A joint appointment is anticipated with the Dalton Research Center, a university unit emphasizing cardiovascular research at the molecular, cellular, and systemic level. Teaching responsibilities involve lectures in cellular and molecular biology to first-year veterinary and graduate students. *Women and minorities are encouraged to apply.* Applicants should send curriculum vitae, a statement of professional goals, and the names of three references by 1 September 1990 to:

**Dr. Calvin C. Hale
Department of Veterinary Biomedical Sciences
College of Veterinary Medicine
University of Missouri-Columbia
Columbia, MO 65211**

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

ECOLOGIST

The Department of Biological Sciences, University of Nevada, Las Vegas (UNLV), announces a tenure-track position in terrestrial ecology at the **ASSISTANT PROFESSOR** level effective as early as January 1991. The successful candidate will be expected to develop an independent research program and to participate in both undergraduate and graduate education. Preference will be given to candidates with research specialization in plant community structure, ecosystem processes, or plant-animal interactions. Ph.D. in a biological science is required; postdoctoral experience is preferred. Send letter of application, curriculum vitae, a brief statement of research and teaching interests, and three letters of recommendation by 1 September 1990 to:

**Dr. Peter L. Starkweather, Chair
Ecologist Search Committee
Department of Biological Sciences
University of Nevada, Las Vegas
Las Vegas, NV 89154**

The University of Nevada, Las Vegas, is an Equal Opportunity/Affirmative Action Employer. UNLV employs only U.S. citizens and aliens authorized to work in the United States.

ASSISTANT PROFESSOR PHYSIOLOGY/PHARMACOLOGY

The Department of Veterinary Biomedical Sciences, College of Veterinary Medicine, University of Missouri-Columbia, is accepting applications for a full-time tenure-track faculty position at the assistant professor level. Qualifications include D.V.M. and/or Ph.D. and exceptional potential to develop a strong biomedical research program competitive for extramural support. Teaching responsibilities will be in veterinary and graduate physiology or pharmacology courses. Preference will be given to candidates who will enhance either the reproductive biology/endocrinology or cardiovascular research focus of the department at the molecular, cellular, organ, or systems level. *Minorities and women are encouraged to apply.* Applications should include curriculum vitae, names of three references, and a letter stating professional goals. The closing date for applications is 1 September 1990 or until the position is filled. Send correspondence to:

**Dr. James C. Schadt
Veterinary Biomedical Sciences
College of Veterinary Medicine
University of Missouri-Columbia
Columbia, MO 65211**

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

More than 150,000 people paid to see your ad in **SCIENCE**. Classified Advertising Department telephone: 202-326-6555. FAX: 202-682-0816.

POSITIONS OPEN

ASSISTANT/ASSOCIATE PROFESSOR. Position available in Department of Plastic Surgery, Microsurgical Research Center. Expertise in microcirculation and postdoctoral training required. Duties include: development of extramurally funded research program and participation in departmental research. Send curriculum vitae and names of three references to: **Russell L. Prewitt, Ph.D., Administrative Director, Microsurgical Research Center, Eastern Virginia Medical School (EVMS), P.O. Box 1980, Norfolk, VA 23501.** *EVMS/MCHR is an Equal Opportunity Employer.*

ASSISTANT/ASSOCIATE PROFESSOR. Researcher with interest in aqueous humor dynamics, fluorophotometry, and action of glaucoma medications. Ph.D. required, area of physiology or pharmacology preferred. Salary and rank dependent upon qualifications, health professions (tenure-leading) appointment, contract with potential for renewal. Good opportunity for interaction and affiliation with basic science departments. Application deadline: 15 August 1990. Send curriculum vitae to: **Michael Yablonski, M.D., Ph.D., Professor and Chairman, Department of Ophthalmology, University of Nebraska Medical Center, 600 South 42nd Street, Omaha, NE 68198-5540.** *An Equal Opportunity/Affirmative Action Employer.*

Rush Presbyterian-St. Luke's Medical Center seeks applicants with Ph.D. in physics, biomedical engineering, or a related field; experience and publications in cardiovascular applications, image processing, and three-dimensional display; and interest in MRI pulse programming. Position includes appointment as **ASSISTANT PROFESSOR** in diagnostic radiology and nuclear medicine and includes responsibility for teaching graduate students in medical physics, as well as participation in an MRI research program. Send curriculum vitae, reprints of relevant publications, and cover letter to: **David A. Turner, M.D., 1653 West Congress Parkway, Chicago, IL 60612,** by 3 August 1990. *Rush-Presbyterian-St. Luke's Medical Center is an Equal Opportunity/Affirmative Action Employer.*

PERMANENT TRACK (ASSISTANT/ASSOCIATE OR FULL PROFESSOR). Position in developmental immunology and/or immunological aspects of hematopoiesis. Successful applicants will be expected to develop outstanding independent research programs which could involve, for example: B or T cell ontogeny, development of T cell repertoire, or cytokine regulation of lymphocyte development. Strong interest in graduate and postdoctoral education programs required. Highly interactive, academic immunology department of ten independent laboratories located within Mayo Clinic medical complex. Excellent laboratory facilities. Start-up funds are available. Candidates with proven productivity and credentials please send curriculum vitae, statement of research interests, and names of three references to: **Larry R. Pease, Ph.D., Department of Immunology, Mayo Clinic, Rochester, MN 55905.** *An Equal Opportunity/Affirmative Action Employer.*

RADIATION SAFETY OFFICER. The University of Connecticut Health Center seeks a radiation safety officer (RSO) to manage the radiation safety programs under NRC licenses of broad scope (medical/research) and for cobalt-60 teletherapy. The University of Connecticut Health Center includes the Schools of Medicine and Dental Medicine (which house 130 research laboratories), the John Dempsey Hospital, and the Uncas-on-Thames Hospital. Responsibilities extend to research programs housed at the Veterans Administration Medical Center in Newington. Duties include management of the radiation safety office (as **DIRECTOR**); as well as assurance of compliance with state and federal regulations, NRC license conditions, and policies established by the Health Center's Radiation Safety Committee. Minimal requirements for the position include an advanced degree in health physics, radiological health, or related field; 5 years of experience as an RSO or assistant RSO in an NRC, or agreement state, broad license program; and eligibility for ABHP or ABR certification. The position reports to the assistant vice president for research, through the director of research safety. Send curriculum vitae and the names of three references to: **Leonard P. Paplauskas, Assistant Vice President for Research, University of Connecticut Health Center, Farmington, CT 06030.** *The University of Connecticut Health Center is an Equal Opportunity/Affirmative Action Employer. Applications from women and minorities are encouraged.*

29 JUNE 1990

PROTEIN BIOCHEMIST

Cangene Corporation, The Canadian Genetic Engineering Company, has developed a new and novel expression technology which the Company is using to produce a range of biopharmaceuticals. The Company is seeking an outstanding individual to fill a challenging position within its Biochemistry Group.

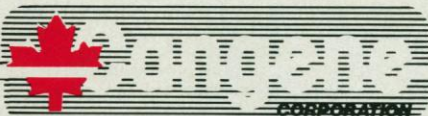
The selected candidate will contribute to the direction of the research of microbial proteases related to the Company's expression system and apply existing techniques or develop new methodologies for their isolation, purification and characterization. This individual will also be responsible for developing the knowledge required for the understanding of the proteases' mechanism of action and their activity inhibition.

The successful candidate will have:

- A Ph.D in an area related to Chemistry/Biochemistry of proteins
- Strong updated scientific background and at least three years of post-graduate experience in the area of protease activity and its inhibition
- Sound experience in isolation, purification and characterization of proteins, preferably proteases
- Ability to scientifically direct and manage small project team
- Sound verbal and written communication skills
- Ability to interact in an interdisciplinary manner.

Cangene Corporation is located near Toronto, one of North America's most livable cities. The Company offers an attractive compensation package and the opportunity to work in a highly creative, goal-oriented atmosphere.

Candidates are required to submit, in strictest confidence, quoting file #0529, their curriculum vitae and the names of three referees to: **Manager, Human Resources, Cangene Corporation, 3403 American Drive, Mississauga, Ontario, Canada L4V 1T4.**



The Canadian Genetic Engineering Company

RESEARCH SCIENTIST protein chemistry

Our client, a major Detroit manufacturing company with modern plant locations throughout the United States, has an exceptional opportunity available for a Research Scientist in Protein Chemistry.

You will be working with a specialized group of scientists in the areas of molecular biology and fermentation. This highly challenging project involves the use of protein engineering in the design of proteins for therapeutic use in humans.

This position requires that you have a Ph.D. or M.S. and experience in state-of-the-art protein chemistry techniques. A strong background in protein purification and characterization along with experience in a wide variety of protein chemistry techniques and instrumentation is essential.

Our client offers a competitive compensation and complete benefits package. Qualified candidates are invited to send their resume to: **Confidential Reply Service, Dept. AJK, Thompson Recruitment Advertising, 3000 Town Center, Suite 1600, Southfield, MI 48075.** All replies will be forwarded to our client unopened. No phone calls please. Our client is an equal opportunity employer M/F/H/V.

Confidential Reply Service

Thompson Recruitment Advertising



POSITIONS OPEN

PROFESSOR AND CHAIRPERSON DEPARTMENT OF PHARMACOLOGY

The College of Medicine of Howard University invites applications and nominations for the position of chairperson of the Department of Pharmacology. The candidate should possess a Ph.D. degree in pharmacology or the M.D. degree with significant research contributions in pharmacology. Applicants should have a demonstrated record of accomplishment in research, teaching, and administration. The Department of Pharmacology is responsible for educational programs for medical, dental, pharmacy, and graduate students. The department has strong research programs in several specialty areas of basic and clinical pharmacology.

Nominations and applications should be received before September 1990. Applications, consisting of a letter of intent, curriculum vitae, and three references, should be sent to: **Allen R. Rhoads, Ph.D., Chairman of the Search Committee, Department of Biochemistry, College of Medicine, Howard University, 520 W Street, N.W., Washington, DC 20059.** *Howard University is an Equal Opportunity/Affirmative Action Employer.*



CENTER DIRECTOR WESTERN REGIONAL RESEARCH CENTER (WRRC) ALBANY, CALIFORNIA

ARS is seeking applicants for the position of director, WRRC, the mission of which is to provide, through chemical, biological, biotechnological, and other research approaches, solutions to problems affecting the quality and quantity of the nation's food supply. In addition to providing leadership and operational accountability for WRRC's multidisciplinary research programs, the director participates with agency management in planning, coordinating, and evaluating overall area research programs. The center has a budget of over \$13 million, employing 200+ scientific and support personnel. This is a senior executive service position with a current salary range of \$71,200 to \$83,600 (a significant increase is expected in January 1991). Ph.D. is desirable. Candidates must address managerial and technical evaluation factors listed in announcement. For copy of announcement, call **Mr. Lee Triplett at 301-344-4622** by 20 July 1990. Applications must be received by 30 July 1990. *ARS is an Equal Opportunity Employer. Women and minorities are encouraged to apply.*

CHIEF OPERATING OFFICER. For university consortium to work with major DOE contractor on sponsored research and educational activities. Should have experience in research management at the highest levels and the demonstrated ability to work effectively in complex organizations. This position will report directly to a board composed of the presidents of four public institutions and will be charged with the development of procedures required to implement an existing cooperative agreement among the institutions and the DOE contractor. Earned doctorate in a technical field preferred; salary commensurate with experience. By 23 July 1990, send curriculum vitae and letters of reference to: **Dr. Robert E. Alexander, Chair, SCURE Search Committee, University of South Carolina-Aiken, 171 University Parkway, Aiken, SC 29801.** *An Affirmative Action/Equal Opportunity Employer.*

LABORATORY CHIEF POSITION. At the Addiction Research Center. A position is available to direct a small laboratory, composed of staff fellows and support staff, within the neuroscience branch. The mission of the laboratory is the utilization of molecular, neurochemical, neuroanatomical, and pharmacologic techniques to explore the mechanism of action of drugs, drug abuse, and dependence. The role of the chief will be to recruit and supervise staff, plan and conduct experimental studies, and to publish results. The position requires an investigator with a Ph.D. or M.D. degree and a substantial track record of achievement. Salary range is \$59,216 to \$76,982 depending on experience and qualifications. *U.S. citizenship is required.* Send curriculum vitae to: **Dr. Michael J. Kuhar, NIDA Addiction Research Center, P.O. Box 5180, Baltimore, MD 21224.** *The Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA) is an Equal Opportunity Employer. ADAMHA is smoke free and drug free.*

POSITIONS OPEN

DIRECTOR, Prince William Sound Science Center, Cordova, Alaska, a private, nonprofit institution supporting basic and applied research in the Prince William Sound region. Requirements: earned doctorate in an environment-relevant discipline, or equivalent institutional leadership experience; administrative experience; ability to generate financial support; and superior interpersonal communication skills. To apply or obtain further details, call **907-424-5800** by 18 July 1990.

COMPUTER SIMULATION/TOXICOLOGY. Anticipated expansion of our Biosimulation Research Program will make a position available for a Ph.D. (or equivalent) to develop biologically based computer simulation models. Models currently under development include: physiologically based pharmacokinetics, biochemical mechanisms of toxicity, and chemical carcinogenesis. Solid background in biology/biochemistry/chemistry, with interest in applying these skills to computer simulation, desired. Simulation model development will complement ongoing and proposed laboratory studies. Publication of all results and presentation at national meetings is encouraged. Title and salary will be commensurate with background and experience. Interested individuals should send curriculum vitae, together with names and addresses of three references, to: **Ms. Lois Doncaster, Human Resources/05, NSI Technology Services Corporation, Environmental Sciences, A ManTech International Company, 101 Woodman Drive, Suite 12, Dayton, OH 45431.**

NSI Technology Services Corporation is an Equal Opportunity Employer.

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 Science and Policy. Applicants should have received a Ph.D. in environmental sciences, environmental chemistry, molecular and environmental biotechnology, or biochemistry. The successful candidate should have demonstrated experience in laboratory or field research related to environmental sciences or health. Ability to teach statistics and environmental testing methodology is desirable.

The Program in Social Ecology grants B.A., M.A., and Ph.D. degrees. The 30 full-time faculty have multidisciplinary interests and expertise in environmental sciences, public health, demography, urban planning, environmental law, and environmental psychology. The Social Ecology Building houses four laboratories: ultra-clean monitoring, water quality, microbial ecology and bioremediation laboratory, radiocarbon dating and environmental chemistry laboratory, and a full-scale environmental simulation laboratory.

Candidates should submit a letter of application, curriculum vitae, and names of three references to:

**Dr. Betty H. Olson, Chair
Environmental Health Search Committee
Program in Social Ecology
University of California
Irvine, CA 92717**

Closing date for applications is 30 November 1990. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITIONS IN CELL BIOLOGY

Tenure-track **ASSISTANT/ASSOCIATE PROFESSOR** positions available in a Department of Cell Biology. The department currently has strong research programs in cell biology, molecular biology, neurobiology, reproductive biology, and developmental biology; we are seeking candidates who can interact in any of these areas and have potential to develop independent research careers. Teaching responsibility is in the area of cell biology/histology. Send curriculum vitae and three letters of reference to: **Reid L. Norman, Cell Biology and Anatomy, Texas Tech University Health Sciences Center, Lubbock, TX 79430.** *Texas Tech University Health Sciences Center is an Equal Opportunity/Affirmative Action Employer.*

SCIENCE welcomes placement of line classified ads by FAX. Please include name and telephone number for our confirmation call when transmitting ad to:

FAX NUMBER: 202-682-0816

POSITIONS OPEN

ENVIRONMENTAL ENGINEER, AIR POLLUTION. After consultation with clients, gather and analyze data to determine environmental hazardous air pollution; data is gathered by on-site inspection, using client-provided engineering or architectural drawings, sometimes gather air material samples. Analyze data in the office, sometimes using a personal computer utilizing FORTRAN or PASCAL computer language, sometimes using air pollution dispersion modeling. Devise and propose problem solution, such as: change client's manufacturing process or install or change pollution control devices. Supervise other environmental engineers. Requires Ph.D. degree in environmental engineering. Also requires 1 year of experience in the job to be performed. Must have taken at least one college-level course in FORTRAN and PASCAL computer languages, air pollution dispersion modeling, and at least four graduate-level courses on air pollution. Will accept 1 year of experience as college research assistant, environmental engineering, air pollution, in lieu of the job experience. Experience can be during academic career. May complete Ph.D. coursework in lieu of actual degree. Hours: 9:00 a.m. to 5:00 p.m., 40 hours per week, at \$40,000 per year salary. Please send résumé to: **Illinois Department of Employment Security, 401 South State Street-3 South, Chicago, IL 60605, Attention: L. Donegan, Reference #1509-D.** *An employer-paid ad.*

FACULTY POSITION, DEPARTMENT OF PATHOBIOLOGICAL SCIENCES SCHOOL OF VETERINARY MEDICINE UNIVERSITY OF WISCONSIN-MADISON

ANATOMICAL PATHOLOGIST. Faculty position at rank of **ASSISTANT PROFESSOR OR ASSOCIATE PROFESSOR.** Responsibilities include necropsy/surgical pathology service for the Veterinary Medical Teaching Hospital, veterinary student teaching, and research. Excellent opportunities and resources available in department for infectious disease research. D.V.M. or D.V.M./Ph.D. degrees or equivalents. ACVP certification or an intention to achieve certification is desired.

Send curriculum vitae and names of at least three references to: **Dr. R. D. Schultz, Professor and Chairman, Department of Pathobiological Sciences, School of Veterinary Medicine, University of Wisconsin-Madison, 2015 Linden Drive West, Madison, WI 53706.** **Telephone: 608-263-9888.** *An Equal Opportunity/Affirmative Action Employer.*

OKLAHOMA CENTER OF MOLECULAR MEDICINE ENDOWED CHAIRS

Positions: Four full-time, tenure-track chair positions are available in the Oklahoma Center of Molecular Medicine. These chairs are professional positions in the College of Medicine of the University of Oklahoma Health Sciences Center. The chair holders will have full-time appointments in departments of the College of Medicine of their choosing.

Salary: Salary will be commensurate with rank and experience.

Responsibilities: The individuals who hold the endowed chairs in molecular medicine will be expected to have active and productive research careers. These individuals will play important roles in the research program of their departments, in the Oklahoma Center of Molecular Medicine and the Medical/Scientist Training Program. In addition to being active research scientists, these chair holders will serve as model research professors and resources for students, junior faculty, and other research scientists.

Requirements: Any postbaccalaureate degree such as Ph.D., Sc.D., M.D., or other professional degree will be acceptable. No specific areas of endeavor are specified, but preference will be given to individuals whose research is in the neurosciences and in protein structure and function with NMR experience.

Deadline: The deadline for applications is 1 September 1990 or until filled.

Address application to:

**John R. Sokatch, Ph.D., Chairman
Department of Biochemistry and Molecular Biology
University of Oklahoma Health Sciences Center
P.O. Box 26901
Oklahoma City, OK 73190**

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

FACULTY OF MEDICINE

UNITED ARAB EMIRATES UNIVERSITY



Applications are invited for appointment at Assistant, Associate and full Professorial rank in the Department of Biochemistry.

Candidates must possess a medical degree and/or PhD degree or an equivalent higher professional degree from an accredited university or institution of higher learning, or any higher professional certificate such as Membership or Fellowship in the Royal College of the UK, Ireland, Canada, Australia and New Zealand (MRCP, FRCS, MRC Path, MRC Psych., FFARCS, MRCOG, FRCR), or the certificate of the American Board or the Arab Board for Medical Specializations. The language of instruction is English.

Candidates for these positions must be able to demonstrate leadership experience in the development of teaching, research and, where appropriate, clinical service programmes.

Persons interested in additional information on applying should send a curriculum vitae including list of publications, copies of certificates and the names of three current referees to:

Joel H. Lanphear, Ph.D.

Associate Dean

Faculty of Medicine

UAE University

PO Box 17666

Al Ain

United Arab Emirates

Fax No: 971 3 638247

Applications will be closed six weeks after date of publication or September 15, 1990 whichever occurs first.

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Molecular Biology—You will be part of a research project focused on cloning and expression of the immunoglobulin repertoire derived from immunization of human lymphocytes *in vitro*. This will involve a multidisciplinary approach involving cell culture, cDNA cloning using the polymerase chain reaction, construction of antibody chimeras, and heterologous gene expression in *E. coli* and/or mammalian cells. Requires a Ph.D. in Molecular/Cell Biology, Immunology, Biochemistry or related field. Familiarity with recombinant DNA/genetic engineering technology preferred.

Biochemistry—To conduct research on the structure of recombinant cytokines and related polypeptides using NMR spectroscopy. Requires a Ph.D. in Biochemistry or related discipline, and a background in the physical biochemistry of proteins and polypeptides, including experience in two-dimensional NMR techniques and distance geometry measurements.

At Schering-Plough, you'll receive all the support and recognition to pursue your best ideas. In addition to outstanding resources and an exciting research environment, we offer an attractive salary and benefits package. For immediate, confidential consideration, forward your resume and salary history to: Mr. G. Czuba, Schering-Plough Research, 60 Orange Street, Bloomfield, NJ 07003. We are an equal opportunity employer.

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Cargill, a world leader in industry and agribusiness, is seeking two talented chemists who have a demonstrated history of independent accomplishments. The successful candidates will be working to develop new products or new processes based on the separation, manipulation, or modification of agricultural materials. To qualify, a Ph.D. in organic chemistry, biochemistry or related field, or a M.S. plus a minimum of 5 years experience.

Senior Research Chemist Lipids

This position focuses on lipids in agricultural materials such as triglycerides in fats and oils, and phospholipids in vegetable oils. The areas of research will include:

- Enzymatic modification of lipids;
- Determining the effect of processing conditions of fatty acid distribution;
- Chemical and physical characteristics of phospholipids in a non-aqueous environment.

Senior Research Chemist Carbohydrates

This position focuses on Carbohydrates in agricultural materials, particularly the production and utilization of new carbohydrate syrups.

- Lead and conduct several technical projects simultaneously;
- Convert the technology developed into commercial processes and/or products;
- Increase knowledge in enzymology, food technology particularly related to syrups.

Cargill offers a competitive salary, pleasant work environment, and a strong benefits package. If you wish to be a member of a dedicated team of professionals, please send your resume to Donna Bloom.

Cargill
HRD #10, Box 9300
Minneapolis, MN 55440

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Southern California Location

Baxter Healthcare Corporation, an international leader in the pharmaceutical industry, currently has exceptional career growth opportunities for experienced professionals in our Hyland Division located in Duarte, CA.

■ **PROCESS ANALYSIS SCIENTIST** Responsibilities include planning and implementing the testing of patient samples from cataloging and shipping through actual testing, developing new assays, and conducting process and assay validation. The ability to develop chemical, biochemical and immunological assays is essential. We also require either a BS degree in Biochemistry or a related field and at least 3-5 years experience or an MS degree and 1-3 years of experience, thorough knowledge of specialized laboratory instruments and familiarity with safe specimen handling practices. **(Dept. MB-5)**

■ **VIROLOGY SCIENTIST** You will review and implement specific R&D objectives involving virology. Additional responsibilities include viral infectivity assays, process validation, evaluation of antiviral agents, immunochemical and biochemical assays in retrovirology and process development. To qualify, you must have a BS in Microbiology, Biology, Biochemistry or a related field and at least 3-5 years experience, or an MS with 1-3 years experience. Experience should encompass retrovirology or related lab discipline, background in HIV-1 infectivity assays, familiarity with process validation and GLP and computer literacy. Excellent communication skills and strict interpretation and compliance with sterile technique and biohazard containment a must. **(Dept. MB-10)**

■ **IMMUNOLOGY SENIOR SCIENTIST** Concentrating in antibody-based infectious disease treatment, you will assist in developing new technologies/products and processes. We require a Ph.D. in Immunology or related discipline, or Master's degree with at least 2-5 years experience in industrial research and development. You must have a thorough knowledge of immunologic and biochemical techniques with an emphasis on immunochemical characterization and structural and biologic function anal-

with Baxter Hyland.

ysis. We prefer individuals with experience in antibody affinity constant determination, and epitope/specificity mapping and molecular immunology. Strong verbal and written communication skills are essential. (Dept. MB-20)

■ **IMMUNOLOGY SCIENTIST** Primary responsibilities include basic and applied research relating to product support, and assisting with new technology/product development and research efforts in the areas of infectious disease treatment. This position will also support the implementation of monoclonal antibody technologies. We require a BS in Immunology or a related field, and at least 2-5 years experience in industrial R&D. Demonstrated expertise in techniques necessary for mammalian tissue culture, monoclonal antibody production and ELISA/Western method development essential. Must have good verbal and written communication skills. (Dept. MB-25)

■ **FORMULATIONS SCIENTIST** This position involves conducting research for developing new formulations technology, and assisting the manager in defining project objectives. Requirements include a BS with at least 5-7 years experience, or an MS with 3-5 years in the area of formulations. Background in and understanding of the physical/chemical changes that occur during lyophilization required. Working knowledge of basic protein and drug delivery systems a must. (Dept. MS-01)

■ **CHARACTERIZATION SUPERVISOR** Supervising R&D activities in our characterization lab, you will develop analytical techniques/methods, and recommend project timelines, staff and budget. We require a Ph.D. in Biochemistry/Analytical Chemistry with at least 2-3 years in protein characterization and structure/function analysis. Proficiency in HPLC, carbohydrate analysis, amino acid analysis/sequences, CD, ORD, MMR and mass spectroscopy needed. (Dept. BF-50)

■ **CHARACTERIZATION SCIENTIST** Responsibilities involve the development of methods for molecular characterization of proteins in process and final products, and scanning densitometry of gels. Methods include gel electrophoresis, isoelectric focusing and liquid chromatography of carbohydrates. A BS in Chemistry or Biochemistry coupled with 5+ years experience or an MS required. Knowledge of biochemical methods and familiarity with PCs important. Protein chemistry experience desirable. (Dept. BF-60)

■ **PURIFICATION SCIENTISTS** Opportunities involve developing new techniques and assay methods for evaluating product purity, training the research and production staff in new techniques, and interpreting and communicating experiment results. Senior positions will involve the design/review of project objectives and assisting in timeline/budget projections. We require a Ph.D. or MS in Biochemistry or a BS with 3+ years related experience. Knowledge of protein purification, development of assay methods, and GLP/GMP essential. Senior level positions require 3+ years industrial or post-graduate academic research experience with 1+ years supervisory responsibility. Ability to work flexible hours important. (Dept. BF-70)

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POSITIONS OPEN

FACULTY POSITION—ALBERT EINSTEIN COLLEGE OF MEDICINE, X-RAY CRYSTALLOGRAPHY. The Department of Biochemistry at the Albert Einstein College of Medicine is seeking a faculty member with experience in solving biochemical problems by x-ray crystallography for a tenure-track position. Faculty rank will be determined by prior experience. A complete protein x-ray crystallography laboratory including area detector and computer graphics is in operation and will be expanded to meet the needs of the candidate. Applicants should send curriculum vitae, names of three or more references, and a summary of research interests and future research plans to: **Dr. Howard Steinman, Department of Biochemistry, Albert Einstein College of Medicine, Jack and Pearl Resnick Campus, 1300 Morris Park Avenue, Bronx, NY 10461.** Applications will be reviewed beginning 1 July 1990. *The Albert Einstein College of Medicine of Yeshiva University is an Equal Opportunity/Affirmative Action Employer.*

The Department of Animal Sciences, University of Arizona, invites applications for two tenure-track **FACULTY POSITIONS.** Areas of research could include, but are not limited to, reproductive biology, genetics, muscle or growth biology, or nutrition. Preference will be given to individuals whose research complements ongoing departmental programs in cellular/molecular biology. Ability to secure extramural funding is essential. Qualifications include a Ph.D. in a discipline of biological science. A letter of application including area of interest and proposed direction of future research, a résumé, transcripts, and names, addresses, and telephone numbers of three individuals to provide references should be sent to: **Dr. Mark E. Wise, Search Committee Chair, Department of Animal Sciences, Shantz 228, University of Arizona, Tucson, AZ 85721.** Application review is 1 September 1990; will continue until position is filled. *The University of Arizona is an Equal Opportunity/Affirmative Action Employer. Women and minorities are urged to apply.*

UNIVERSITY OF TENNESSEE, KNOXVILLE

The Department of Pathobiology, College of Veterinary Medicine, University of Tennessee, has a tenure-track **FACULTY POSITION** available for a veterinary pathologist. The successful candidate will be expected to develop a strong independent and collaborative research program in cellular/molecular pathogenesis of disease and to participate in departmental teaching and service programs. ACVP Board certification is desirable as is experience in zoo or laboratory animal pathology. Academic rank and salary will be commensurate with background and experience. Applications will be reviewed beginning 1 August 1990. Applicants should send curriculum vitae, letters of reference, and a statement of career goals to: **Dr. R. M. Shull, Department of Pathobiology, College of Veterinary Medicine, P.O. Box 1071, Knoxville, TN 37901-1071. Telephone: 615-546-9230, ext. 250.**

The University of Tennessee is an Equal Opportunity/Affirmative Action/Title IX/Section 504 Employer.

FACULTY POSITION MOLECULAR GENETICS

The Department of Molecular Genetics of the Beckman Research Institute of the City of Hope invites qualified candidates to apply for a tenure-track faculty position at the **ASSISTANT RESEARCH SCIENTIST** level (equivalent to an assistant professor appointment at a university). Candidates should have a Ph.D. or combined M.D./Ph.D. degree and at least 2 years of postdoctoral experience. In particular, we are seeking applicants with strong research backgrounds in molecular or classical genetics as applied to problems in eukaryotic gene regulation and/or DNA recombination.

The Beckman Research Institute of the City of Hope is a nonprofit, basic research facility affiliated with the City of Hope National Medical Center. The Department of Molecular Genetics is part of the Division of Biology, which is comprised of 15 full-time faculty members. The campus is located in a suburban community in the greater Los Angeles area and has convenient access to major academic and cultural centers of this region. Interested persons should send a letter of interest, curriculum vitae, statement of research interests, and the names, addresses, and telephone numbers of three professional references to: **Dr. John J. Rossi, Search Committee, Department of Molecular Genetics, Beckman Research Institute of the City of Hope, 1450 East Duarte Road, Duarte, CA 91010.**

POSITIONS OPEN

SENSORY SCIENCE FACULTY POSITION

Tenure track. Research and graduate teaching. Strong, self-sustaining research program in an area of sensory/neural information processing essential. Rank and salary open. Send curriculum vitae, statement of goals, and names of three references to: **H. G. Sperling, The University of Texas Health Science Center at Houston, Sensory Sciences Center, 6420 Lamar Fleming Avenue, Houston, TX 77030. Equal Opportunity Employer. Women and minorities are encouraged to apply.**

The Department of Botany, Tel Aviv University, is seeking applicants to fill two tenure-track positions at **LECTURER/SENIOR LECTURER** level in reproductive biology of higher plants, starting 1991-92, and in plant physiology starting 1992-93. Applicants are required to establish active research groups, have a Ph.D. in botany or related biological sciences, and have at least 2 years of postdoctoral research experience. Applicants should submit a letter of application, curriculum vitae, and names and addresses of at least three professional references by 30 September 1990 to: **Professor D. Eiskowitch Search Committee, Department of Botany, Tel Aviv University, Tel Aviv 69978, Israel.**

LECTURER MICROBIOLOGY, CELL AND MOLECULAR BIOLOGY LABORATORIES DEPARTMENT OF BIOLOGY THE UNIVERSITY OF MICHIGAN

The Department of Biology at the University of Michigan announces the availability of a non-tenure-track lecturer position. The term of appointment is for a period of 3 years and is subject to renewal based on satisfactory performance. The lecturer will serve as coordinator and supervisor of instruction in upper-level laboratory courses in microbiology and in cell and molecular biology. A relevant Ph.D. degree is required, along with experience in teaching undergraduate courses in areas similar to microbiology and cellular and molecular biology. In addition to general supervisory matters, duties will include working with faculty to update laboratory experiments and training of graduate student teaching assistants who serve in the laboratories. Appointments are on a 12-month basis and include a liberal benefits package. This position is available 1 January 1991, and the deadline for receipt of applications is 1 September 1990. Applicants should provide curriculum vitae and three letters of recommendation to:

**Dr. Robert Bender
Department of Biology
The University of Michigan
Ann Arbor, MI 48109-1048**

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

GEOPHYSICS

Scripps Institution of Oceanography of the University of California at San Diego (UCSD) invites applications for tenured or tenure-track positions in global seismology, geomagnetism, or theoretical geophysics. The level of appointment(s) will depend upon the qualifications of the candidate and the salary will be based upon the pay scale of the University of California. Candidates for the level of **ASSISTANT PROFESSOR** will be expected to show evidence of their potential through a publication record appropriate for their experience and letters of recommendation; candidates for **ASSOCIATE OR FULL PROFESSOR** must show evidence of a strong research record. Applicants must hold a Ph.D. (or equivalent) degree at the time of appointment. Applications should include the names of five references and curriculum vitae giving teaching and research experience, and should be addressed to: **Chairman, Geophysics Search Committee, A-008, Scripps Institution of Oceanography, UCSD, La Jolla, CA 92093.** Applications received after 1 October 1990 may not be considered. *UCSD is an Equal Opportunity/Affirmative Action Employer.*

THE SCHOOL FOR FIELD STUDIES

MARINE MAMMALOGISTS (two): Baja, Mexico. Teach marine mammal biology/ecology and supervise research in semester programs. Desired qualifications: Ph.D., research in Baja, experiential teaching, Spanish. Nine-month position. Year option. Start August 1990.

Send letter, curriculum vitae, and three references with telephone numbers to: **S-Search, School for Field Studies, 16 Broadway, Beverly, MA 01915.**

POSITIONS OPEN

HEALTH SCIENTIST

The Environmental Criteria Assessment Office (ECAO) of the Environmental Protection Agency (EPA) is seeking candidates for health scientist positions, GS 11-13 (\$29,891 to \$55,381 per year, based on qualifications), located at Research Triangle Park, North Carolina. The principal duties include performance or support of health hazard assessments for air pollutants, including the development of inhalation reference doses; research to improve the scientific bases of risk assessments of inhaled chemicals; and technology transfer to state and regional agencies. *Only U.S. citizens are eligible.* The essential qualifications include an advanced degree in toxicology or a closely related biological discipline such as pharmacology, physiology, biochemistry, or immunology (equivalent experience may be substituted); a minimum of 1 year of professional experience as a principal investigator in toxicology or health risk assessment research; and publications and presentations at national scientific meetings on toxicology or health risk assessment. Expertise in inhalation toxicology, metal toxicology, immunotoxicology, pharmacokinetics, or epidemiology is desirable, but not required. Please submit SF-171 and supporting documentation by 27 July 1990 to: **Dr. Chon Shoaf, c/o Dorothy Carr, EPA MD-29, Research Triangle Park, NC 27711.** For further information, call: **Dorothy Carr, 919-541-0074.** *EPA is an Equal Opportunity/Affirmative Action Employer.*

HEMATOLOGIST OR CLINICAL BIOCHEMIST

Tenure-track position at Michigan State University. Requires Ph.D. in appropriate field of study, national certification, and experience in clinical laboratory sciences or specialty. Strong commitment to teaching and research is essential. Review of applicants will begin 1 October 1990. Send curriculum vitae, four letters of reference, and a statement of research and teaching goals to: **N. Barratt, Ph.D., Medical Technology Program, E-37 McDonell Hall, Box 3, East Lansing, MI 48825.**

MOLECULAR BIOLOGIST PACIFIC NORTHWEST RESEARCH FOUNDATION SEATTLE, WASHINGTON

Applications are invited for a research staff position at the **ASSISTANT, ASSOCIATE, OR PROFESSOR** level in a multidisciplinary research laboratory. Housed in a new 45,000-square-foot facility in scenic Seattle, research programs include immunology, toxicology, and biochemistry, with more specific programs in AIDS and cancer research. Candidates must have demonstrated exceptional research ability in dynamic areas of molecular biology with an independent research program as well as a record of peer-reviewed grants and research publications. Preference will be given to individuals who have expertise and commitment in the area of molecular biology, more specifically that related to cancer and/or genetic disorders. The Pacific Northwest Research Foundation provides competitive salaries and benefits, a stimulating research environment, and opportunities for interaction with faculty at nearby institutions. Interested applicants should send complete curriculum vitae, the names of three recent references, and a brief statement of research interests to: **William B. Hutchinson, M.D., Director, Pacific Northwest Research Foundation, 720 Broadway, Seattle, WA 98122. Telephone: 206-726-1210. FAX: 206-726-1217.** *An Equal Opportunity/Affirmative Action Employer.*

MOLECULAR IMMUNOLOGIST

Candidates are sought at the **ASSISTANT OR ASSOCIATE PROFESSOR** level, tenured or tenure track, to undertake research using molecular approaches to immunology. Candidates are expected to establish a vigorous research program and participate in graduate student education. The closing date for receipt of inquiries is 1 August 1990. Please send curriculum vitae and names of three references to: **Search Committee, Department of Pathology and Laboratory Medicine, 709 Woodruff Memorial Building, Emory University School of Medicine, Atlanta, GA 30322.** *Emory University is an Equal Opportunity/Affirmative Action Employer.*

SCIENCE recruitment ads reach thousands of scientists in all disciplines, worldwide. Classified Advertising telephone: 202-326-6555. FAX: 202-682-0816.

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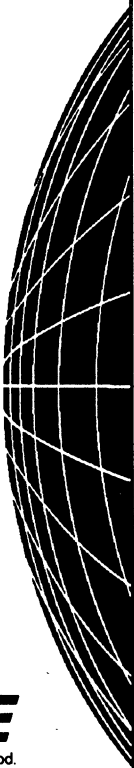
We require a professional with a Ph.D. in Biochemistry, or a related field. Additionally, 2-3 years experience in immunoassay and receptor binding method development is required, and established supervisory skills are desirable.

All the evidence points to Searle for a successful career. For consideration, please send your resume, in confidence, to:

Searle, Human Resources, Dept. PB3, 4901 Searle Pkwy., Skokie, IL 60077.

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DEPARTMENT OF NUTRITIONAL SCIENCES University of Connecticut

The Department of Nutritional Sciences at the University of Connecticut is seeking applicants for the following anticipated positions:

DEPARTMENT HEAD/PROFESSOR—(Search Reopened). Candidates should have strong distinguished teaching and research record as the department has a strong teaching and a well-funded interdisciplinary research program. Responsibilities include providing initiative and vision to departmental development and administering teaching, research and extension. Contact: Gretel Peltó, Ph.D., Chair, Search Committee. Phone (203) 486-1783. (Search #0A271).

ASSISTANT PROFESSOR (9-month, tenure-track). Qualifications include a Ph.D., M.D., D.PH. or equivalent degree. Post-doctoral experience preferred. Candidates who have studied human metabolism using techniques such as stable isotopes, molecular biology or nutritional epidemiology are encouraged to apply. Responsibilities include research and teaching at the undergraduate and graduate levels. Send CV, transcripts, a description of research plans and contact information for three references to: Carol J. Lammi-Keefe, Ph.D., Chair, Search Committee. Phone (203) 486-0116. (Search #0A272).

Interested applicants should send information to the contact person indicated above at The University of Connecticut, Department of Nutritional Sciences, U-17, Storrs, CT 06269-4017. Closing date for application is August 1, 1990.

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Equal Opportunity Employer.



GLAXO INSTITUTE FOR MOLECULAR BIOLOGY

The Geneva molecular biology research institute of one of the world's most successful healthcare groups is recruiting

MOLECULAR BIOLOGISTS

to identify and isolate novel genes

Two positions are available. The successful candidates will have leading roles in two different project groups. One group is investigating the molecular biology of neurotransmission on several levels from receptor to cellular response. The second project group is working to understand the molecular mechanisms underlying signalling through cell-cell contact. Experience with direct expression cloning and expression of cDNA sequences in mammalian cells would be a distinct advantage. The ideal candidates will have a PhD and a proven track record of research.

The Glaxo Institute for Molecular Biology carries out long term research to support the company-wide effort to discover effective new medicines. It provides a dynamic research environment, and encourages the publication of scientific results as well as collaborative projects with academic groups.

We offer an excellent salary and benefits package and opportunities for career development in one of the most attractive parts of Europe.

If you are interested in one of these positions, please send your Curriculum Vitae with a list of publications and the names of three referees to:

Rita Gloor, Personnel Manager, GLAXO IMB S.A., 46, route des Acacias, 1211 Geneva 24, Switzerland.

POSITIONS OPEN

PHARMACOKINETICIST. To design and execute protocols for clinical trials of drug products. Conduct pharmacokinetic and statistical data analyses of results of clinical trials. Lending scientific support for analysis of drug products in biological fluids. Will prepare reports on results for IND and NDA for submission to the FDA. A Ph.D. with minimum of 2 years of postdoctoral work experience (in a pharmaceutical industry) required in the design, modification, and use of pharmacokinetic and analytical research methods (including modeling). Knowledge of FORTRAN and statistical analyses required. Salary for 5 days, approximately 40 hours per week: \$46,000 per year. Mail résumé and copy of this advertisement to: **Department of Economic and Employment Development, 1100 North Eutaw Street, Room #212, Baltimore, MD 21201. Job Order No. 8944457.** Job location: Rockville, Maryland. *Proof of legal right to work in the United States required.*

PLANT TISSUE CULTURE. The Land, EPCOT Center, is seeking to fill a position in plant cell and tissue culture. Responsibilities include the application and development of regeneration techniques for a wide variety of food crop species, routine clonal propagation of a merchandised tissue culture product, and laboratory maintenance. Requirements include an M.S. degree and an excellent ability to work with people. Please send résumé and three letters of recommendation to: **Mr. Paul Buss, Professional Staffing, Walt Disney World Company, P.O. Box 10090, Lake Buena Vista, FL 32830.**

PHYSICIANS WANTED

An international organization is currently seeking medical staff for a new children's hospital to be located in Kiev, U.S.S.R., that will study the multiple after-effects of the Chernobyl accident. Pediatric physicians with special qualifications in endocrinology, hematology, and immunology are required immediately. Other subspecialties will be required before the end of 1990. Contractual periods of service for 1 year are desired but shorter periods will be considered. Salary is negotiable and will be paid in U.S. dollars. Knowledge of Ukrainian or Russian is not essential.

Reply to: **Box 65, SCIENCE.**

POSTDOCTORAL POSITION

Available immediately to study spinal and supraspinal factors regulating the activity of sympathetic preganglionic neurons. A variety of neurophysiological and neuroanatomical techniques will be used. Experience in extracellular single-unit recording preferable. Contact: **L. P. Schramm, Department of Biomedical Engineering, The Johns Hopkins School of Medicine, 226 Traylor Building, 720 Rutland Avenue, Baltimore, MD 21205-2195.**

POSTDOCTORAL POSITION IN DEVELOPMENTAL NEUROPHYSIOLOGY

Position available for fall of 1990 to study changes in electrical and pharmacological properties of spinal motoneurons during embryonic development and after injury. Experiments are conducted using isolated spinal cords of rat embryos and spinal cord-muscle explants in organ culture. Send curriculum vitae and three letters of reference to: **Dr. Lea Ziskind-Conhaim, Department of Physiology, University of Wisconsin, 1300 University Avenue, Madison, WI 53706. Telephone: 608-263-3382. FAX: 608-262-2327.**

POSTDOCTORAL POSITION MOLECULAR PLANT VIROLOGY

Applications are invited for a postdoctoral position in the applied molecular biology section, Plant Biology Division, of the Samuel Roberts Noble Foundation. The position will be for 3 years and is available immediately. We are looking for motivated applicants with backgrounds in molecular virology and/or molecular biology. Projects include (i) identifying the symptom determinants of an infectious cDNA clone from an attenuated strain of tobacco mosaic virus and (ii) implementing novel molecular approaches for the production of virus-resistant crop plants. Please send a résumé and a list of three references to: **Dr. Richard Nelson, Plant Biology Division, Samuel Roberts Noble Foundation, P.O. Box 2180, Ardmore, OK 73402. FAX: 405-221-7362.** The position will be open until filled.

POSITIONS OPEN

Two **POSTDOCTORAL POSITIONS** are available to study the gene expression of proteoglycans in human colon cancer and cancer cells. These studies are an integral part of two recently funded NIH grants. Salary range: \$20,000 to \$25,000, dependent on experience. Candidates should have a Ph.D./M.D. with strong background in molecular biology and biochemistry. Send curriculum vitae and names, addresses, and telephone numbers of three references to: **Rento V. Iozzo, M.D., Department of Pathology and Cell Biology, Thomas Jefferson University, Room 249, Jefferson Alumni Hall, Philadelphia, PA 19107-6799. Telephone: 215-955-2208. FAX: 215-923-2218. Equal Opportunity Employer.**

POSITIONS AVAILABLE, POSTDOCTORAL through **ASSISTANT PROFESSOR** level. Gene expression and structure in colon cell differentiation and transformation. Forward résumé and names of references to: **Leonard H. Augenlicht, Ph.D., Molecular Oncology Program, Albert Einstein Cancer Center, Montefiore and Albert Einstein Medical Centers, 111 East 210th Street, Bronx, NY 10467.**

POSTDOCTORAL POSITION available, University of Florida. Support is available for an individual with a Ph.D., or equivalent degree, in biochemistry, molecular biology, immunology, or microbiology to pursue subunit vaccine development for the rickettsial parasite, *Anaplasma marginale*. Parasite surface proteins involved in invasion of host erythrocytes will be identified, cloned, and characterized, and recombinant products based on these surface proteins will be isolated and tested for their immunoprotective efficacy in cattle. Interested individuals should send curriculum vitae, statement of research goals, and three letters of reference to: **Dr. David R. Allred, Department of Infectious Diseases, Building 471, Mowry Road, IFAS 633, University of Florida, Gainesville, FL 32611. The University of Florida is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION IN MOLECULAR NEUROBIOLOGY. For studies of nicotinic acetylcholine receptors and related proteins. Graduate or postgraduate experience with hybridomas, monoclonal antibodies, and protein purification is required. You will work closely with postdoctoral researchers experienced with molecular genetics, and, to some extent, cross-train one another. Research will be conducted at the Institute for Neurological Sciences at the University of Pennsylvania in Philadelphia. Send curriculum vitae and names, addresses, and telephone numbers of at least three references, including your current mentor, to: **Dr. Jon Lindstrom, The Salk Institute, P.O. Box 85800, San Diego, CA 92138-9216.**

POSTDOCTORAL SCHOLAR, 100% time, \$18,000 per year. Postdoctoral position available to investigate posttranslational lipid modification of keratinocyte enzyme. Recent Ph.D. in biochemistry and at least 1 year of experience in keratinocyte culture, HPLC, fatty acid biosynthetic pathways in animals, isolation of enzymes from epidermal tissues, immunochemical techniques, and peptide chemistry required. Should have publication record in international journals and ability to work independently. Place of employment and interviews: Davis, California. Send this ad and your résumé to: **Job #BLW15379, P.O. Box 9560, Sacramento, CA 95823-0560, no later than 14 July 1990.**

A POSTDOCTORAL POSITION in forest soils/hydrology is available immediately to plan and conduct studies in forest ecosystem recovery and restoration research related to the effects of hurricane Hugo. Focus is on stream and groundwater quality and treatments to enhance vegetation recovery. *Applicant must be a U.S. citizen and have a Ph.D. with a strong background in forest soils and hydrology. Familiarity with watershed research techniques, soil and water analytical techniques, and principles of plant ecology are desirable.* Position is located at the U.S. Department of Agriculture Forest Service, Forestry Sciences Laboratory, Charleston, South Carolina; research site is the Santee Experimental Forest near Huger, South Carolina. Initial appointment is not to exceed 2 years but may be extended for an additional 2 years, if necessary. Salary is \$35,825. Please send curriculum vitae and Application for Federal Employment SF-171 to: **Nathan Presley, Personnel Section, Southeastern Forest Experiment Station, P.O. Box 2680, Asheville, NC 28802. Deadline for applications is 1 August 1990.**

POSITIONS OPEN

POSTDOCTORAL POSITION. A postdoctoral position is immediately available to study mechanisms of chemical carcinogenesis at the molecular level. A candidate with skills in molecular cloning is desired for research involving the identification and cloning of novel mammalian transforming genes (oncogenes, tumor suppressor genes). EHRT, Inc., is an established, expanding small business located in Research Triangle Park, North Carolina, and provides excellent benefits and competitive salary. For further information, contact: **Jessica A. Laseley, Project Leader, P.O. Box 12199, Research Triangle Park, NC 27709.**

COGNITIVE NEUROPHYSIOLOGY POSTDOCTORAL POSITIONS. To identify synaptic pathways generating cognitive potentials during memory and language tasks using (i) magnetoencephalography (two posts in Rennes, France); (ii) human depth electrodes (temporal, parietal, and frontal; one post in Rennes); or (iii) primate hippocampal recordings (one post in Los Angeles). Please send a letter, curriculum vitae, and three references to: **Eric Halgren, Ph.D., BRI 73-364 CHS, University of California 176118, Los Angeles, CA 90024. Equal Opportunity Employer.**

POSTDOCTORAL POSITIONS. Available immediately in an NIH-supported postdoctoral training program to study (i) the structure/evolution of the albumin-AFP-DBP gene family [see *PNAS* 86, 9360-9364 (1989)] with Professor Achilles Dugaiczky and (ii) cellular and molecular regulation of B lymphopoiesis [see *Annu. Rev. Immunol.* 8, 111-137 (1990)] with Professor Ken Dorshkind. *Applicants must be U.S. citizens or permanent residents.* Contact: **Program Director, Division of Biomedical Sciences, University of California, Riverside, CA 92521. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL FELLOWSHIP

The Oregon Regional Primate Research Center (ORPRC) is pleased to announce the availability of a 2-year postdoctoral fellowship (\$18,000 salary per year plus fringe benefits), as well as a \$5,000 laboratory allowance per year to support research in the laboratory of a center scientist. Approximately 30 ORPRC staff scientists conduct research in the Divisions of Reproductive Biology and Behavior, Neuroscience, and Primate Medicine. Research approaches range from molecular and cell biology through whole animal physiology. *Applicants must be U.S. citizens or have permanent residency status in the United States.* A formal application in conjunction with a staff scientist must be submitted on an NIH PHS-398 form by 1 December 1990. Funding can begin on 1 January 1991.

For a complete list of scientists, research programs, and other information concerning ORPRC, please contact:

**Office of the Director
Oregon Regional Primate Research Center
505 N.W. 185th Avenue
Beaverton, OR 97006**

The ORPRC is an Equal Opportunity/Affirmative Action Employer.

YALE UNIVERSITY POSTDOCTORAL TRAINING FELLOWSHIP MEDICAL PHYSICS

The Department of Therapeutic Radiology at Yale University School of Medicine seeks applications for the position of a postdoctoral fellow. Principal area of research is the physics of radiation therapy. Current areas include radiation dosimetry, development of new sources such as americium-241 and palladium-103 for novel applications in brachytherapy, Monte Carlo simulations of radiation effects at macro- and micro-levels, superheated drop detectors for neutrons, and biophysical aspects of radiobiology. This postdoctoral training position is funded by the National Cancer Institute (NCI) and is meant for a Ph.D. in physics who is interested in pursuing a research career in developing applications of physics to cancer causation, prevention, diagnosis, and treatment. The salary provided by the NCI ranges from \$20,000 to \$34,000 per annum depending upon previous research experience. The position is for 2 years. *Applicants must be U.S. citizens or have a permanent visa status.* Send curriculum vitae to: **Ravinder Nath, Ph.D., Professor, Department of Therapeutic Radiology, Yale University School of Medicine, 333 Cedar Street-HRT #221, New Haven, CT 06510.**

Yale University School of Medicine is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

POSTDOCTORAL FELLOWSHIP. Immediate opening for a 2-year position studying transcriptional regulatory mechanisms in baculoviruses. The candidate must have Ph.D. and a strong background in molecular biology. Experience in animal cell tissue culture would also be an asset. Salary is \$32,239 including benefits. Send curriculum vitae and names of three references to: Dr. David A. Theilmann, Agriculture Canada Research Station, 6660 N.W. Marine Drive, Vancouver, B.C., Canada V6T 1X2. FAX: 604-666-4994.

MOLECULAR NEUROBIOLOGY POSTDOCTORAL FELLOWSHIP. To study the molecular basis of synaptogenesis, neural circuitry formation, nerve regeneration, and pathogenesis of medically important neuropathies. Research insulin-like growth factor gene expression and neurotrophic effects (see *Proc. Natl. Acad. Sci. U.S.A.* 86, 2898; *Molec. Brain Res.* 6, 109) under NIH grants. Domestic/foreign applicants equally welcome. Submit curriculum vitae with names and telephone numbers of three references to: Professor Douglas N. Ishii, Physiology Department, Colorado State University (CSU), Fort Collins, CO 80523. CSU is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL FELLOW POSITIONS. In neuroscience at the Addiction Research Center. Topics of research include: characterization and purification of drug and neurotransmitter receptors, cocaine receptors, neurotransmitters of reward and addiction, and effects of drugs on neurotransmitter systems. Salaries range from \$29,000 to approximately \$49,000 depending on experience and qualifications. Benefits and relocation expenses may be available. Previous postdoctoral experience desirable but not necessary. Send curriculum vitae to: Dr. Michael J. Kuhar, NIDA Addiction Research Center, P.O. Box 5180, Baltimore, MD 21224. The Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA) is an Equal Opportunity Employer. ADAMHA is smoke free and drug free.

VICTORIA UNIVERSITY OF WELLINGTON NEW ZEALAND UGC POSTDOCTORAL FELLOWSHIP IN CHEMISTRY

Applications are invited for a postdoctoral fellow to undertake research on a project designed to develop improved processes for selectively removing metals, as cations, from solution. Address inquiries to: Professor N. F. Curtis or Dr. G. R. Burns, Department of Chemistry.

The fellowship is tenable for 2 years and carries an annual salary of \$NZ35,500. A limited travel grant is available. Conditions of appointment and method of application available from: Appointments Administrator, Victoria University of Wellington, P.O. Box 600, Wellington, New Zealand (FAX: 04-711-700), with whom applications close on 17 August 1990.

The University is an Equal Opportunity Employer.

HARVARD MEDICAL SCHOOL DEPARTMENT OF DERMATOLOGY POSTDOCTORAL TRAINING PROGRAM FOR Ph.D.'s

The research program is supported by an NIH training grant and participants spend a minimum of 2 years engaged in basic research under the supervision of our faculty. The Wellman Laboratories of Photomedicine as well as the newly established Cutaneous Biology Research Center provide additional opportunities for fruitful research careers.

The Harvard Medical School Department of Dermatology is a committed Equal Opportunity/Affirmative Action Employer. Minorities, women, handicapped, and veterans are encouraged to apply.

Inquiries to: Howard P. Baden, M.D., Program Director, Department of Dermatology, Massachusetts General Hospital, Boston, MA 02114.

POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE. Position available for Ph.D. or equivalent to study the role of erythrocyte-endothelial interaction in the pathogenesis of vascular disease. Emphasis on sickle cell anemia and related disorders. Background in molecular or cell biology or biochemistry preferred. Send curriculum vitae and references to: Dr. Robert Weinstein, Department of Biomedical Research, St. Elizabeth's Hospital of Boston, 736 Cambridge Street, Boston, MA 02135. An Equal Opportunity Employer.

29 JUNE 1990

MOLECULAR BIOLOGY/MOLECULAR MODELING POSTDOCTORAL RESEARCH ASSOCIATE

Sandoz Pharmaceuticals Corporation is responsible for products that improve the quality of life. Our developments are the result of research conducted by professionals who specialize in many different fields.

The Sandoz Research Institute has an opening for a Postdoctoral Scientist to work in a highly interdisciplinary setting using molecular biology, biochemistry, and molecular modeling to explore, at a molecular level, the mechanisms of enzyme action. The research area will focus on targets in lipoprotein metabolism and atherosclerosis as part of an overall effort to develop novel therapeutics in these areas. The candidate is expected to serve as a bridge between disciplines, designing projects in collaboration with the molecular biology, chemistry, and molecular modeling groups. This is a one-year, industry-based position which may be extended up to two years by mutual agreement.

The successful candidate will have a Ph.D. in Biochemistry, Molecular Biology, Bio-Organic Chemistry, or the equivalent with 0-3 years of postdoctoral experience. Experience with molecular biological and biochemical approaches to understanding structure/function relationships of enzymes, and working knowledge at a molecular level of enzymatic reaction required. Some experience with essential computational chemical tools for studying proteins and/or peptides would be preferred.

Positions at Sandoz offer personal satisfaction, professional opportunity/challenge, competitive salaries and an excellent benefits package. Our campus-like facilities are conveniently located in northern New Jersey.

For prompt consideration, please send a curriculum vitae, a list of professional references and a brief summary of prior research experience, to:



SANDOZ
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Department of Human Resources (403/1)
SANDOZ RESEARCH INSTITUTE
SANDOZ PHARMACEUTICALS
CORPORATION
East Hanover, New Jersey 07936

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MOLECULAR EVOLUTION COLORADO STATE UNIVERSITY

The Department of Biology invites applications for a full professor to initiate a program in Molecular Evolution. The person selected must have a Ph.D., a fully funded research program, and experience and a scholarly record commensurate with full professorship. It is required that the candidate have a strong background in cell and molecular biology and use current methodologies to elucidate evolutionary relationships among a broad spectrum of organisms: protists, fungi, prokaryotes, plants, & animals. Teaching responsibilities will be to participate in courses such as evolution, molecular genetics, and molecular biology, and in graduate education. Salary commensurate with qualifications. Starting date about 1 January 1991. Applicants are asked to send a resumé, reprints of refereed papers, and three letters of reference. Closing date: **30 July 1990**. Send applications to: William C. Marquardt, Chair, Molecular Evolution Search Committee, Department of Biology, Colorado State University, Fort Collins, CO 80523 USA

CSU is an AA/EOE Employer. Equal Opportunity Office, 314 Student Services Bldg.

BRANCH CHIEF

Pharmaceutical and Regulatory Affairs Branch, Treatment Research Program, Division of AIDS, National Institutes of Allergy and Infectious Diseases, NIH is seeking an experienced scientist with a diverse medical and pharmacological background. Requirements include: experience with drug development projects; knowledge of FDA regulations and procedures; experience in clinical trials and protocol management; MD/PhD or equivalent relevant experience. Position involves significant interaction with pharmaceutical companies, the FDA, and other components of NIH. Immediate Opening. Salary commensurate with experience and training. Send CV and/or Application for Federal Employment (SF-171) to:

**DAIDS/TRP/PRAB Room 202N
6003 Executive Boulevard
Bethesda, Maryland 20892**

U.S. Citizenship Required
NIH is an Equal Opportunity
Employer



**Glenrose
Rehabilitation
Hospital**

The Glenrose Rehabilitation Hospital is a leading facility in Canada dedicated to providing excellence in patient care, research and education in rehabilitation for both children and adults. In the spring of 1990, we will be moving into a new building and will be taking that opportunity to introduce a number of new initiatives.

Department of Rehabilitation Technology

This department will focus on the research, development and clinical application of technology, and engineering methods in rehabilitation. We are seeking an energetic, results-oriented person to establish this department as a leader in rehabilitation technology.

Interested applicants should possess a post graduate degree in a recognized engineering discipline with preference given to those with experience in rehabilitation or biomedical engineering. The successful candidate will demonstrate good communication skills, creativity and a strong interest in improving the quality of life for disabled people.

Interested applicants are asked to forward their curriculum vitae, references and salary expectations to:

Ms. K. Cook
Acting Director of Personnel
**GLENROSE REHABILITATION
HOSPITAL**
10230 - 111 Avenue
Edmonton, Alberta
Canada
T5G 0B7



THE MIAMI PROJECT TO CURE PARALYSIS

Research Associate/Postdoctoral positions are available in an integrated, multidisciplinary research group focusing on anatomical, cellular, molecular, electrophysiological, and functional correlates of spinal cord injury (SCI) and repair mechanisms. Specific areas of research include: Schwann cell and central neuroglial cell biology, including their role in regeneration after SCI and transplantation (R. Bunge, M. Bunge, N. Kleitman, P. Wood); plasticity, repair, and behavioral recovery of motor and autonomic pathways (V. Holets); pharmacology of acute SCI and ischemia (A. Martinez); molecular biological approaches to CNS regeneration (S. Whittemore); anatomical and functional plasticity of spinal somatosensory pathways (R. Yezierski); recovery of locomotor function following SCI (J. Kim), and clinical neurophysiology of SCI (B. Calancie).

Send curriculum vitae and names of 3 references to Dr. Richard Bunge, Scientific Director, The Miami Project to Cure Paralysis, University of Miami School of Medicine, 1600 N.W., 10th Ave. (R48), Miami, FL 33136. The Miami Project is an Equal Opportunity/Affirmative Action Employer.

**UNIVERSITY OF
Miami**
SCHOOL OF MEDICINE

POSTDOCTORAL RESEARCH ASSOCIATES

**Capital District Center for
Drug Abuse Research and
Treatment (CDCDART)**

The CDCDART, in the Albany area of northeastern New York, is a new multidisciplinary consortium of sixteen investigators from three institutions: the Rensselaer Polytechnic Institute (Department of Chemistry: S. Archer, A. Schultz; Department of Psychology: L. Reid), the Albany Medical College (Department of Pharmacology and Toxicology: S. Glick, L. Hough, A. Schneider, M. Teitler, R. Mankes, J. Carlson, R. Keller), and the State University of N.Y. School of Public Health (Department of Environmental Health and Toxicology: D. Carpenter, W. Shain, A. DeCaprio, R. Seegal, A. Snyder-Keller, R. Waniewski). The focus of the CDCDART is the development of new pharmacotherapies for drug abuse. The research program includes a broad range of biomedical technology, including medicinal chemistry, receptor and biochemical pharmacology, analytical neurochemistry, morphological toxicology, *in vitro* and *in vivo* neurophysiology, and behavioral pharmacology. We have recently received a grant from the Aaron Diamond Foundation to provide research training for three postdoctoral research associates. These positions will be funded for up to three years; the stipend is \$25,000 for the first year (inflationary increases for years 2 and 3). It is anticipated that one postdoctoral research associate will be located at each of the three member institutions. These positions are available immediately. For further information, contact one of the following: S. Glick (518 445-5303), S. Archer (518 276-6339), D. Carpenter (518 458-6772). To apply, send curriculum vitae and three letters of reference to: Administrative Director, CDCDART, c/o Department of Pharmacology and Toxicology (A-136), Albany Medical College, Albany, N.Y. 12208. Equal Opportunity/Affirmative Action Employer.

Faculty Positions In

MOLECULAR NEUROBIOLOGY

The Biotechnology Center, in collaboration with academic departments within the colleges of Biological Sciences, Medicine and Pharmacy, invites applications for three joint tenure track faculty positions. Successful candidates will occupy new laboratories on the Neurobiology floor of the Biotechnology Center and join existing faculty whose research efforts focus on gene expression in nervous tissue during development and aging. This group will shortly expand to 10 faculty.

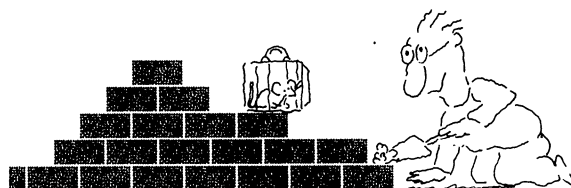
Applicants for **Assistant Professorships** should demonstrate exceptional potential to develop strong research programs that apply tools of molecular biology to address significant problems in neurobiology. Senior candidates with ongoing programs of excellence will be considered for an **Associate Professorship**. Qualified molecular neurobiologists working with vertebrate or invertebrate systems will receive careful consideration. Candidates who utilize transgenic mice in the course of their research are especially encouraged to apply.

The Ohio State University is establishing an outstanding program in molecular neurobiology and neuroscience which is reflected by quality research facilities and highly competitive start-up funds and salary.

Screening of candidates will begin on August 15, 1990. Applicants should submit a curriculum vitae, statement of research plans, and names and addresses of three references to **Dr. Anthony Young, Chairperson, Molecular Neurobiology Search Committee, Ohio State Biotechnology Center, Rightmire Hall, 1060 Carmack Rd., Columbus, OH 43210**. The Ohio State University is an Equal Opportunity/Affirmative Action Employer.

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**COLD SPRING HARBOR LABORATORY
SIX FACULTY POSITIONS
MOLECULAR NEUROBIOLOGY**

We seek applicants for six new faculty positions in the fields of vertebrate and invertebrate Molecular Neurobiology. This new area of research at Cold Spring Harbor Laboratory will complement the long standing program of courses and lectures in neuroscience held at the Laboratory each Summer. The successful applicants will occupy the new Beckman Neuroscience Building which is scheduled for completion in mid 1991. Both senior and junior faculty positions will be considered.

Curriculum vitae, and brief statement of research interests and names of references should be submitted to:

**Dr. Bruce Stillman
Cold Spring Harbor Laboratory
P.O. Box 100
Cold Spring Harbor, NY 11724**



Cold Spring Harbor Laboratory

An equal opportunity/affirmative action employer.

FACULTY OF MEDICINE

UNITED ARAB EMIRATES UNIVERSITY



Applications are invited for appointment at **Assistant, Associate and full Professorial rank in the Department of Pharmacology (Clinical, Toxicology).**

Candidates must possess a medical degree and/or PhD degree or an equivalent higher professional degree from an accredited university or institution of higher learning, or any higher professional certificate such as Membership or Fellowship in the Royal College of the UK, Ireland, Canada, Australia and New Zealand (MRCP, FRCS, MRC Path, MRC Psych., FFARCS, MRCOG, FRCR), or the certificate of the American Board or the Arab Board for Medical Specializations. The language of instruction is English.

Candidates for these positions must be able to demonstrate leadership experience in the development of teaching, research and, where appropriate, clinical service programmes.

Persons interested in additional information on applying should send a curriculum vitae including list of publications, copies of certificates and the names of three current referees to:

**Joel H. Lanphear, Ph.D.
Associate Dean
Faculty of Medicine
UAE University
PO Box 17666
Al Ain
United Arab Emirates
Fax No: 971 3 638247**

Applications will be closed six weeks after date of publication or September 15, 1990 whichever occurs first.

**Research Opportunities in
ENZYME STRUCTURE AND MECHANISM**

The Department of Biochemistry at Wake Forest University Medical Center is in the process of strengthening its research programs in the areas of protein engineering and molecular genetics. State-of-the-art facilities for automated protein sequence analysis and peptide and oligonucleotide syntheses are already available through the recently established institutional Program in Molecular Genetics. In addition, departmental faculty have access to the GCG sequence analysis software and database updates through a VAX-based network. A new Evans & Sutherland ESV molecular graphics workstation will be delivered in the summer of 1990. Plans have been finalized to include laboratories for both high-resolution nmr studies and X-ray crystallographic analyses of protein and nucleic acid structures in a new 240,000 square foot research building scheduled for completion in 1993.

The Department of Biochemistry presently has openings at both faculty and postdoctoral levels for research in enzyme structure and mechanism, as described below:

1) Assistant/Associate Professor – applicants at the Assistant Professor level should have 2 years' postdoctoral experience in enzyme structural or mechanistic work, focusing on applications of modern mutagenesis approaches. Applicants at the Associate Professor rank should also have a strong independent research program in place with a solid track record of extramural funding.

2) Assistant Professor – applicants should have at least 2 years' postdoctoral experience including research on the mechanisms of coenzyme-requiring enzymes and expression of cloned genes for these studies.

3) Postdoctoral fellows – expertise ranging from prokaryotic molecular biology to expression and mutagenesis of cloned genes, protein structure-function studies.

Salaries are competitive and negotiable, depending on rank and experience. Send CV and list of publications and arrange to have three letters of reference sent to:

**Dr. Moseley Waite, Chairman
Department of Biochemistry
Wake Forest University Medical Center
300 South Hawthorne Road
Winston-Salem, NC 27103
Phone: (919) 748-4373
e-mail: ALC@MRIPS.BGSM.WFU.EDU**

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Postdoctoral Training

Toxicology and Carcinogenesis

Positions available for study in various aspects of cancer research and toxicology through the Departments of Biochemistry, Chemistry, Medicine, Pharmacology, and Pathology. Areas of investigation include synthetic chemistry related to toxic chemicals, mechanistic bio-organic chemistry, chemistry of heavy metal antidotes, DNA-carcinogen physical interactions, enzymology of animal and human cytochromes P-450 and chromatin proteins, the basis of metal carcinogenesis, chromatin function, hepatocarcinogenesis, eicosanoids, regulation of glutathione metabolism, and NMR and mass spectrometry. Salaries are negotiable.

Faculty

**Ian A. Blair
Robert C. Briggs
Raymond F. Burk
Peter Gettins
F. Peter Guengerich**

**Thomas M. Harris
Mark M. Jones
R. Stephen Lloyd
Lawrence J. Marnett**

Applicants should submit curriculum vitae and three letters of recommendation to Dr. F. P. Guengerich, Director, Center in Molecular Toxicology, Vanderbilt University, School of Medicine, Nashville, TN 37232.

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POSITIONS OPEN

COASTAL MARINE SCHOLAR POSTDOCTORAL PROGRAM. Program aims to promote excellence in research in any aspect of marine science, coastal zone management, or related discipline. Twenty-one months of stipend will be provided (\$27,300 for 12 months). Scholars encouraged to pursue own research interests and to contact faculty sponsors regarding supplementary support. Preference will be given to candidates whose interests overlap those of faculty. Appointment available 1 January 1991. All requirements for Ph.D. must be completed at time of appointment. Applications encouraged from students near completion and recent graduates with interest in any marine science-related discipline. Candidates should send a complete résumé, detailed statement of research interests, and have three letters of recommendation sent directly to: **Dr. Roger Flood, Coastal Marine Scholar Program, MSRC, State University of New York (SUNY) Stony Brook, Stony Brook, NY 11794-5000.** Closing date: 31 July 1990. *SUNY Stony Brook is an Affirmative Action/Equal Opportunity Educator and Employer. AK 101.*

AIDS RESEARCH

POSTDOCTORAL FELLOW/RESEARCH INVESTIGATOR to study transmembrane transmission of HIV using a cell culture system. Recent M.D. or Ph.D. degree (or equivalent) required. Send curriculum vitae and the names and addresses of three references to: **David M. Phillips, The Population Council, 1230 York Avenue, New York, NY 10021.**

POSTDOCTORAL ASSOCIATE. Study the molecular and biochemical mechanisms of normal and neoplastic cellular differentiation. Research is concerned with mechanisms by which certain drugs induce leukemic cells to mature to adult forms devoid of cancerous potential. Introduce certain genes into malignant cells to identify the pathways that control the maturation program of cancer cells. Requires completion of all requirements for Ph.D. in biochemistry or molecular biology. No specific experience required. Requires strong background in cell culture, cloning sequencing, gene regulation, protein purification and expression, and immunoassay techniques as evidenced by specific research training or authored publications for scientific journals in these disciplines. Monday to Friday, 9:00 a.m. to 5:00 p.m.; \$18,500 per year. Please send résumé to: **Job Service Technical Unit, Connecticut Department of Labor, 200 Folly Brook Boulevard, Wethersfield, CT 06109.** Refer to: **Job Order #3072666.** No calls accepted.

POSTDOCTORAL RESEARCH POSITION. Available to study the biochemistry and cell biology of the actin cytoskeleton and/or endocytosis in the amoeba *Dictyostelium discoideum*. Please send your credentials and the names of the scientists who best know your work to: **Theodore L. Steck, M.D., Department of Biochemistry and Molecular Biology, University of Chicago, 920 East 58th Street, Chicago, IL 60637.** *The University of Chicago is an Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL/RESEARCH ASSOCIATE MOLECULAR BASIS OF CANCER

Positions available to: (i) study the molecular basis of tumor suppressor gene action; (ii) identify and clone novel genes which modulate expression of the tumor cell phenotype; and (iii) study the biochemical, immunological, and molecular events mediating or associated with the induction of terminal differentiation in human tumors. Expertise in current molecular biological techniques, such as cDNA cloning, library screening, and PCR required. To apply, send curriculum vitae, statement of research goals, and three letters of reference to: **Dr. P. B. Fisher, Columbia University, College of Physicians and Surgeons, 650 West 168th Street, New York, NY 10032.** FAX: 212-305-5498. *Equal Opportunity Employer.*

RESEARCH SCIENTIST with Ph.D. in immunology and strong background in microbiology to head up program in Pediatric Otolaryngology Immunobiologic Research at Children's Hospital of Buffalo. Experience required at postdoctoral level. Salary competitive. Send curriculum vitae to: **Linda Brodsky, Department of Otolaryngology, Children's Hospital of Buffalo, 219 Bryant Street, Buffalo, NY 14222.**

POSITIONS OPEN

POSTDOCTORAL OR RESEARCH ASSOCIATE in biochemistry, cell, or molecular biology to study the regulation of synthesis and secretion of mucin glycoproteins. Studies will involve characterization of proteins, oligosaccharide chains, and glycosyltransferases and metabolic studies with isolated mucus-secreting cells. Recombinant DNA techniques will be utilized to examine the regulation of expression and genes encoding mucin glycoproteins and glycosyltransferases.

Please send curriculum vitae to: **Dr. Joseph Mendi-cino, Department of Biochemistry, University of Georgia, Athens, GA 30602.**

POSTDOCTORAL RESEARCH ASSOCIATE

The U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), Corn and Soybean Research Unit, Wooster, Ohio, is seeking a **RESEARCH GENETICIST/MOLECULAR BIOLOGIST**, GS-11/12, to study the genetic, biological, and molecular basis of resistance to maize dwarf mosaic virus in maize (see *Mol. Pl.-Microbe Inter.* 2, 309-314). Ph.D. with knowledge of molecular biology and genetics required; experience with PFGE and cloning in yeast desirable. Ph.D. must have been received within past 3 years. Salary commensurate with experience. GS-11 starting salary is \$29,891; GS-12 starting salary is \$35,825. Temporary, full-time, 2-year appointment, eligible to enroll in benefits. For further information, contact: **Dr. Michael McMullen, USDA-ARS, Department of Agronomy, OARDC, Wooster, OH 44691.** Telephone: 216-263-3894. Applications received in response to this ad must be marked **ONO31.** *ARS is an Equal Opportunity Employer. Women and minorities are encouraged to apply.*

POSTGRADUATE RESEARCH, ENVIRONMENTAL PROTECTION AGENCY (EPA). Positions available in environmental or chemical engineering at Risk Reduction Engineering Laboratory in Cincinnati, Ohio, and Edison, New Jersey. Experience in municipal wastewater system management or stormwater runoff characterization preferred. Contact: **EPA, Postgraduate Research Program, Science/Engineering Education Division, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831-0117.** Telephone: 615-576-3456.

RESEARCH ASSOCIATE. Position for a molecular biologist to study gene regulation of early mammalian heart development utilizing gene knockout approaches with retroviruses and modified antisense oligonucleotides in whole embryo culture, \$30,000+ per annum. Send résumé and three letters of reference to: **Dr. Michael Solursh, Department of Biology, University of Iowa, Iowa City, IA 52242.** *The University of Iowa is an Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSOCIATE MOLECULAR BIOLOGY/VIROLOGY

Two positions immediately available to join an active research group in gene regulation in human immunocytes and its relationship to retroviral infection. Familiarity with molecular biology and its application, and a Ph.D. or equivalent is required. Two-year initial appointment, with potential for advancement. Send résumé to: **Jeffrey Laurence, M.D., or Susan Astrin, Ph.D., Cornell University Medical College, 411 East 69 Street, New York, NY 10021.**

ASSISTANT/ASSOCIATE RESEARCH BIOCHEMIST METABOLIC RESEARCH UNIT

The Metabolic Research Unit has a position available starting 1 July 1990 for a Ph.D. or M.D. molecular biologist with an established research interest and program on the mechanism of action of the estrogen receptor. Experience in genetic analysis of receptor action and overexpression of steroid receptors for structural studies required. Ability to obtain extramural funding is necessary for this position. Appointment and salary will be commensurate with the candidate's qualifications.

Send a one-page summary of research plan, curriculum vitae, and three letters of recommendation to: **Dr. John Baxter, Chairman, Search Committee, Metabolic Research Unit, 671-HSE, University of California, San Francisco, CA 94143-0516.** *The University of California, San Francisco, is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

POSITIONS OPEN

RESEARCH ASSOCIATE. To study the interaction of interleukins and of the hypothalamic-pituitary-adrenal-axis on intermediary metabolism. Experience in small animal surgery, RIA, ELISA, and HPLC. Knowledge of tissue culture helpful. Joint appointment at Shriners Burns Institute, Massachusetts General Hospital, and Harvard Medical School. Send résumé to: **Lynne L. Levitsky, M.D., 51 Blossom Street, Boston, MA 02114.** *Equal Opportunity Employer.*

RESEARCH ASSOCIATE, BIOCHEMISTRY. Research involves the identification and characterization of the cell-specific xenobiotic binding proteins, their role in the activation of drug-induced gene expression, and pleiotropic response. Clone the promoter regions of xenobiotic responsive genes and use these for the development of transgenic animals. This is done, e.g., by extracting protein from rat liver, purify it by affinity chromatography, characterize it by polyacrylamide gel electrophoresis. Inject protein into rabbits to raise antibodies. Check results by immunoblotting. Isolate genomic clones; sequence the DNA by di-deoxy chain termination. Determine functions of the protein. Tabulate, analyze, and publish results. Requires Ph.D. degree in biochemistry. Also requires 3 years of experience in the job to be performed or 3 years of experience as a postdoctoral fellow or research assistant, biochemistry. In lieu of actual Ph.D. degree, may have finished all requirements: experience required must be in biochemical research, can be during Ph.D. program, and must include: purification of proteins, affinity chromatography, isolation and sequencing of DNA. Must have published eight scholarly articles in scientific journals. Hours: 9:00 a.m. to 5:00 p.m., 40 hours per week, at \$28,062 per year salary. Please send résumé to: **Illinois Department of Employment Security, 401 South State Street—3 South, Chicago, IL 60605, Attention: L. Donegan, Reference #1408-D.** *An employer-paid ad.*

RESEARCH SCIENTIST. Ph.D. with 4 years of experience in the area of enzymology and protein purification. Fractionation of enzymes with various column chromatographic techniques and resins, including affinity purification schemes and applications of gel electrophoresis and of centrifugation methods. Use of radioactive materials for the analysis of products of enzymatic reactions. Affinity labeling and active site titrations, enzyme kinetics, and determination of kinetic parameters. Use of optical methods to assay biochemical reactions. Familiarity with methods of molecular biology for protein engineering. Experience with nucleic acid substrates and preferably transfer RNAs. Salary range: \$25,000 to \$30,000. Please submit résumé to: **Mr. Kenneth Hewitt, Room E19-230, Personnel Office, Massachusetts Institute of Technology (M.I.T.), Cambridge MA 02139.** *M.I.T. is an Equal Opportunity/Affirmative Action Employer.*

RESEARCH SCIENTIST PHYSIOLOGY/TOXICOLOGY

A position is available in the Department of Physiology and Pharmacology for an assistant research scientist. This is a non-tenure-track faculty position carrying all the rights and privileges of an assistant professor appointment with the exception of tenure. Applicants should have general interest in toxicology of the endocrine system and ideally the interaction of heavy metals with the pituitary. While the position is intended to be full-time research, teaching opportunities at undergraduate, graduate, and professional levels may be arranged. Salary dependent upon qualifications. Please submit current curriculum vitae, statement of research interests, and names, addresses, and telephone numbers of four references to: **Dr. C. Michael Moriarty, Office of the Vice President for Research, 616 Boyd Graduate Studies Research Center, The University of Georgia, Athens, GA 30602.** *The University of Georgia is an Equal Opportunity/Affirmative Action Institution.*

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STAFF SCIENTISTS & POSTDOCTORAL FELLOWS

Neurobiology & Molecular Biology

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- Molecular Genetics
- Monoclonal Antibodies

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Please forward your resume, in confidence, to: **Ms. Carol Deaken, Regeneron Pharmaceuticals, Inc. 777 Old Saw Mill River Road, Tarrytown, NY 10591-6706.** Equal opportunity employer.

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ASSOCIATE SCIENTIST

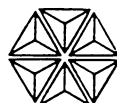
MOLECULAR BIOLOGY

The Bristol-Myers Squibb Company Industrial Division, a leader in biotechnology and a major international manufacturer of pharmaceutical products, has an excellent research opportunity in its Biological Process Development Group in Syracuse, New York. The Biological Process Development Group is rapidly expanding with a new protein recovery and purification facility currently under construction.

The successful candidate will be responsible for the development of microbial strains that produce increased titers of current antibiotics through molecular manipulation or enzymes for biotherapeutics and bioconversions.

Qualifications include a BS or MS in Molecular Biology or related discipline and a strong background in gene cloning. Additional experience in molecular biology of fungal microorganisms is desirable.

Bristol-Myers Squibb offers an excellent salary and comprehensive benefits. For prompt, confidential consideration, forward your resume with salary history and requirement to: **MANAGER OF EMPLOYMENT**



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RESEARCH DIRECTOR UBIQUITIN BIOTECHNOLOGY

Proteonix, a biotechnology company involved in the development and commercialization of a proprietary ubiquitin-fusion technology, is seeking a research director. This person will be responsible for formulating and implementing research programs to develop applications of ubiquitin-protein fusions and ubiquitin-dependent proteolysis in the production of research and pharmaceutical products. We are looking for a highly motivated, accomplished molecular biologist/biochemist who can provide creative leadership to an initially small team of researchers, with the potential to expand into a large research group. Applicants must hold a Ph.D. in molecular biology/biochemistry, with at least 2 years of relevant postdoctoral experience. Detailed knowledge of and firsthand research experience with the ubiquitin system are highly desirable. As this is primarily a research position, business experience is an advantage, but not a necessity. This position will be available starting in early 1991, in our Cambridge, Massachusetts, laboratories.

Proteonix offers a competitive salary, benefits, and stock option program.

Applications, comprising curriculum vitae and the names of three references, should be sent to the following address by 15 July 1990:

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Proteonix Inc.
1530 East Jefferson Street
Rockville, MD 20852

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RESEARCH IMMUNOLOGIST

A senior research position in immunology (permanent full time, GS-12/13/14/15) is available at the U.S. Department of Agriculture (USDA)-ARS Regional Poultry Research Laboratory, East Lansing, Michigan. The laboratory conducts a basic mission-oriented, multidisciplinary program focused on oncogenic viruses, recombinant DNA vaccines, and host genes that determine disease resistance in poultry. Goal of the position is to optimize host cellular immune responses to immunogens in chickens. Salary commensurate with experience (range: \$35,825 to \$59,216). Experience in cellular immunology and U.S. citizenship required. Ph.D. or equivalent desirable. Send curriculum vitae with three references to: Dr. R. L. Witter, USDA-ARS Regional Poultry Research Laboratory, 3606 East Mt. Hope Road, East Lansing, MI 48823 by 15 July 1990. Applications must be marked 0N038. *An Equal Opportunity Employer.*

NUCLEIC ACID/PROTEIN INTERACTIONS

This major Canadian biopharmaceuticals company offers outstanding opportunities for innovative and practical scientists of proven accomplishment. Positions are available for RESEARCH SCIENTISTS with several years of research experience, desirably industrial, as well as for POSTDOCTORAL FELLOWS:

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- **NUCLEIC ACID CHEMISTS** for the synthesis of modified oligonucleotides.

Allelix Biopharmaceuticals, located near Toronto, is financed by several leading Canadian concerns. The company offers a competitive compensation package.

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POSITIONS OPEN

CELL BIOLOGIST. The Department of Surgery at Stanford invites applicants for full-time RESEARCH POSITION (Ph.D. required), to supervise fellows and conduct research in cytokine/hormone interactions and mechanisms of actions in hepatocyte cultures. Send résumé: Fletcher Starnes, Stanford University Medical Center, Room S067, Stanford, CA 94305-5101. Telephone: 415-723-5672. *Affirmative Action/Equal Opportunity Employer.*

FISHERY RESEARCH. The Texas Parks and Wildlife Department seeks a research specialist to design, perform, and report applied quantitative research into broad aspects of fishery management; manage data bases; and support technical programs. Qualifications include an M.S. degree in fishery science, biology, statistics, or related field. Contact: Steve Gutreuter, Ph.D., Texas Parks and Wildlife Department, 4200 Smith School Road, Austin, TX 78744. *Equal Opportunity/Affirmative Action Employer.*

SURGICAL RESEARCHER. The Department of Surgery and the Research Institute at The Mary Imogene Bassett Hospital, a major teaching affiliate of Columbia University, are seeking a Ph.D. to conduct basic surgical research in an area of general surgery. Laboratory space and initial support provided. Competitive salary, with a fine benefits package and academic appointment. Located in Cooperstown, New York, a rural four-season resort village with excellent schools and unusual recreational and cultural opportunities. Reply: Michael S. Gold, M.D., Surgeon-in-Chief, The Mary Imogene Bassett Hospital, Cooperstown, NY 13326. Telephone: 607-547-3968 or Thomas A. Pearson, M.D., Ph.D., Director, Research Institute, The Mary Imogene Bassett Hospital, Cooperstown, NY 13326. Telephone: 607-547-3045.

RESEARCH FELLOW A. Medical facility in northeastern Ohio. Studies the structural similarities and differences between the two forms of angiotensin-converting enzyme (ACE). Isolates the gene(s) encoding the isozymic forms of ACE to determine if they are products of one gene or two genes. Clones and characterizes myotropin, and studies its role in hypertrophy of the heart. Uses the techniques of constructing and screening cDNA libraries, screening genomic libraries, Northern and Southern blotting, DNA sequencing, in vitro transcription, in vitro translation, primer extension analysis, S1 nuclease mapping, CAT assays, and polymerase chain reactions. Must possess knowledge of hormone-induced gene regulation as evidenced by either work experience, published materials, or academic projects. Requires Ph.D. in biology. No experience required. Forty hours per week, 8:00 a.m. to 5:00 p.m.; \$23,000 per year. *Must have proof of legal authority to work permanently in the United States.* Send résumé in duplicate (no calls) to: J. Davies, JO# 1084568, Ohio Bureau of Employment Services, P.O. Box 1618, Columbus, OH 43216.

ANNOUNCEMENTS

HELP! Scientists in all fields interested in writing serious evaluative book reviews of current trade books for children and young adults in their fields are needed by *Appraisal: Science Books For Young People*, a quarterly nonprofit book review journal based at Boston University. Your payment will be the books you review. Review as many or few as you wish, for any age group you prefer. No specialty is too obscure. Write to: Editor of *Appraisal*, Boston University School of Education, 605 Commonwealth Avenue, Boston, MA 02215.

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BIOCHEMIST/MOLECULAR BIOLOGIST, Ph.D. (1986). Must relocate to Syracuse/Utica/Norwich, New York, area. Experienced in protein purification, plant genetic engineering. Box 52, SCIENCE.

BIOLOGICAL OCEANOGRAPHER, M.S., with 14 years of experience. Zooplankton research, environmental consulting, teaching, administration. Seeks permanent academic/aquarium/private industry position. Box 60, SCIENCE.

BIOLOGIST, D.Phil. MBA (expected). Biased toward free-market environmentalism, against excessive legislation. Seeks policy/management/research position, industry or non-profit. Box 53, SCIENCE.

CELLULAR IMMUNOLOGIST, Ph.D. Experience: cytokines, marrow transplantation, adoptive cellular immunotherapy. Seeks challenging position in hospital, academia, or large company. Box 54, SCIENCE.

ELECTRON MICROSCOPIST, Ph.D. Integrated imaging and analysis of biological materials, project research, system development, and facility management. Industrial/academic position. Box 61, SCIENCE.

MOLECULAR BIOLOGIST, Ph.D.; 3 years of postdoctoral: in situ hybridization, cDNA cloning, blots (S/N/W), tissue culture, fungal genetics. Industry, government, academia. Box 55, SCIENCE.

MOLECULAR BIOLOGIST/VIROLOGIST, Ph.D. biochemistry (1981). Experience in gene expression, recombinant DNA, PCR, immunochemistry. Seeks research/industry position. Box 56, SCIENCE.

NEUROETHOLOGIST. Active research, invertebrate visual perception. Experience: 10 years of business management, 2 years of laboratory management, extensive teaching. Seeking academic position. Box 57, SCIENCE.

NEUROSCIENTIST. Broad biological background. Skills in electrophysiology, computer programming, random and deterministic models. Likes to teach. Washington, D.C., area preferred. Box 58, SCIENCE.

Ph.D. BIOCHEMISTRY (1978). Teaching/research experience in enzymology, protein purification, molecular biology, immunology, HIV. Seeks industrial or research position anywhere. Box 59, SCIENCE.

SCIENCE WRITER. Commercially published author/teacher, Ph.D. neuroscience, seeks academic, industrial, or government writing/editing position. West Coast preferred. Dean R. Lambe, P.O. Box 14, Watertown, OH 45787. Telephone: 614-749-3476.

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Candidates with strong credentials in membrane protein structure and function and/or the molecular mechanism of hormone action who employ electrophysiological, biophysical, and molecular biology approaches are especially encouraged to apply; however, excellent candidates in all areas of cellular and molecular physiology and biophysics will be given serious consideration. Terms are highly competitive and the positions will provide an excellent opportunity to develop a strong, independent research program in facilities which are state-of-the-art in an expanding department and research community. Submit curriculum vitae, brief statement of present and proposed research interests, representative reprints, and names of four references to:

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Department of Physiology
and Biophysics
Basic Science Tower, T-6, Room 140
Health Sciences Center
State University of New York
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A Ph.D. or equivalent in Pharmacy, Pharmaceutical Science or a related discipline, and 3-5 years of industrial experience in pharmaceutical development, are required. Experience in formulations development, stability studies design and analysis, process development and scale-up, and preclinical formulations is highly desirable; knowledge of protein drug and parenteral formulations, and topical dosage forms is a plus. Supervisory experience is preferred.

SCIENTIST Analytical Chemistry

You will be responsible for analytical methods development, troubleshooting and problem-solving in support of product and process development or polymeric and drug substances utilizing a variety of techniques, including HPLC, GC, Ion Chromatography, AA, UV/VIS, pH, and Titrimetry. To qualify, we require a Ph.D. in Analytical or Physical Chemistry or equivalent, and 0-5 years of post doctoral experience in general analytical and instrumental analysis. Industrial analytical chemistry laboratory experience is desirable.

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AIDS

Books from AAAS

AIDS 1988: AAAS Symposia Papers

Edited by Ruth Kulstad
Foreword by C. Everett Koop

This volume contains many of the groundbreaking papers on AIDS presented at the 1988 AAAS Annual Meeting.

The wide variety of the papers presented here reflects the current thinking about AIDS research today—that control over the AIDS epidemic must be achieved through a collaborative, multi-disciplinary effort that includes not only the medical and biological sciences, but the social and behavioral sciences as well.

This fully indexed volume is organized into five major sections: The first explores the epidemiology and natural history of AIDS and the HIV infection both in the United States and internationally. It also looks at the difficulty of predicting the course of the virus—statistical issues;

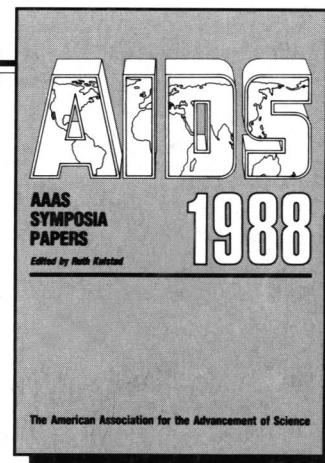
patterns of HIV-1 incubation, infectiousness, and transmission; and approaches to demographic impact modeling.

Section two discusses the social consequences of AIDS as they relate to gender, intravenous drug users, and public policy, and it examines the dilemmas that AIDS presents to the medical community.

The third section focuses on the AIDS prevention strategies currently employed around the world.

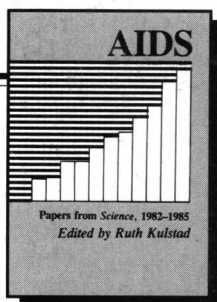
Section four considers the economic, political, ethical and legal issues surrounding the epidemic.

The final section presents several recent medical and biological studies on AIDS and HIV.



AIDS 1988 is a timely, authoritative source of information on the growing body of AIDS research being conducted around the world. It is essential for medical, biological, social, and behavioral scientists, and for everyone who is professionally or personally concerned about the AIDS epidemic.

1988; 478 pp.; softcover
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AIDS: Papers from Science, 1982-1985

Edited by Ruth Kulstad

This collection includes frequently cited research papers and news reports on AIDS that were published in *Science* between August 1982 and September 1985.

Many of the papers relate directly to AIDS research, while others touch on relevant aspects of the immune system. The news stories help to explain the ongoing research, while focusing on some of the sociological questions raised by the disease. The book is arranged chronologically, enabling the reader to trace the his-

tory of the AIDS epidemic through September 1985—a history that is of great sociological interest.

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