

the 1920's stalled fern morphological research for 25 years. The Tryons do point out some matters that require further work, but these indications are not the major point of the book and are obscured by the mass of other data.

Overall, *Ferns and Allied Plants* is a very useful reference volume but should be used with a critical eye.

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## Social Change in Early Europe

**Ranking, Resource and Exchange.** Aspects of the Archaeology of Early European Society. Papers from a symposium, Philadelphia, May 1980. COLIN RENFREW and STEPHEN SHENNAN, Eds. Cambridge University Press, New York, 1982. viii, 168 pp., illus. \$39.50. New Directions in Archaeology.

Colin Renfrew has been a key figure during the last decade in applying ideas generated by the "new archeologists" of the United States, such as Lewis Binford, and of Britain; such as David Clarke, to the archeological data of prehistoric Europe. He and his colleagues have been instrumental in developing a new and dynamic approach to the study of the prehistoric past, with attention shifting from the traditional subjects of typology, chronology, and culture history to examination of the processes of change in ancient societies, especially change in economic and social behavior.

This volume provides a sampling of results of such approaches to data from prehistoric and early historic Europe, with emphasis on changes reflecting the development of ranking and the formation of hierarchies among individuals, settlements, and monuments. Renfrew's introductory paper deals with the problem of defining "ranking" and identifying it in the archeological record. Fifteen papers treat specific problems in the archeological material and suggest models to account for the patterns observed. They are arranged in four groups, concerning respectively the Neolithic and Early Bronze ages, the Bronze and Iron ages, early states in the Aegean region, and the early medieval period. Throughout the papers is a strong emphasis on explaining economic and social change in terms of internal dynamics of societies rather than with reference to movements of peoples or long-distance trade relations.

The 15 case studies are for the most

part clear and informative, briefly presenting data and then suggesting new interpretations of them. To cite only a few of the especially interesting papers, Sherratt proposes an economic explanation, revolving around exchange of cattle, for the beginning of ranking in early Neolithic eastern Europe; T. Champion describes the development of social differentiation during the Bronze and Iron ages in central Germany in terms of control of critical resources; Hodges relates the emergence of early medieval "gateway communities" to other changes of the time; and Arnold demonstrates the importance of the concept of cultural stress for understanding change in Anglo-Saxon England.

Critical discussions of the case studies, written by two discussants at the original symposium, Robert Whallon and Lewis Binford, are included at the end of the volume. These provide valuable balance, placing the papers in the context of current theoretical debates in the discipline of archeology. Whallon takes issue with the concept of "explanation" as exemplified by the papers, calling for the formulation of more general theories to account for changes than the case-specific mechanisms described in many of the instances here. Binford's principal criticism is that the authors assume that human behavior in the archeological past was similar to that of today. The authors do not deal with the methodological issue of how to derive information about the past from the meager physical remains that survive. Such concepts as prestige, rivalry, and display may not be appropriate to our analysis of past behavior in the same way as they apply to behavior in the modern world.

As Binford suggests, the authors of the individual papers might have benefited from a more critical appraisal of the sources of models used. Many rely heavily on the social-evolutionary schemes put forward by Service (*Primitive Social Organization*, 1962) and Fried (*The Evolution of Political Society*, 1967). Some make use of one or two ethnographic examples as sources of mechanisms to explain change apparent in the archeological data of ancient Europe. The evolutionary schemes cited and the models advanced by ethnographers are interpretations and possess no inherent validity. Instead of relying on other researchers' schemes for models, perhaps European archeologists can begin to develop models of change based upon the very rich and varied data available from the archeological past of Europe.

Some authors here freely use such

terms as "prestige goods," "elite group," "status," and "control" in presenting their models for change. These terms are rarely defined, yet it is important that both authors and readers know exactly what is intended by them, both in terms of human behavior and in terms of their representation in the archeological evidence. Furthermore, as Binford suggests, it is necessary to ask to what extent such concepts from modern ethnography are applicable to the prehistoric past. All of these methodological points merit further discussion.

This volume is a valuable contribution to the growing literature on the interpretation of European archeological data in terms of changes in economic and social behavior and organization. The case studies show how productive such approaches can be, and the theoretical and critical essays draw attention to many different aspects of the principal issues under consideration. From this book the reader obtains a rich and varied view of current trends in European archeological research being conducted by an active group of younger archeologists trained in British universities.

PETER S. WELLS

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## Books Received

**Acid Precipitation.** Walter R. Hibbard, Jr., Ed. Pergamon, New York, 1982. iv pp. + pp. 251-384, illus. Paper, \$27.50. *Materials and Society*, vol. 6, No. 3.

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**Neighborhood Networks for Humane Mental Health Care.** Arthur J. Naparstek, David E. Biegel, and Herzl R. Spiro with Joseph Coffey and John (Continued on page 338)



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## (Continued from page 299)

**The Shelduck.** A Study in Behavioural Ecology. I.

**Whistleblowing in Biomedical Research.** Policies and Procedures for Responding to Reports of Misconduct. Proceedings of a workshop, Sept. 1981. Judith P. Swazey and Stephen R. Scher, Eds. President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research, Washington, D.C., 1982 (available from the Superintendent of Documents, Washington, D.C.). vi, 208 pp. Paper, \$6.

**Mycologist.** Ph.D. 1981; experience in plant pathology and mycology (mushroom taxonomy); seeking immediate academic, service, or research position. Box 91, SCIENCE. X



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**Microbial Biochemist:** Ph.D., 5-plus years of industrial experience. Fermentation (microorganisms and cell cultures), enzymes, antibiotics isolation, automated instrumentation, bioassays. Preferably California. Box 90, SCIENCE. X

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Applications are invited for a position in the Department of Anatomy, available 1 July 1983. Applicant should have Ph.D. in anatomy. Teaching responsibilities are in gross anatomy and assistance in neuroanatomy laboratory. Expertise in TEM/SEM with ability to supervise EM suite required. One to 2 years of postdoctoral experience preferred. Applicant should send résumé, statement of current research interests, and three letters of recommendation to: **Dr. R. C. Holland, Chairman, Department of Anatomy, Morehouse School of Medicine, 720 Westview Drive, SW, Atlanta, Ga. 30310. An Equal Opportunity/Affirmative Action Employer.**

**UNIVERSITY OF CALIFORNIA, LOS ANGELES (UCLA), ANTHROPOLOGY DEPARTMENT,** invites applications for tenure-track position in biological anthropology. Particularly desirable: interests in human ecology (for example, adaptation, reproduction, fertility regulation, nutrition, epidemiology) and commitment to teaching courses interrelating with other anthropological subfields. Candidate should have strong primary interest in field research and willingness to supervise students' field projects. Ph.D. and a substantial record of published research required. Appointment will preferably be made at assistant professor level but higher ranks not excluded. Position available fall 1983. Send curriculum vitae and names of three references by 31 May 1983 to: **Jacques Maquet, Chair, UCLA-Anthropology, Los Angeles, Calif. 90024. Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

**ASSISTANT PROFESSOR** with primary teaching responsibility in area of anatomy and physiology for Allied Health and other students. Additional teaching assignments may include biochemistry and general biology. Candidate qualified to develop courses in molecular biology area desired. Ph.D. with appropriate specialization desired; teaching experience and publication record preferred. Respond by 1 May 1983 to: **Dr. Raghunath Virkar, Chairperson, Department of Biology, Kean College of New Jersey, Morris Avenue, Union, N.J. 07083. An Equal Opportunity/Affirmative Action Employer.**

### ASSISTANT PROFESSOR OF ANATOMY 1 July 1983

The department is in an active period of growth with development of strengths in molecular cell biology. Independent research potential will be placed at high priority in the selection of candidates.

Medical classes are small (64) and an integrated graduate program in the basic health sciences also provides a highly favorable opportunity to interact with graduate students. Interested individuals send résumé, three references, and summary of research interests to:

**K. L. Yielding, Chairman  
Department of Anatomy  
University of South Alabama  
College of Medicine  
Mobile, Alabama 36688**

*The University of South Alabama is an Equal Opportunity Employer.*

### ASSISTANT PROFESSOR, BIOLOGY

The University Honors Program and School of Life and Health Sciences invite applications for a 2-year, non-tenure-track position (renewable for two additional years) at the assistant professor level, with a starting date of 1 September 1983. Duties include teaching one honors section of a year-long introductory biology course plus one mutually agreed upon course each semester that reflects the research interests of the candidate and needs of the School. Additional duties will include honors advising responsibilities during our New Student Summer Program and throughout the school year. Candidates must have a Ph.D. and a strong commitment to undergraduate teaching, with a preference given to those with research experience in either physiology or genetics.

Candidates should submit curriculum vitae which includes a description of teaching and research interests, and have at least three letters of reference sent by 2 May to: **Dr. Steven D. Skopik, School of Life and Health Sciences, University of Delaware, Newark, Del. 19711. The University of Delaware is an Equal Opportunity Employer which encourages applications from qualified minority groups and women.**

The Department of Microbiology, School of Medicine, University of South Dakota, invites applications from qualified individuals for a position as **ASSISTANT PROFESSOR OF IMMUNOLOGY**. Special consideration will be given to individuals whose training and interests are directed toward virology. Candidates must possess a Ph.D. degree, have completed postdoctoral training, and possess an interest in teaching medical, graduate, and allied health students. Development of an independent research program is imperative.

Interested individuals should submit curriculum vitae and names of three references to: **Paul F. Smith, Ph.D., Chairman, Department of Microbiology, School of Medicine, University of South Dakota, Vermillion, S.D. 57069. Closing date for applications is 31 May 1983. An Equal Opportunity/Affirmative Action Employer.**

**ASSISTANT PROFESSOR IN MICROBIOLOGY.** The Department of Bacteriology and Public Health, Washington State University, is seeking highly qualified applicants for a tenure-track position at the assistant professor level. Preference will be given to candidates with expertise in the area of host-parasite interactions. Applicants must have postdoctoral training and are expected to establish an active research program. The candidate will also be expected to participate in the graduate and undergraduate teaching program. Review begins 15 June 1983, and will continue until a suitable candidate is selected. Please submit curriculum vitae, statement of professional goals and research interests, and names of three references to: **Dr. David J. Hinrichs, Chairman of Search Committee, Washington State University, Pullman, Wash. 99164-4340. Washington State University is an Equal Opportunity Employer.**

## POSITIONS OPEN

The Department of Plant Pathology, University of Wisconsin-Madison, anticipates having an **ASSISTANT PROFESSOR** position available in the next year. This position will involve teaching and research in the area of soil-borne pathogens and their interaction with other microorganisms at the soil-root interface. Send statement of research interest, résumé, transcripts, and names of three references to: **Dr. D. P. Maxwell, Department of Plant Pathology, University of Wisconsin-Madison, Madison, Wis. 53706.**

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

Scripps Institution of Oceanography has an opening for an **ASSISTANT RESEARCH SCIENTIST** or **ASSISTANT PROFESSOR** to participate in ocean-related programs using acoustic, magnetic, optical, and other physical techniques. Candidates should have a Ph.D. in physics, geophysics, or engineering and should have interest in formulating and taking part in seagoing research and have a publication record. Salary range: \$22,900 to \$26,800. Appointment duration: 2 years, starting summer 1983, with possibility of indefinite extension. Appointment to assistant professor would require teaching experience. Send curriculum vitae and names of references to: **K. M. Watson, Director, or F. N. Spiess, Deep Tow Group Leader, Marine Physical Laboratory, Scripps Institution of Oceanography, University of California, San Diego, California 92152. Closing date: 20 May 1983. The University of California, San Diego, is an Equal Opportunity/Affirmative Action Employer.**

**BIOCHEMISTRY, VISITING ASSISTANT PROFESSOR.** University of Montana, Department of Chemistry, seeks Ph.D. with expertise in nucleic acid biochemistry/molecular biology for a 1-year position teaching at the graduate and undergraduate level during 1983-1984 academic year. Send résumé and three letters of recommendation by 3 May 1983 to: **Professor Walter E. Hill, Department of Chemistry, University of Montana, Missoula, Montana 59812. An Equal Opportunity/Affirmative Action Employer.**

### CHAIRMAN, DIVISION OF COMPUTER SCIENCES University of Tennessee Center for the Health Sciences Memphis, Tennessee

Opportunity to develop and expand a vital division at a major regional health sciences center.

Minimum qualifications include the doctoral degree, significant publications in refereed journals, experience in academic administration, college teaching, and a clinical service background in a medical environment. Appointment to be at the Associate Professor or Professor level. The chairman will be responsible for reorganizing the division, establishing its budget, supervising, evaluating and expanding the staff, developing undergraduate and graduate courses, and providing consultation to all campus users of computer equipment. The Center includes the Colleges of Allied Health Professions, Dentistry, Medicine, Nursing, Pharmacy, and the Graduate School of Medical Sciences.

This position represents a pivotal step in the development of an academic computer sciences program intended to train biomedical scientists, conduct original research, integrate state-of-the-art techniques and equipment into basic and clinical research programs and serve as a focus for all campus computer users.

This outstanding career development position offers a competitive salary, opportunity for growth, comprehensive benefits' package and a challenging array of biomedical problems. Send your resume' by May 1, 1983 to: **Dr. John Autian, Dean, Graduate School of Medical Sciences, The University of Tennessee Center for the Health Sciences, Memphis, Tennessee, 38163, (901) 528-5538.**

*An Equal Opportunity/Affirmative Action Employer*

### DEPARTMENT CHAIRMAN BOSTON UNIVERSITY

The newly reorganized Department of Electrical, Computer and Systems Engineering at Boston University is searching for a chairman. The position becomes available September 1983 but may start earlier if desirable. Candidates should have a distinguished record of research and teaching and a desire to provide leadership in a dynamic, rapidly expanding department and college. Abundant opportunities exist in the greater Boston area for industrial consulting and research as well as collaboration with medical schools and other institutions. Send résumé, list of publications, names of at least three references, and a brief statement of teaching and research interests to: **Dr. Henry D'Angelo, Chairman, Engineering Search Committee, College of Engineering, Boston University, 110 Cummings Street, Boston, Massachusetts 02215. Boston University is an Affirmative Action/Equal Opportunity Employer.**

## POSITIONS OPEN

**University of California, Irvine, Department of Medicine**, is recruiting for an **ASSISTANT RESEARCH PHYSIOLOGIST**. Must have experience in intestinal absorption and hepatic uptake. Teaching gastroenterology to medical students and fellow medical doctors is included; \$16,000 per annum, plus fringe benefits. *An Affirmative Action/Equal Opportunity Employer*. Send curriculum vitae to: **Daniel Hollander, M.D., Gastroenterology, Medical Science I, C340, Irvine, Calif. 92717.**

The **INSTITUTE for ENZYME RESEARCH** at the **UNIVERSITY of WISCONSIN-MADISON** has an opening for a **CHAIRPERSON** of one of its five sections. The position is at the associate professor or professor level and requires the appointee to have a joint (one-half time) appointment with the Department of Biochemistry. (The present section chairmen are members of the Departments of Biochemistry and Genetics.) The duties involve basic research and training of postdoctoral associates at the Institute and participation in the activities of the Biochemistry Department. The latter will include teaching, predoctoral research training, and committee service commensurate with the share of the appointment in that department. Candidates are expected to have demonstrable records of accomplishment in independent, original research, to have shown ability in leading and supervising research groups, and to have established reputations in their fields of research. Because of the present balance of research interests and activities on the campus, preference will be given to candidates experienced and active in analyzing protein structure and function by the application of physical techniques, especially magnetic resonance spectroscopy and other spectroscopic techniques or x-ray crystallography.

Applications will be accepted until 1 July 1983 and should be submitted to: **Professor Perry A. Frey, Institute for Enzyme Research, University of Wisconsin-Madison, 1710 University Avenue, Madison, Wis. 53706.** *The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.*

### CHAIRPERSON DEPARTMENT OF BIOLOGY BOSTON COLLEGE

Applications and nominations are invited for chairperson of the Department of Biology of Boston College. The successful candidate must have an earned doctorate and teaching experience in one of the biological sciences, and a strong record of academic and research excellence.

Interested candidates should consult our advertisement in the 18 March *Science* (page 1357) for more details, or contact:

**Chair of Biology Search Committee  
McGuinn Hall 349  
Boston College  
Chestnut Hill, Mass. 02167**

*An Equal Opportunity/Affirmative Action Employer*

**FACULTY POSITION IN CHEMICAL BIOLOGY.** Must have Ph.D. and research competence in an area of biology related to chemistry, and strong chemistry background. Expected to teach UG biology and graduate courses in genetics, physiology, cell biology, or immunochemistry, and to initiate research in one of these areas. Send résumé, recommendations, and evidence of research activity (papers, proposals) by 15 May 1983 to: **Professor N. Kumbaraci, Chemistry/Chemical Engineering Department, Stevens Institute of Technology, Hoboken, N.J. 07030.** *Equal Opportunity/Affirmative Action Employer.*

### HEAD, DEPARTMENT OF PLANT PATHOLOGY UNIVERSITY OF NEBRASKA-LINCOLN

Administer and coordinate departmental programs in teaching, research, and extension, including managing and evaluating funds, staff, and facilities. Maintain favorable research, teaching, and extension environment and actively participate in said activities. Tenure will be considered upon appointment.

Requires Ph.D. in plant pathology or related field. Must possess ability to work harmoniously with colleagues and other officials. Must be familiar with cooperative extension organization and land-grant universities. Nominations and applications accepted through 15 July to: **Dr. Jim Van Etten, Chairman, Search Committee, Department of Plant Pathology, Institute of Agriculture and Natural Resources, University of Nebraska-Lincoln, Lincoln, Nebraska 68583-0722.**

*Affirmative Action/Equal Opportunity Employer*

## POSITIONS OPEN

**DERMATOPATHOLOGIST**—**University of California, Davis.** Full-time faculty appointment as associate or professor of dermatology with training in and special competence in dermatopathology certification; should be Board-eligible or -certified in dermatology. A letter outlining research, teaching background and interests, curriculum vitae, and the names of three references must be received by 1 June 1983. Reply to: **Edward C. Gomez, M.D., Ph.D., Department of Dermatology, 4301 X Street, Sacramento, Calif. 95817.**

**OPENING—DIRECTOR OF LABORATORY ANIMAL PROGRAM AND FACILITIES.** Position emphasis is development of laboratory animal program and management of a new central laboratory animal facility and several satellite facilities. Participation in research is encouraged. Opportunity exists to teach in undergraduate, graduate, or professional programs. Professional veterinary degree from an American Veterinary Medical Association accredited institution required. Applicants should be certified by the American College of Laboratory Animal Medicine as diplomates in laboratory animal medicine, or should be eligible for such certification. Academic rank and salary commensurate with experience. Send résumé and names of three references to: **Dr. Frank S. Newman, WAMI Medical Program, Montana State University, Bozeman, Montana 59717,** by 6 June 1983.

**EVOLUTIONARY BOTANIST (AGROSTOLOGIST).** Anticipated tenure-track assistant professor position for Ph.D. to begin 15 September 1983. Successful candidate must be specialist in genetics or systematics of graminoids. Will teach agrostology and introductory courses and graduate courses in area of specialization. Must develop active research program supported primarily by grants and direct graduate student research. Research should complement ecological, environmental, and organismic orientation of department. A résumé, brief statement of research and teaching interests, transcripts, reprints, and three letters of recommendation should be sent by 2 May 1983 to: **Dr. David Bilderback, Department of Botany, University of Montana, Missoula, Montana 59812.** *University of Montana is an Affirmative Action/Equal Opportunity Employer, encouraging women, minorities, and the handicapped to apply.*

### FACULTY POSITION/PHYSICAL OCEANOGRAPHY UNIVERSITY OF MARYLAND CENTER FOR ENVIRONMENTAL AND ESTUARINE STUDIES (UMCEES)

The Horn Point Environmental Laboratories of UMCEES invites applications for a tenure-track (rank open) position for a physical oceanographer. The physical oceanographic program is young and developing, so that candidates with a wide range of research interests will be considered. Opportunities exist for oceanographers with experimental, theoretical, or numerical modeling skills. In addition, the strong chemical and biological programs provide opportunities for interdisciplinary research. Although some preference will be given to applicants with interests in continental shelf and estuarine circulation processes, the primary criterion for selection of the successful candidate is the ability to develop a strong research program. The closing date for applications is 16 May 1983. Applications and a list of references should be sent to:

**Dr. William C. Boicourt  
Chairman, Search Committee  
University of Maryland  
Center for Environmental and Estuarine Studies  
Horn Point Environmental Laboratories  
P.O. Box 775  
Cambridge, Maryland 21613**

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

### TECHNION—ISRAEL INSTITUTE OF TECHNOLOGY

**FACULTY POSITION** available. Appointment at the lecturer or senior lecturer level at the Unit of Biochemistry. Postdoctoral experience in the areas of cellular biochemistry, molecular biology, or inherited diseases of metabolism. Fluent Hebrew is required. Appointee will have teaching and research obligations.

Résumé, statement of research and teaching objectives, and citations of three to five pertinent publications should be mailed to: **Head, Unit of Biochemistry, Technion-Israel Institute of Technology, Haifa 32000, Israel.**

## POSITIONS OPEN

### FACULTY POSITION IN PHYSIOLOGY

**Dr. William M. Scholl College of Podiatric Medicine, 1001 North Dearborn Street, Chicago, Illinois 60610.** Applications are invited for a faculty position in the Department of Physiological Sciences. Requirements include a Ph.D. and a firm commitment to teaching. We offer faculty rank and salary commensurate with professional achievements. Position available 1 July 1983. Duties include the design and teaching of a comprehensive course in medical physiology, including laboratory, to first-year medical students. Limited funding is available to assist in personal research interests. Please submit letter of application, curriculum vitae, and supporting material, including the names of three references to: **Walter Rudek, Ph.D., Associate Dean.** *Equal Opportunity Employer.*

### FACULTY POSITION HISTORY AND PHILOSOPHY OF SCIENCE UNIVERSITY OF CALIFORNIA, DAVIS

**Temporary position: 1 July 1983 to 30 June 1984**

Temporary, 1-year position in the history and philosophy of science. The appointee will be responsible for teaching a general upper-division course in the history of science and must be competent to teach courses in the philosophy of the physical sciences or the philosophy of the biological sciences. Area of specialization open. Rank: open. We will recruit at all levels. Ph.D. required. Evidence of good teaching and scholarly research required. Applicants who also wish to be considered for a permanent position beginning in 1984-1985 should so indicate on their application. *The University of California, Davis, is an Equal Opportunity Employer.* Send complete dossiers and supporting letters to: **W. H. Bossart, Chair, Committee on the History and Philosophy of Science, Department of Philosophy, University of California, Davis, Calif. 95616.** Closing date: 1 May 1983.

### FACULTY POSITION HISTORY AND PHILOSOPHY OF SCIENCE UNIVERSITY OF CALIFORNIA, DAVIS

**Permanent position: 1 July 1984**

Permanent tenure-track position in the history and philosophy of science. The appointee will be responsible for teaching a general upper division course in the history of science and must be competent to teach courses in the philosophy of the physical sciences or the philosophy of the biological sciences. Area of specialization open. Rank: open. We will recruit at all levels. Ph.D. required. Evidence of good teaching and scholarly research required. *The University of California, Davis, is an Equal Opportunity Employer.* Send complete dossiers and supporting letters to: **W. H. Bossart, Chair, Committee on the History and Philosophy of Science, Department of Philosophy, University of California, Davis, Calif. 95616.** Closing date: 1 November 1983.

### FACULTY POSITION IN BIOCHEMISTRY

We invite applications for a tenure-track faculty appointment from individuals with a strong background in teaching and research in biochemistry. Preference will be given to individuals who have demonstrated ability to conduct an independent research program. Level of appointment will depend upon experience and qualifications. Applications, including lists of publications, current research support, and three letters of recommendation should be sent to:

**Dr. J. M. Bailey, Chairman, Search Committee  
Department of Biochemistry  
The George Washington University Medical School  
2300 Eye Street, NW  
Washington, D.C. 20037**

**FACULTY RESEARCH POSITION** in shellfish physiology. Assistant professor, tenure-track (12 months); Rutgers University new Shellfish Research Laboratory, Bivalve, New Jersey, 110 miles south of main campus on Delaware Bay. Ph.D. basically trained in invertebrate physiology. Experience with molluscan diseases and parasites essential; with physiological/immunological aspects of invertebrate resistance to disease desirable. Ability to coordinate basic research program on oyster diseases in Delaware Bay with needs of industry and management a strong asset. Position available 1 July 1983. Send curriculum vitae, transcripts, and three letters of reference by 27 May 1983 to: **Dr. R. A. Lutz, Chairman, Search Committee, Rutgers Shellfish Research Laboratory, P.O. Box 587, Port Norris, N.J. 08349.** *An Equal Opportunity/Affirmative Action Employer.*

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## PRESIDENT

### University Corporation for Atmospheric Research (UCAR) Boulder, Colorado

The Search Committee of the UCAR Board of Trustees invites nominations and applications for the president and chief executive officer of UCAR. The Board of Trustees expects to fill the position promptly and seeks to have the individual in office on 1 July or as soon after 1 July 1983 as possible.

UCAR is a private, nonprofit consortium of 48 U.S. and two Canadian institutions with doctoral programs in the atmospheric sciences and related fields. UCAR's major activities consist of overseeing the programs of the National Center for Atmospheric Research (NCAR) in Boulder, Colorado, and the National Scientific Balloon Facility (NSBF) in Palestine, Texas, and managing their operations; the planning and conducting of special, cooperative atmospheric research programs; and fostering atmospheric research in the national interest.

To be considered for the UCAR presidency, a person should have demonstrated imaginative scientific and management leadership ability of high quality and specific knowledge of the atmospheric and related sciences. A complete description of the duties and responsibilities of the president and qualifications for the candidates may be obtained by writing to Dr. Donahue (address below). Applications and nominations, which should be postmarked no later than 6 May 1983, should be addressed to:

Dr. Thomas M. Donahue  
Chairman, Search Committee  
UCAR  
P.O. Box 3000  
Boulder, Colorado 80307

*UCAR is an Equal Opportunity/Affirmative  
Action Employer.*

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## MOLECULAR BIOLOGY LABORATORY

### 1) SCIENTIST POSITION— REF: L2/SC.83/2

An experienced **molecular biologist** is needed in the biochemistry group to augment the existing program on the Protozoan parasites *Theileria parva* and *Trypanosoma*. The person should have at least 5 years of experience in nucleic acid biochemistry and at least 2 years of experience with recombinant DNA technology. This is a senior appointment with career opportunities.

### 2) POSTDOCTORAL FELLOW— REF: L2/PDF/83/3

A postdoctoral position is available for a recently graduated molecular biologist to participate in the expanding program studying the molecular biology of the Sporozoan parasite *Theileria parva*. Experience in recombinant DNA technology is necessary. The appointment would be for a period of 2 years.

The above positions are International Laboratory for Research on Animal Diseases (ILRAD) international staff positions and salaries will be paid in U.S. dollars. Successful candidates are expected to contribute to the training programme. Initial salary levels will be determined by qualification and experience. Moving, housing, commutation, and education allowances are paid and there are medical and retirement benefits. Applications should include current curriculum vitae and the names and addresses of three referees. Applications, citing the position reference number, should be sent to:

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

## NATIONAL SCIENCE FOUNDATION (NSF)

NSF, Division of Information Science and Technology, is seeking candidates for the position of **PROGRAM DIRECTOR FOR INFORMATION SCIENCE**. This is a rotational assignment for 1 or 2 years. The position is excepted from the competitive civil service with a salary range of \$41,277 to \$63,115 per annum (GS-14/15). Appointment will begin no later than September 1983. Candidates should have a Ph.D. or equivalent research experience in information science and 4 to 6 years of successful scientific research experience beyond the Ph.D. for the GS-14 (GS-14 equivalent) and 6 to 8 years of successful scientific research experience beyond the Ph.D. for the GS-15 (GS-15 equivalent). A broad, general understanding of current research in information science or a cognate discipline is required and some administrative experience is desirable. Responsibilities include all aspects of proposal development, review and evaluation, grants and program administration, and representation of information science within the Foundation and to the research community. Applicants should submit résumés, indicating their current salary, to: **The National Science Foundation, Personnel Administration Branch, 1800 G Street, NW, Washington, D.C. 20550. Attention: E. Paul Broglio, EX 83-36.** For further information, telephone: **Dr. Edward C. Weiss at 202-357-9572.** NSF is an Equal Opportunity Employer.



UNIVERSITY OF CAPE TOWN

## Specialist/Lecturer or Senior Lecturer in Medical Biochemistry

Applications are invited for the above new post, available as from 1 January 1983 when the Department as a whole assumed the responsibility for offering a course in Pharmaceutical Biochemistry to Pharmacy students in a degree programme offered jointly by the University of Cape Town and the Cape Technikon. The departmental Head is Professor Wleland Gevers.

Applicants should have a doctorate in Biochemistry, should be interested in undergraduate and postgraduate teaching, and should have research experience and preoccupations which fall within the scope of physiological chemistry explored in a medical environment. A medical qualification will be a strong recommendation but is not essential.

Appointment will be made according to qualifications and experience at a fixed salary of R27 115 per annum, at both Lecturer and Senior Lecturer levels. In addition a service bonus of nearly one month's salary is payable annually.

Applicants should submit a full résumé and the names and addresses of three referees whom the University may approach.

Further information may be obtained from the Registrar (Attention: Appointments Office), University of Cape Town, Private Bag, Rondebosch, 7700, South Africa, by whom applications (quoting ref. no. AQ/322) should be received not later than 31 May 1983.

UCT is an equal opportunity  
employer.

## PHYSICAL CHEMIST/ PHYSICAL BIOCHEMIST

Abbott Laboratories is a leading international manufacturer of sophisticated health care products. There is presently an excellent career opportunity in our rapidly expanding Diagnostics Division for a scientist with a detailed knowledge and expertise in protein chemistry, protein/surface interactions, and interfacial reactions.

The individual we select will implement and direct a research project in solid phase immunoassay techniques. This responsibility involves improving particle sensitization and test performance, and translating research findings into practical applications for test development. Qualified candidates will have a Ph.D. in Physical Chemistry, Physical Biochemistry, Biochemistry or equivalent, and at least 2 years of postdoctoral experience.

Headquartered in an attractive suburban setting on the Lake Michigan shoreline, 30 miles north of Chicago, Abbott provides an excellent salary and full benefits package that includes profit sharing and a stock retirement plan. For immediate consideration, send your resume and salary history, in confidence, to: **Sue Hart-Wadley / Corporate Placement.**

**ABBOTT**  
ABBOTT PARK ILL. 60064  
"HEALTH CARE WORLDWIDE"

*Abbott is an Affirmative Action Employer*

## POSITIONS OPEN

**FACULTY POSITION** at the assistant or associate professor rank, with expertise in protein isolation and characterization, is available in the Department of Medicine, Baylor College of Medicine. Experience in protein modification, peptide sequencing, and/or peptide synthesis would be desirable. The major area of research should be in protein chemistry as it relates to tumor immunology. An appointment in Basic Science Department available if desired. Excellent facilities and state-of-the-art equipment are available, including a gas-phase microsequencer, analytical and preparative HPLC, and microprocessor-based peptide synthesizers.

Closing date for receipt of curriculum vitae and three letters of reference: 1 June 1983.

Address correspondence to: **Dr. Louis C. Smith, Chairman, Protein Chemist Search Committee, Department of Medicine, Mail Station A-601, Baylor College of Medicine, Houston, Texas 77030.**

## FACULTY POSITIONS

The School of Optometry of the University of California, Berkeley, invites applications for two teaching and research positions, one at the associate professor level with tenure, and one at the assistant professor level (a tenure-track position). These positions will be filled as soon as practical. Requires O.D. and/or Ph.D., or equivalent degrees. The successful applicants will teach clinical courses on pediatric and/or binocular vision and establish an independent research program. Preference will be given to persons in visual psychophysics with special qualifications in one or more of the following: clinical optometry, visual assessment in infants and children, and clinical disorders of monocular and binocular vision. Clinical qualifications are an advantage.

Curriculum vitae, statement of research and teaching interests (and background in each), graduate and undergraduate transcripts, lists and reprints of published works, and names and addresses of at least three references should be sent to:

**Professor Clifton M. Schor  
Chairman, Search Committee  
School of Optometry  
University of California  
Berkeley, California 94720**

Applications will be accepted until 30 May 1983 or until the position is filled.

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

## FELLOW of the

### INSTITUTE OF BIOLOGICAL CHEMISTRY

A scientist with a distinguished record of research accomplishments or with exceptional potential in an area of biochemistry relevant to agriculture is being sought to fill a permanent faculty position in the Institute of Biological Chemistry at Washington State University, Pullman, Washington. This faculty member will be expected to lead a vigorous and innovative research program and will have opportunities to participate in graduate education. The Institute provides an excellent environment and support for research. Salary and rank are open to negotiation.

Send nominations or applications, including curriculum vitae, a short description of research accomplishments and goals, and a list of three or more references, to: **Dr. P. E. Kolattukudy, Director, Institute of Biological Chemistry, Washington State University, Pullman, Washington 99164, before 1 May 1983.**

*Washington State University is an Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITIONS** available (September) to study the mechanism of action of human interferon. Research program encompasses the characterization of the interferon receptor and its modification upon binding interferon, the mechanism of signaling from the cell surface to the nucleus, the study of proteins induced by interferon, and their relevance to antiviral and antiproliferative mechanisms. Experience in cell and molecular biology or virology desirable. Salary commensurate with experience and qualifications. Send curriculum vitae and the names of three references to: **Dr. Corrado Baglioni, Biology-126, State University of New York at Albany, 1400 Washington Avenue, Albany, N.Y. 12222. Affirmative Action/Equal Opportunity Employer.**

## POSITIONS OPEN

**MARINE FISHERY DYNAMICS**—Assistant professor (nontenure track), teaching and research in dynamics and management of marine fish and invertebrate populations. Send letter of application and résumé and request that three letters of reference be sent to: **Dr. Richard A. Tubb, Head, Department of Fisheries and Wildlife, Oregon State University, Corvallis, Oregon 97331; telephone: 503-754-4531.** All materials complete by 1 June 1983. *Equal Opportunity/Affirmative Action Employer.*

## MINERALOGY/PETROLOGY

Applications are invited for a tenure-track faculty position in mineralogy-petrology and related fields, commencing in August 1983. Applicants should be able to teach undergraduate courses in mineralogy, petrology, optical mineralogy and related courses, as well as introductory courses. Normal teaching load is three courses per semester. Emphasis will be placed on quality instruction. Research is also encouraged and facilitated by University administration. Applicants must have complete requirements for the Ph.D. Rank and salary commensurate with experience. Interested applicants should send curriculum vitae and summary of teaching experience and research interests and have three letters of recommendation sent directly to:

**Fred Nials, Chairman  
Geology Search Committee  
Station 33, Eastern New Mexico University  
Portales, New Mexico 88130**

Applications must be received by 29 April 1983. *Eastern New Mexico University is an Equal Opportunity/Affirmative Action Employer.*

## MOLECULAR MICROBIOLOGIST

- Angenics, Inc., of Cambridge, Massachusetts, has a position available for a Ph.D. with expertise and postdoctoral experience in molecular biology, microbiology, or allied fields.
- The candidate will have both the responsibility for specific research projects and the opportunity for interaction with an active, multidisciplinary research group.
- Angenics is distinctive in the novel application of biotechnology to contemporary biological problems.

We invite applicants to submit curriculum vitae and the names of three references to:

**Director of Research  
Angenics, Inc.  
100 Inman Street  
Cambridge, Mass. 02139  
*An Equal Opportunity Employer***

**PATHOLOGIST.** Applications sought for junior staff position in chemical pathology with an interest in immunopathology, Los Angeles County—University of Southern California Medical Center. California license required. Candidate should have a strong interest in teaching and scholarly activity. Reply to: **Chair, Department of Pathology, 2011 Zonal Avenue, Los Angeles, California 90033. Equal Opportunity/Affirmative Action Employer.**

## PHYSICS/ENGINEERING FACULTY POSITION

Iona College invites applications for a tenure-track position in the Department of Physics beginning in September 1983. The Physics Department is seeking an engineer or physicist to assist in the development of an Engineering Physics Program. A strong commitment to undergraduate teaching, appropriate academic credentials, and an interest in developing a program in digital electronics and computer interfacing are required. Interests in interdisciplinary programs and curriculum development in science and technology for nonscience majors and also in developing undergraduate research projects are desirable.

Applicants should send their résumés and names of three references before 1 May 1983 to: **Robert Novak, C.F.C., Ph.D., Iona College, New Rochelle, New York 10801. Iona is an Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL (CELL BIOLOGY, ENDOCRINOLOGY).** Position available 1 July 1983 for studying gonadotropin actions in cultured cells. Experience in immunology, biochemistry, cell biology, peptide purification, and/or molecular endocrinology desirable. Send curriculum vitae and two letters of reference to: **Dr. Mario Ascoli, Division of Endocrinology, Vanderbilt Medical School, Nashville, Tenn. 37232. A nondiscriminatory, Affirmative Action Employer.**

## POSITIONS OPEN

### MICROBIOLOGISTS

Applications are invited for two 9-month tenure-track faculty positions in the areas of: (i) microbial fermentation/physiology at the assistant or associate professor rank and (ii) host-parasite relationships at the assistant professor rank. Applicants should demonstrate capability in research and teaching. Responsibilities will include developing and directing a quality research program in their specialty area, advising graduate students, participating in teaching general microbiology and general biology, and a graduate-level course in their specialty area. Both appointments will be available autumn quarter 1983. Ph.D. in microbiology or equivalent degree is required; postdoctoral research experience is desired. Complete curriculum vitae and names of three references should be sent to: **Dr. Robert M. Pfister, Chair, Department of Microbiology, The Ohio State University, 484 West 12 Avenue, Columbus, Ohio 43210.** Applications will be accepted until 30 June 1983. *Affirmative Action/Equal Opportunity Employer.*

**HARVARD UNIVERSITY,** Biological Anthropology, invites applications for an assistant/associate (nontenured) professorship in **MOLECULAR GENETICS AND BIOLOGY.** Our program in human and primate biology, ecology, and evolution is closely allied with the Department of Biology, the Museum of Comparative Zoology, and the Medical School. In addition to a strong research and publication record, suitable candidates should be prepared to teach undergraduates and direct a graduate and postdoctoral research program in molecular biology and evolution. For details, telephone: 617-495-4736. Curriculum vitae, statement of research interests, and names of three references should be sent as soon as possible but no later than 9 May 1983 to: **Chairman, Department of Anthropology, Harvard University, Cambridge, Mass. 02138. Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION IN MOLECULAR/DEVELOPMENTAL BIOLOGY.** A position is available for either a beginning or advanced postdoctoral fellow to work on the structure and regulation of muscle-specific genes using recombinant DNA and gene transfer. Experience in either molecular biology or developmental biology or both is desirable. Salary commensurate with experience. Interested persons should submit a letter indicating their interests and include curriculum vitae and names of three references to: **Dr. Charles Ordahl, S-1334, University of California, San Francisco, San Francisco, Calif. 94143.**

**POSTDOCTORAL POSITION** available 1 May 1983 to study the control of protein localization in bacteria using the latest genetic approaches. Background in genetics and recombinant DNA techniques is desirable. NIH training grant funding. Send résumé and three letters of recommendation to: **Dr. D. B. Oliver, Department of Microbiology, State University of New York (SUNY) Stony Brook, Stony Brook, N.Y. 11794. SUNY Stony Brook is an Equal Opportunity/Affirmative Action Employer. AK Number 571.**

**POSTDOCTORAL POSITION** available for a person with training in biochemistry or pharmacology, to carry out biochemical studies of molecular receptors in olfactory neurons. Will be part of a multidisciplinary group engaged in studies of sensory transduction and synaptic integration. Send curriculum vitae to: **Dr. Gordon Shepherd, Section of Neuroanatomy, Yale University School of Medicine, 333 Cedar Street, New Haven, Connecticut 06517. An Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION** available immediately for studies of the mechanism of action of insulin and cyclic AMP in cultured cells. Experience in cell culture and molecular biology is desirable. Send curriculum vitae and names and telephone numbers of three references to: **Dr. Daryl K. Granner, Department of Medicine/Biochemistry, The University of Iowa, Iowa City, Iowa 52242. An Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION** available for work on the mass spectrometric determination of kinetic isotope effects in enzymatic reactions. Appointment for 1 year, with an additional year possible. A variety of projects is available ranging from enzyme purification to instrument development and computer programming. Send résumé to: **Michael H. Klapper, Department of Chemistry, The Ohio State University, Columbus, Ohio 43210. An Equal Opportunity/Affirmative Action Employer.**



# Protein Biochemist/Chemist

Bristol-Myers Company Industrial Division, located in Syracuse and a prominent leader in pharmaceutical research, development and production, has an outstanding career opportunity currently available for a Protein Biochemist/Chemist to complement its Genetic Engineering Group.

The successful candidate will have a PhD in Biochemistry or related field, a minimum of 2-3 years postdoctoral work and a significant publication record. In addition, the ability to think creatively and independently, as well as demonstrated skill in the areas of protein purification, protein analysis and either peptide synthesis or protein sequence analysis, will be essential.

Reporting to the Director of Genetic Engineering, this position will involve direct research in the application of protein isolation and purification techniques to the successful implementation of genetic engineering projects in the antibiotic and lymphokine fields.

We offer an excellent starting salary, full ranging benefits and an exceptional opportunity for professional achievement. For prompt, confidential consideration, forward your resume with salary history and requirement, to: MANAGER OF EMPLOYMENT



**BRISTOL-MYERS COMPANY  
INDUSTRIAL DIVISION**

Box 657, Syracuse, New York 13201  
An equal opportunity employer M/F

# SQUIBB



## PHYSICIAN/ SCIENTIST

**SQUIBB INSTITUTE FOR  
MEDICAL RESEARCH  
Princeton, New Jersey**

We have a challenging opportunity available for a Clinical Pharmacologist to participate in our new Drug Development Program. The main thrust of our research effort is in the cardiovascular, anti-inflammatory and anti-infective areas. The facilities of a clinical pharmacology unit are available at a local Medical Center for the conduct of human investigation. The position also carries with it the opportunity to work closely with preclinical scientists at all levels.

Candidates should have an M.D. Degree or equivalent with 2 years or more of research experience and a strong record of achievement including publications in referred journals.

The position offers excellent salary, benefits and opportunity for advancement. Please submit C.V. to **E.R. SQUIBB & SONS, INC., Employment Office, Department DMC, P.O. Box 4000, Princeton, NJ 08540. Equal Opportunity Employer, M/F/H/V. We will accept direct applicant response only.**

**KUWAIT FOUNDATION FOR THE  
ADVANCEMENT OF SCIENCES**

## INVITATION OF NOMINATIONS FOR KUWAIT ANNUAL PRIZES

The Kuwait Prizes were institutionalized to recognize distinguished accomplishments in the arts, humanities and sciences.

The prizes are awarded annually in the following categories:

- A. Basic sciences
- B. Applied sciences
- C. Arabic and Islamic culture
- D. Arts and letters
- E. Economics and social sciences

The prizes for 1983 will be awarded in the following fields:

- A. Geology
- B. Petro-chemical engineering
- C. Botany, agriculture and irrigation of the Arabs
- D. History of modern Arabic literature
- E. Investment in the Arab world

### BACKGROUND

1. Nominations for these prizes are accepted from academic and scientific centers, learned societies, past recipients of the prizes, and peers of the nominees. No nominations are accepted from political entities.
2. Two prizes are awarded in each field: a prize to recognize the output of a distinguished Arab, and a prize to recognize the output of a distinguished Kuwaiti.
3. Each prize consists of a cash sum of K.D. 10,000/- (U.S. Dollar 36,000), a gold medal, and a certificate of recognition.
4. Nominators must state clearly what distinguished work qualifies their candidate for consideration.
5. The results of KFAS findings regarding the selection of winners are final.
6. The papers submitted for nominations will not be returned regardless of the outcome.
7. Each winner is expected to deliver a lecture concerning the contribution for which he was awarded the prize.

Nominations, including complete curriculum vitae, and updated list of publications by the candidate and four copies of each paper published should be addressed before October 31, 1983 to

**Director General  
Kuwait Foundation for the Advancement  
of Sciences  
P.O. Box 25263, Safat.  
Kuwait**

The prize will be given to the best contribution in engineering development and/or advancement of new processes in petrochemical industry.

## POSITIONS OPEN

**POSTDOCTORAL POSITION** available now (1 July latest) for ongoing studies of extracellular matrix (ECM) metabolism in skeletal muscle. Collagen, glycoproteins, and proteoglycan synthesis/degradation during development (innervation) and denervation and in human muscular dystrophies. Experience in tissue culture, ECM biochemistry/immunocytochemistry, and separation techniques (that is, HPLC) desirable. Send curriculum vitae and three letters of reference to: **Dr. Barry W. Festoff, Neurobiology Research Laboratory (127), University of Kansas/KCVA Medical Center, 4801 Linwood Boulevard, Kansas City, Mo. 64128. Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION** available. Research on liver microsomal electron transport and lipid metabolism. Candidate must have been trained in lipid biochemistry. Contact:

**Dr. Dominick L. Cinti**  
Department of Pharmacology  
University of Connecticut Health Center  
Farmington, Conn. 06032

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

**POSTDOCTORAL POSITIONS.** (i) Ph.D. in chemistry, biochemistry, or biophysics to carry out cryoenzymological and thermodynamic studies on enzyme mechanisms. (ii) Ph.D. in chemistry or biochemistry to carry out transient-state and isotope exchange studies on enzyme mechanisms. Curriculum vitae and the names of three references should be sent to: **Dr. Harvey F. Fisher, University of Kansas Medical School at VA Medical Center, 4801 Linwood Boulevard, Kansas City, Mo. 64128. An Equal Opportunity/Affirmative Action Employer.**

### POSTDOCTORAL POSITIONS IN BIOCHEMISTRY

The Department of Biochemistry at the E. K. Shriver Center has two postdoctoral opportunities to participate in a multidisciplinary research program in the assembly of ion transport proteins. (i) Candidate should possess an overall interest in protein synthesis and membrane assembly; research experience in polysome and messenger RNA isolation and in vitro translation methods; tissue culture experience desirable. (ii) Candidate should possess an interest in membrane turnover; research experience in electron microscopy and immunohistochemistry; tissue culture experience desirable.

Applicants should submit curriculum vitae and names of three references to: **Victor Sapirstein, Ph.D., Department of Biochemistry, E. K. Shriver Center, 200 Trapelo Road, Waltham, Mass. 02254.**

*An Equal Opportunity Employer*

**POSTDOCTORAL POSITION** available for performing research on the microencapsulation of mammalian cells for pancreatic islet transplantation or tissue culture production of pharmaceuticals. Experience with tissue culture techniques and cell viability assays is desired. Apply with curriculum vitae and names of references to: **Dr. Michael V. Sefton, Department of Chemical Engineering and Applied Chemistry, University of Toronto, Toronto, Ontario, Canada M5S 1A4.**

**POSTDOCTORAL POSITION** available immediately to study a developmentally regulated gene family in *Caulobacter*. Research involves DNA sequencing and both classical and molecular genetic techniques. Experience in at least one of these areas is essential. Send curriculum vitae and letters of reference to:

**Dr. Nina Agabian**  
Department of Biochemistry, SJ-70  
University of Washington  
Medical School  
Seattle, Wash. 98195

### POSTDOCTORAL RESEARCH ASSOCIATE

Research associate position to study by fluorescence recovery after photobleaching the control of plasma membrane protein and lipid organization and motion during differentiation in the preimplantation mammalian embryo. Individuals with a background in biophysics and/or reproductive biology are encouraged to apply. Send curriculum vitae and names of three references to: **Drs. D. Wolf and C. Ziomek, c/o Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, Massachusetts 01545.**

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

## POSITIONS OPEN

### POSTDOCTORAL POSITION

To work with an interdisciplinary group interested in the biochemistry and molecular biology of hormone action. Ph.D. in the area of biochemistry/cellular or molecular biology with interest in cell culture is desirable. Send curriculum vitae and names of three references to: **Dr. Arun K. Roy, Professor of Biological Sciences, Oakland University, Rochester, Michigan 48063. Affirmative Action/Equal Opportunity Employer.**

**POSTDOCTORAL RESEARCH ASSOCIATE** position available for participation in studies of absorption of ligand-bound metals using cultured tissues and intact animals. Applicants with experience in protein purification, tissue culture, and handling of experimental animals will be preferred. Send curriculum vitae and three letters of recommendation to: **Dr. Wai-Yee Chan, Department of Pediatrics, University of Oklahoma Health Sciences Center, P.O. Box 26901, Oklahoma City, Oklahoma 73190.**

**POSTDOCTORAL RESEARCH POSITION** available immediately for Ph.D. to participate in NASA-sponsored project studying effects of weightlessness on central volume expansion and cardiovascular and renal function. Experience with fluid and electrolyte homeostasis desired. Send letter of application, curriculum vitae, and names of three references to: **Dr. M. C. Moore-Ede, Department of Physiology and Biophysics, Harvard Medical School, 25 Shattuck Street, Boston, Mass. 02115.**

### KING SAUD UNIVERSITY COLLEGE OF MEDICINE RIYADH, SAUDI ARABIA PROFESSOR OF PHYSIOLOGY

**PROFESSOR OF PHYSIOLOGY**, King Saud University College of Medicine, Riyadh, Saudi Arabia, with a concurrent appointment in the Department of Physiology, University of Colorado School of Medicine. Successful candidates will be expected to teach undergraduate medical students and assist in development of research programs in physiology at King Saud University. Two positions are available with renewable annual contracts. Substantial remuneration and benefits.

Please send application with updated curriculum vitae and passport-sized photograph to: **Dr. A. Robert Martin, Professor and Chairman, Department of Physiology, University of Colorado School of Medicine, 4200 East Ninth Avenue, Box C-240, Denver, Colorado 80262. Equal Opportunity/Affirmative Action Employer.**

### PROFESSOR OR ASSOCIATE PROFESSOR OF TOXICOLOGY/PHARMACOLOGY

The Department of Pharmacology, University of Tennessee Center for the Health Sciences (UTCHS), is inviting applications for a tenure-track position available immediately. The applicant should possess the Ph.D. or M.D. degree and should be an established scientist with demonstrated experience in the application of biochemical, molecular, and/or immunological knowledge in the study of basic toxicology problems. The applicant would be expected to maintain an active, independent research program and participate in undergraduate and graduate teaching. The successful candidate will be required to direct the Interdisciplinary Graduate Program in toxicology recently established at UTCHS. Please submit complete curriculum vitae and three letters of reference before 30 June 1983 to: **Dr. K. U. Malik, Chairman, Search Committee, Department of Pharmacology, University of Tennessee CHS, Memphis, Tennessee 38163. An Equal Opportunity/Affirmative Action Employer.**

**VERTEBRATE BIOLOGIST.** Tenure-track position at assistant or associate level; to begin September 1983. Teaching duties include participation in an introductory course and upper-level courses dependent on specialty. Administrative duties include direction of a well-established teaching/research museum which is part of the Biology Department. It is expected that the faculty member will conduct an active research program involving undergraduate students. Ph.D. required; preference will be given in areas of mammalogy or ornithology, but related specialties will be considered. Submit a letter addressing interests and qualifications, curriculum vitae, transcripts, selected reprints, and three letters of reference by 29 April 1983 to: **Biology Search, University of Puget Sound, P.O. Box 7297, Tacoma, Wash. 98407. An Equal Opportunity/Affirmative Action Educator/Employer.**

## POSITIONS OPEN

The Board of Environmental Studies, University of California, Santa Cruz, invites applications for a full-time faculty position at the **FULL PROFESSOR LEVEL** in **economic resources management and policy planning**. Candidates should be established scholars with a substantial record of published research, demonstrated teaching ability, a commitment to interdisciplinary inquiry, and leadership qualifications in development and administration of an academic unit. Submit résumé and names of three references by 15 May 1983 to: **Chair, Environmental Studies, University of California, Santa Cruz, Calif. 95064. Affirmative Action/Equal Opportunity Employer.**

**RESEARCH ASSOCIATE.** Immediate opening to study membrane antigens and enzymes of *Streptococci*. Background in biochemistry and/or microbiology preferred. Send curriculum vitae, bibliography, and the names of three references to: **I. van de Rijn, Ph.D., Bowman Gray School of Medicine, Department of Microbiology and Immunology, Winston-Salem, N.C. 27103. Affirmative Action/Equal Opportunity Employer.**

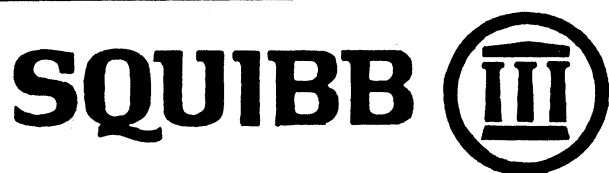
**RESEARCH ASSOCIATE/INSTRUCTOR** to study biological functions of fibrinogen and fibronectin. Position requires Ph.D. in physical chemistry or biochemistry plus 2 years of postdoctoral work. Candidate must have research experience with biochemistry of fibrinogen or fibronectin and with immunochemical techniques, including monoclonal antibodies. Spectroscopy and HPLC experience helpful. Send curriculum vitae and names of three references to: **Dr. Jan McDonagh, Department of Pathology, Beth Israel Hospital, Harvard Medical School, Boston, Mass. 02215. The Beth Israel Hospital is an Equal Opportunity/Affirmative Action Employer.**

**RESEARCH DIRECTOR—HUMAN MOLECULAR GENETICS** to establish new laboratory in interdepartmental program at the University of Miami School of Medicine. Will help recruit four or five investigators with complementary interests as a core of a comprehensive program in human genetics to be built with present strengths in clinical and molecular genetics. Send résumé to: **Dr. Walter A. Scott, Chairman, Genetics Search Committee, Department of Biochemistry, P.O. Box 016129, University of Miami School of Medicine, Miami, Florida 33101. An Equal Opportunity/Affirmative Action Employer.**

**RESEARCH ENGINEER**—The Department of Orthopaedic Surgery at the University of Iowa Medical School is seeking a Ph.D. engineer for a position as a research scientist for its Biomechanics Laboratories. The individual should be experienced in conducting orthopaedic biomechanics research in the areas of kinesiology and/or materials. A joint appointment with the College of Engineering may be negotiated. Interested persons should send a letter of interest and résumé to: **Richard A. Brand, M.D., Professor of Orthopaedic Surgery, University of Iowa, Iowa City, Iowa, 52242. The University of Iowa is an Equal Opportunity/Affirmative Action Employer.**

**SCIENTIFIC LITERATURE RESEARCHER.** Research literature on Oriental herb and sea drug medicinal use to treat carcinoma and other chronic degenerative diseases. Search out data, study, evaluate, and translate pertinent data into English. Advise and consult with clinical researchers; no clinical research duties. Master's medical or health degree; 1 year of experience or 2 years of patient health care experience. Background must include basic study of or work with either Oriental herbal medicines or sea drugs and ability to read and understand written Japanese and Chinese languages. Job site: Colton, California; \$1,700 per month. Send this ad and résumé to: **Job Number 8327, P.O. Box 865, Sacramento, Calif. 95804, no later than 1 May 1983.**

**VESTIBULAR NEUROSCIENTIST.** The Department of Neuro-otology and the Neurological Science Institute of Good Samaritan Hospital and Medical Center are seeking a neuroscientist with research interests in the vestibular system. The investigator would be expected to conduct an independent research program on a full-time basis. The level of staff appointment and salary will be based upon experience. Send curriculum vitae, two representative publications (or preprints), and names of two references to: **Chairman, Search Committee, Department of Neuro-otology, Good Samaritan Hospital and Medical Center, 1015 Northwest 22 Avenue, Portland, Oregon 97210.**



## RESEARCH ASSOCIATE

E.R. Squibb & Sons, Inc., an established leader in the pharmaceutical industry, has an opening for a Research Associate in the Cardiovascular/Renal Section of our Pharmacology Department. The position is located at the Squibb Institute for Medical Research in Princeton, New Jersey.

The qualified applicant will have a BS/MS Degree or equivalent in Pharmacology or a related field plus 2 to 3 years' experience. Background should include a working knowledge of radioimmunoassay techniques as well as in vivo work on animal models including surgery.

We offer an excellent starting salary and comprehensive benefits package. Qualified applicants are invited to submit their resume including salary requirements, in confidence, to **Department JDF, Employment Office, E.R. Squibb & Sons, Inc., P.O. Box 4000, Princeton, NJ 08540. We will accept direct applicant response only.** Equal Opportunity Employer, M/F/H/V.

## DIRECTOR OF RESEARCH Boys Town National Institute for Communication Disorders in Children

The Boys Town National Institute is seeking candidates for the combined position of Director of Research and Director of Human Communication Laboratories. The Institute consists of a large interdisciplinary clinic dealing with communication disorders in children combined with an extensive research effort in the basic and applied sciences related to these disorders. A majority of the 29 Ph.D.'s on the staff work in the Human Communication Laboratories, where they conduct research full-time in the areas of neurochemistry, neuroanatomy, auditory physiology, speech physiology, psychoacoustics, communication engineering, human genetics, infant development, and auditory habilitation. Support for this work is divided evenly between intramural and extramural funds. The Institute is seeking a senior scientist with administrative experience to maintain a standard of excellence in all areas of research, advise on development of new research programs, and serve as administrative head of the Human Communication Laboratories. Applications, nominations, and requests for additional information should be sent to **Patrick E. Brookhouser, M.D., Director, Boys Town National Institute for Communication Disorders in Children, 555 N. 30th St., Omaha, NE 68131.** Applications should include a vitae and names of five references. We are an Equal Opportunity Employer.

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## POSITIONS OPEN

### STAFF MICROBIOLOGIST/ GENETICIST

The Biotechnology Branch of Solar Energy Research Institute invites applications for a full-time, permanent research position to be filled in spring 1983. Applicants must hold a Ph.D. or M.D. degree and have 1 to 5 years of experience in yeast genetics and physiology. Preference will be given to individuals with demonstrated research expertise in recombinant DNA technology as applied to yeasts. Successful candidates are expected to carry out productive research projects in the area of biomass conversion to ethanol. Send curriculum vitae, an outline of research interests, and the names of three references to:

R. Archuleta, E230-465  
Solar Energy Research Institute  
1617 Cole Boulevard  
Golden, Colorado 80401

Applicants are welcome until the position is filled. Consideration will be given only to U.S. citizens or U.S. permanent residents. An Equal Opportunity/Affirmative Action Employer.

## CONVOCATION

### CONVOCATION ON GENETIC ENGINEERING OF PLANTS: AGRICULTURAL RESEARCH OPPORTUNITIES 23 and 24 May 1983, Washington, D.C.

Cosponsored by the National Research Council's Board on Agriculture and The Council for Research Planning in Biological Sciences, Inc.

#### TOPICS INCLUDE:

- **WHY AGRICULTURAL RESEARCH?** National, international, industrial, and university perspectives.
- **RESEARCH OPPORTUNITIES:** Gene structure, somaclonal variation, herbicide resistance, organisms in the rhizosphere.
- **AN OVERVIEW OF POLICY ISSUES:** Economic considerations, patents, safety, training, university-industry-government cooperation.

No fee to register. Contact: **Board on Agriculture, National Research Council, 2101 Constitution Avenue, NW, Washington, D.C. 20418; telephone: 202-334-3062.**

## RESEARCH GRANTS

### GRANTS FOR RESEARCH IN DEVELOPING COUNTRIES

The Board on Science and Technology for International Development of the National Research Council/National Academy of Sciences offers grants to developing country institutions for scientific and technical research in selected areas important for economic development. Funds for the research grants program are provided to the National Research Council by the U.S. Agency for International Development.

The areas in which research grants are offered are: (i) grain amaranth, (ii) biological nitrogen fixation, (iii) fast-growing, nitrogen-fixing trees, (iv) mosquito vector field studies, (v) rapid epidemiologic assessment, and (vi) causes of acute respiratory infection in children.

Grants will be awarded only to institutions in developing countries, although funds may be included for collaboration with U.S. investigators. For more information, please contact: **Dr. Michael P. Greene, Associate Director, Board on Science and Technology for International Development, National Research Council, 2101 Constitution Avenue, NW, Washington, D.C. 20418.**

## PROGRAMS

### CAREER CHANGE OPPORTUNITY

This unique program offers the candidate with an earned doctorate in the sciences the opportunity to obtain a doctor of optometry (O.D.) degree in two calendar years. Employment opportunities exist in private practice, industry, education, and research. Contact: **The Dean of Admissions, The New England College of Optometry, Room 401, 424 Beacon Street, Boston, Mass. 02115.**

## REQUEST FOR PROPOSALS

### PROPOSAL SOLICITATION

The EPA/NCSSU Acid Precipitation Program, a cooperative program (Number CR-806912) between the U.S. Environmental Protection Agency (EPA) and North Carolina State University (NCSSU), is seeking proposals for development of an integrated assessment plan related to the causes and effects of acidic deposition. The procedures and analytical methodologies developed to complete the integrated assessment will be utilized in the evaluation of public policy options. A total of \$200,000 is available for this activity and a minimum of two organizations, institutions, or individuals will be selected. To receive submission details, send a self-addressed envelope to: **EPA/NCSSU Acid Precipitation Program, Department of Botany, North Carolina State University, 1509 Varsity Drive, Raleigh, N.C. 27606, attention: Dr. Rick A. Linthurst.** Requests for details must be postmarked by 29 April 1983.

## ASSISTANTSHIPS

**GRADUATING SENIORS.** Assistantships (stipend plus tuition waiver) available to support study leading to M.S. degree in biology. Modern, well-equipped department. Both thesis and nonthesis options available. For information and applications, contact: **Dr. W. W. Baker, Graduate Admissions, Department of Biology, Villanova University, Villanova, Pa. 19085.**

## FELLOWSHIPS

### POSTDOCTORAL RESEARCH FELLOWSHIP IN AQUATIC ECOLOGY

The appointee is expected to conduct limnological research in his or her area of interest on newly acquired Lake Annie of the Archbold Biological Station in south-central Florida and also to provide recommendations for future research and management of the lake. The 80-acre lake is a natural sinkhole with maximum depth of 68 feet. It is fed by ground water, has exceptionally high water quality, and is surrounded by natural oak scrub and pine vegetation. The appointment is for 1 year, with a stipend of \$12,000 plus housing. The preferred starting date is 1 July 1983, but alternative dates are possible. Applicants should submit a statement of research interests, curriculum vitae, list of publications, and three letters of recommendation by 1 May 1983 to: **Dr. Mark Deyrup, Archbold Biological Station, Route 2, Box 180, Lake Placid, Fla. 33852; telephone: 813-465-2571.** An Equal Opportunity/Affirmative Action Employer.

**POSTDOCTORAL FELLOWSHIPS IN ALCOHOL STUDIES.** NIAAA-funded, 2-year postdoctoral program for M.D.'s and Ph.D.'s in a variety of disciplines in conjunction with an NIAAA Alcohol Research Center. Clinically oriented research in neurophysiology or evoked potential. NRSA stipend amount depends on experience. Stipends available 1 July 1983. For more information, contact: **Victor M. Hesselbrock, Ph.D., Department of Psychiatry, University of Connecticut Health Center, Farmington, Conn. 06032.** An Affirmative Action/Equal Opportunity Employer, M/W/H.

**POSTDOCTORAL FELLOWSHIP** in immunology-biochemistry to study the mechanism of feedback regulation of immune response at T-cell level. Knowledge of immunology and confidence in protein chemistry required. Send curriculum vitae and two letters of recommendation to: **Personnel Code SKO, Boston University Medical Center, 80 East Concord Street, Boston, Mass. 02118.** Equal Opportunity Employer, M/F.

**NIH POSTDOCTORAL FELLOWSHIPS IN REPRODUCTIVE BIOLOGY.** Fellows will be sponsored by one of 13 faculty from the Departments of Anatomy and Physiology at the Oregon Health Sciences University and the Oregon Regional Primate Center. Areas of expertise cover cell biological, physiological, endocrinological and neuroendocrinological, biochemical, immunological, and behavioral aspects of reproduction. Beginning-level stipend: \$14,040. Applicants with backgrounds in all basic science areas are welcome; applicants must be U.S. citizens or permanent residents. Application deadline is 15 June 1983. Send inquiries to: **Dr. John A. Resko, Chairman, Department of Physiology, Oregon Health Science University, Portland, Oregon 97201.** Equal Opportunity Employers.

## FELLOWSHIPS

### POSTDOCTORAL RESEARCH FELLOWSHIP.

One full-time research position is available for an individual with an interest in joining a group studying hepatitis B-like viruses in endangered species of animals. The research is directed toward an understanding of the physical features of viral DNA and the structure of viral polypeptides. Applicants must have a Ph.D., M.D., or D.V.M. and a strong background in biochemistry and virology and preferably have had experience in DNA-sequencing techniques. The position is available 1 July 1983 for a period of 18 months to 2 years and the stipend is commensurate with NIH guidelines. Applicants should send curriculum vitae and the names of three individuals for reference to: **Dr. Michael Worley, Research Department, San Diego Zoo, P.O. Box 551, San Diego, Calif. 92112.**

**CLINICIAN/SCIENTIST TRAINING PROGRAM IN NEUROLOGICAL RESEARCH.** The Department of Neurology of the University of Miami Medical School seeks applications from physicians interested in postdoctoral training to prepare for academic and research careers. The program combines choices of preceptor-based laboratory experience with seminars and didactic training in basic neuroscience and the investigative tools of neurological research. Investigative opportunities exist in laboratories devoted to the electrophysiology, metabolism, pharmacology, blood flow, immunology, and ultrastructure of nervous tissues and in the Centers for Cerebrovascular Disease and Positron Emission Tomography. For further information, contact: **Dr. Myron Rosenthal, Department of Neurology (D4-5), University of Miami School of Medicine, P.O. Box 016960, Miami, Fla. 33101.**

### POSTDOCTORAL FELLOWSHIPS OR ASSISTANTSHIPS IN BIOCHEMICAL PHARMACOLOGY

The Division of Biochemical and Clinical Pharmacology has postdoctoral positions immediately available in several of its research projects. The Division has a well-funded research program concerning various aspects of the biochemistry and pharmacology of antineoplastic agents. Specific projects and faculty supervisors are:

Folate metabolism in experimental chemotherapy of human colon carcinomas in mice and factors influencing the expression of relevant genes and cellular differentiation (Dr. Janet A. Houghton);

Human enzymes involved in repair of DNA cross-links induced by antineoplastic alkylating agents—relation to drug resistance in cultured cell lines and in tumors (Dr. Thomas P. Brent);

Effect of new agents on cellular and molecular functions, and the molecular basis for drug sensitivity in human leukemia cells in culture (Dr. Arnold Fridland); and

Daunorubicin metabolism in patients with acute nonlymphocytic leukemia and mechanisms of resistance to anthracyclines in human cell lines (Dr. Nahed Ahmed).

A strong background in biochemistry or pharmacology is an advantage. Send curriculum vitae and names of three references to:

**Dr. Raymond L. Blakley  
Division of Biochemical and Clinical Pharmacology  
St. Jude Children's Research Hospital  
332 North Lauderdale, P.O. Box 318  
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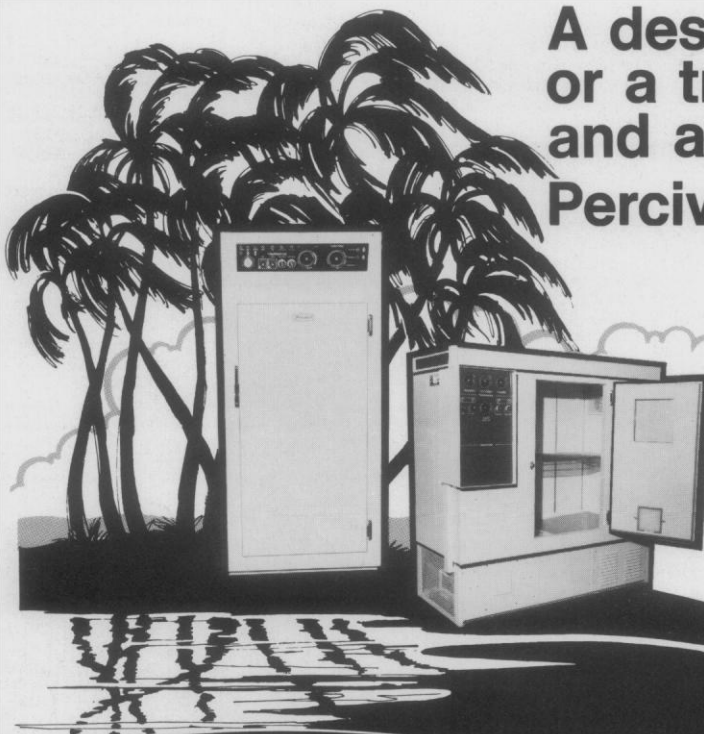
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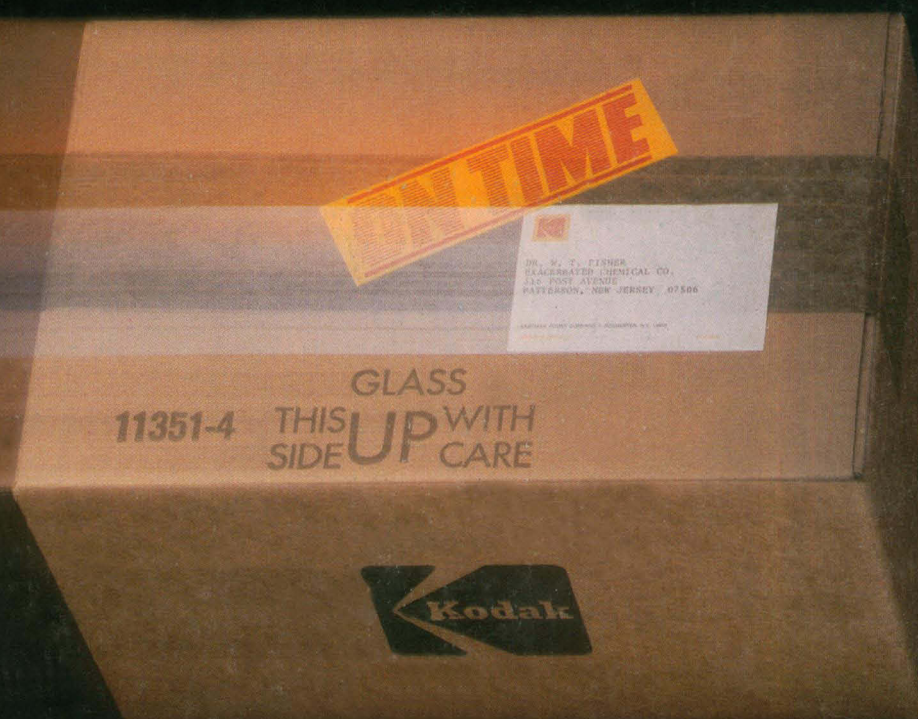
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