viewpoint. However, the cognitive departure may warrant the exclusive attention it receives. I think the informationprocessing approach provides the most general, the most productive, and the most valid theory of the mind available in current psychology.

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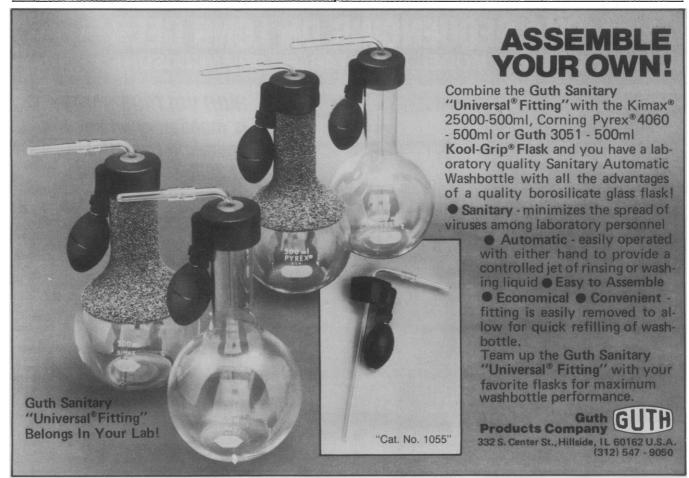
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ASSISTANT PROFESSOR OF PHYSIOLOGY. We seek a faculty member dedicated to excellence in both teaching and research in such areas as cellular, both teaching and research in such areas as cellular, renal, cardiovascular, respiratory, reproductive, or endocrine (but not CNS) physiology. Applicants must have the Ph.D. or the M.D. degree. The position will be available after 1 January 1982. Please send résumé and three letters of reference to: Director, Department of Physiology, The Johns Hop-kins University School of Medicine, Baltimore, Mary-land 21205. The Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer.

ASSOCIATE/FULL PROFESSOR: PHARMACOLOGY AND TOXICOLOGY

PHARMACOLOGY AND TOXICOLOGY Senior level position; search extended. Ph.D. in toxicology and/or pharmacology, demonstrated ability in research in toxicology with funded project(s), and active interest in teaching required. Applicant will be expected to establish a successful, funded program and participate in teaching toxicology/pharmacology at undergraduate and graduate levels. macology at undergraduate and graduate levels. Submit résumé by 15 November 1981 to: **Dr. David** DeFanti, Chairman, Search Committee, Department of Pharmacology and Toxicology, University of Rhode Island, Kingston, R.I. 02881. An Affirmative Action/ Equal Opportunity Employer, M/F.

BIOMEDICAL RESEARCH. A new staff scientist position is available in the Biology and Medicine Division of the Lawrence Berkeley Laboratory, beginning 1 November 1981. The appointee will be expected to perform research on magnetic field interactions with biological systems. The research program includes automated recording and computprogram includes automated recording and computer analysis of physiological variables and circadian rhythms in laboratory animals, using biotelemetry and specialized transducer techniques. A Ph.D. in bioengineering or biophysics and postdoctoral experience are preferred. Extensive laboratory experience with electrophysiological recording techniques and a thorough knowledge of computers (including EOPTPA N and Basic languages) are required. Programming the pr and a thorough knowledge of computers (including FORTRAN and Basic languages) are required. Prior experience with biotelemetry techniques is desirable. Salary commensurate with experience. Submit curriculum vitae, accompanied by a statement of research experience, reprints of published papers, and the names of three references, to: **Dr. Tom** and the halmes of three fetterlees, to: Dr. Ion Tenforde, Biology and Medicine Division, c/o Ronald Lowder, Personnel Department, Lawrence Berkeley Laboratory, One Cyclotron Road, Berkeley, Calif. 94720. An Affirmative Action/Equal Opportunity Employer, M/F/H.

ONTARIO CANCER TREATMENT & RESEARCH FOUNDATION LONDON CLINIC LONDON, ONTARIO, CANADA

Applications are invited for the position of

CAREER SCIENTIST

From applicants with a minimum of 2 to 3 years of postdoctoral research experience in the field of

CELL GENETICS

This position is to join a recently formed multidisciplinary research group studying the biology of cancer metastasis. The research objectives of the group are to gain an understanding of how the tumor microenvironment may modulate the metastatic potential of tumor cell populations.

The successful candidate will have proven expertise in a relevant field of research and the ability to develop an interactive research program with other members of the group. Salary will be commensurate with experience

Applications to: Dr. K. Moore, The Ontario Cancer Foundation—London Clinic, c/o Victoria Hospital, London, Ontario, Canada N6A 4G5.

VACANCY ANNOUNCEMENT

National Institutes of Health Public Health Service Department of Health and Human Services

The National Institutes of Health invites nominations and applications for the position of **DIRECTOR**, **NATIONAL HEART**, **LUNG**, **AND BLOOD INSTITUTE**. This is a Civil Service position in the Senior Executive Service (SES) with a salary range of \$52,247 to \$57,673 per annum (currently limited to \$50,112.50). The person selected may be eligible for Physician's Comparability pay up to \$10,000 per year. A 1-year probationary period must be served if the individual selected is not currently in the SES.

The director, National Heart, Lung, and Blood Institute, provides leadership and direction for the national program relative to diseases of the heart, lungs, blood, and blood vessels, and to blood utilization and resource management. The institute's staff embraces over 700 employees with a budget in excess of \$560 million.

Further information about the position and qualification requirements may be obtained by contacting: Jacqueline Waters, telephone: 301-496-6521. Applications (SF-171, Personal Qualifications Statement) accompanied by current curriculum vitae and bibliography should be submitted to Waters at: OD-FIC-OA Personnel, Building 31, Room 1C15, National Institutes of Health, 9000 Rockville Pike, Bethesda, Md. 20205.

Applications must be postmarked not later than 2 October 1981. (The SF-171 form is available at all federal personnel offices and job information centers.) Applications from women and minority group candidates are solicited.

An Equal Opportunity Employer

The Associated Universities, Inc. Council for Research Planning in Biological Sciences and the University of California announces a Symposium

GENETIC TOXICOLOGY An Agricultural Perspective November 1-5, 1981

on the Davis campus of the University of California

This symposium will examine the status of knowledge, promising research advances and types of studies needed to answer the following: Is there evidence of mutagen and carcinogen problems in agriculture? What genotoxic hazards arise from naturally occurring and anthropogenic agents in agriculture? What are the best techniques for detecting and evaluating genotoxic hazards to human health arising from agricultural practices? What research and training priorities can be identified to protect occupational and environmental health with particular reference to agricultural regions?

ORGANIZING COMMITTEE: Alexander Hollaender (chairman), Associated Universities, Inc.; Richard Hill, Environmental Protection Agency; Gordon Newell, National Academy of Sciences; Verne Ray, Pfizer, Inc.; Gerald Still, U.S. Department of Agriculture; Raymond Valentine, University of California at Davis; Michael Waters, Environmental Protection Agency; Avril Woodhead, Brookhaven National Laboratory.

To receive program and registration information, write: Raymond A. Fleck, Food Protection and Toxicology Center, University of California, Davis CA 95616 or call (916) 752-1142.

CSIRO

APPOINTMENT OF CHIEF

DIVISION OF TROPICAL ANIMAL SCIENCE

Applications are invited for the position of chief of the new Division of Tropical Animal Science from scientists who have a record of personal research achievement and leadership in an appropriate field of science

CSIRO is Australia's largest and most comprehensive research organization having approximately 7500 employees, of whom 2700 are research and professional scientists. Its broad charter covers research into problems of primary and secondary industries and also such fields of community interest as human nutrition, the environment, and the development and use of natural resources.

The research activities of the Organization are grouped into five Institutes. The Division of Tropical Animal Science will be a constituent division of the Institute of Animal and Food Sciences. The other components of the Institute are the Divisions of Animal Health, Animal Production, Fisheries Research, Food Research, and Human Nutrition, and the Molecular and Cellular Biology Unit, and the Wheat Research Unit. The Institute supervises Australian input into the Project for Animal Research and Development, Bogor, Indonesia.

Until the present, CSIRO's work in tropical animal science has been carried out in the Divisions of Animal Production, Animal Health and, to a lesser extent, the Divisions of Entomology and Tropical Crops and Pastures. The new division will comprise the present Brisbane Laboratory of the Division of Animal Health, the Rockhampton Laboratory of the Division of Animal Production, and a Nutrition Group to be established at Townsville in association with the Division of Tropical Crops and Pastures. Some of the Division of Entomology's Brisbane staff will also join the new division. The total staff of the new division will be about 180, including some 50 professional scientists.

The division's research will initially be directed to improving the efficiency of tropical beef cattle production, although much of it will also be relevant to tropical dairy cattle. At a later stage, research on sheep production in the arid tropics may be initiated.

The chief of the division will be responsible to the Institute director for the leadership, development, scientific direction, and integration of the research programs of the division and will be encouraged to promote active collaboration with other divisions, industry, and research bodies in associated areas. In particular, it is expected that the chief will develop close relations with the Divisions of Animal Production, Animal Health, Tropical Crops and Pastures, and Entomology.

The salary is negotiable, but will be not less than A\$43,158 per annum.

Appointment to the Organization is for an indefinite period and carries Commonwealth Superannuation privileges subject to normal conditions. The position of chief is offered for a negotiable term of the order of 5 to 7 years, with subsequent options for a further term, if mutually desired, or for a senior position in the Organization.

Dr. K. A. Ferguson, FTS, director of the Institute of Animal and Food Sciences, would be pleased to provide further information about the new division and discuss the position with potential applicants. He would also be pleased to receive other advice concerning the appointment from people with a particular interest in it. Dr. Ferguson may be contacted at the Australian address listed below.

 $\,$ Dr. Ferguson will be in Washington, D.C., on 7 October 1981, and may be contacted as follows:

Counsellor (Scientific) Australian Embassy 1601 Massachusetts Avenue, NW Washington, D.C. 20036 Telephone: 202-797-3260

Persons wishing to contact Dr. Ferguson should make prior arrangements with the above office.

Applications stating full personal and professional details and names of at least two professional referees and quoting Reference Number AO418 should reach:

The Director
Institute of Animal and Food Sciences
CSIRO
P.O. Box 225
Dickson, ACT 2602, Australia

by 12 October 1981.

Department of Health and Human Services **Public Health Service National Institutes of Health** National Heart, Lung. and Blood Institute

Opening Date: October 1, 1981 Closing Date: October 31, 1981 (All applications must be postmarked by the closing date.)

DIRECTOR **DIVISION OF LUNG DISEASES**

The National Heart, Lung, and Blood Institute is recruiting a Director for its Division of Lung Diseases. The Director will coordinate the planning, management, and evaluation of a major program of basic and targeted research, cooperative clinical trials, education and demonstration projects, and national lung centers. The Division itself is divided into six major programs, with a staff of approximately 30 employees and a current annual budget in excess of \$80 million.

This is a Civil Service position in the Senior Executive Service (SES), with base salary from \$52,247 to \$57,673 per year depending on qualifications. Currently, the payable salary is limited to \$50,112.50. SES members are eligible for payments of up to \$10,000 per year, although total compensation cannot exceed the rate for Executive Level I (currently \$69,630 per year). (Alternatively, candidates may be eligible for appointment in the Commissioned Corps of the U.S. Public Health Service). The SES individual selected, if not presently in the Senior Executive Service, must serve a one year probationary period. Mandatory professional/technical qualifications are a medical degree, or education in biomedical science and research and/or clinical experience in the field of lung diseases. Further information on these qualifications available by contacting Kathryn Osbourn, Personnel Management Specialist, National Institutes of Health, National Heart, Lung, and Blood Institute, Building 31, Room 5A-32

Mandatory managerial/executive qualifications include evidence of management of a basic or clinical research program, demonstrating ability to assume leadership responsibilities in developing program goals; representing the program to outside groups; directing program planning; execution, and evaluation; and conducting a fair and equitable employment program, including the attainment of EEO objectives.

Candidates who meet the mandatory qualifications will be further evaluated by the Search Committee on the degree to which they exceed the mandatory managerial/executive qualifications, and on the following desirable qualifications: scientific reputation/peer recognition; training and education in lung diseases; leadership of a basic or clinical research, or research administration program, and honors and awards indicative of outstanding contributions to the field of lung diseases

Applications (Personnel Statement of Qualification SF-171) should be sent to Dr. Jay Moskowitz, Chairman, DLD Director Search Committee, Building 31, Room 5A03, National Institutes of Health, Bethesda, MD 20205, telephone (301) 496-6331.

A current curriculum vitae and bibliography must accompany all applications. Applications of women and/or minority group members are especially solicited. The National Institutes of Health is an equal opportunity employer.

POSITIONS OPEN

CELL-MOLECULAR BIOLOGIST (eukaryotes). Tenure-track position at assistant professor level to begin about 1 July 1982. Postdoctoral experience required and demonstrated potential for excellence in research. Send résumé, including one-page statement of procific recorrels in the processor of the proces m research. Send resume, including one-page state-ment of specific research plans, reprints, and the names and addresses of at least three references, to: Search Committee, Department of Zoology, Wilson Hall 046A, University of North Carolina, Chapel Hill, N.C. 27514, by 1 January 1982. The University of North Carolina is an Affirmative Action/Equal Op-portunity Employer.

CELL AND MOLECULAR BIOLOGY COLUMBIA UNIVERSITY

The Department of Biological Sciences at Columbia University in New York City is expanding its group in cell and molecular biology. Space and modern facilities are presently available for several new appointments in the recently completed Sherman Fairchild Center for the Life Sciences. The man Fairchild Center for the Life Sciences. The appointments will be made at a level appropriate to the qualifications of the successful candidates. The successful candidates will be individuals who can demonstrate a high level of scientific excellence and productivity along with superior teaching ability and commitment to teaching at both undergraduate and graduate levels. Applications should include curricu-lum vitae, copies of most significant publications, and a summary of research goals. Junior applicants should also request that letters from three references should also request that letters from three reterences be sent in support of their application. Send inquiries to: Professor Alexander A. Tzagoloff, Chairman of the Cell and Molecular Biology Search Committee, Department of Biological Sciences, 600 Sherman Fairchild Center, Columbia University, New York, N.Y. 10027. Women and members of minority groups are especially encouraged to apply. Columbia University is an Equal Opportunity/Affirmative Action Employer. ployer.

CELLULAR RADIATION BIOLOGIST

The acceptance of the chairmanship of the Department of Radiology and Radiation Biology by Dr. M. M. Elkind has resulted in the reopening of applications for the position of cellular radiation biologist, a regular, 9-month faculty position. Requirements include: doctorate in biological or physical sciences and research and teaching experience. Duties include teaching cellular radiation biology, developclude teaching cellular radiation biology, development of an independent research program, and participation in interdisciplinary research and teaching. Rank and salary negotiable. Starting date: January 1982. Send résumé, bibliography, and three letters which include an evaluation of the applicant's research accomplishments, potential for independent research, and teaching abilities, to: Dr. James R. Bamburg, Chairman, Search Committee, Department of Radiology and Radiation Biology, Colorado State University, Fort Collins, Colo. 80523. Deadline for applications is 31 October 1981. Colorado State University is an Equal Opportunity/Affirmative Action Employer. Non-U.S. citizens welcome to apply. tion Employer. Non-U.S. citizens welcome to apply. Equal Opportunity Office: 314 Student Services Building.

CHAIRPERSON, Department of Psychology University of North Florida

The University of North Florida is an upper-level, The University of North Florida is an upper-level, urban institution, one of nine universities in the State University System. Its 10-year-old, 1000-acre, nonresidential campus is located midway between downtown Jacksonville and the Atlantic Ocean.

The Department of Psychology offers an upper-level undergraduate program in general psychology leading to the bachelor of arts degree, a master of arts in counseling, and offerings for nonpsychology majors. Candidates should be qualified for appointment at the rank of full professor and have earned a Ph.D. in psychology. Area of specialization is not a major consideration. However, some administrative experience and a professional record demonstrating teaching and scholarly activity is necessary. The candidate should be able to blend well into a 13member department in which diverse areas of interest and specialization are represented.

Begin September 1982, earlier if mutually convenient; salary competitive. Applicants send current curriculum vitae to: Chair, Search Committee, Department of Psychology, University of North Florida, 4567 St. Johns Bluff Road, South Jacksonville, Fla. 32216. Deadline for receipt is 1 December 1981.

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

POSITIONS OPEN

ENDOWED CHAIR IN AGING UNIVERSITY OF VERMONT

The University of Vermont is seeking candidates for the Bishop R. F. Joyce Distinguished University Professorship in Aging, an appointment to begin in fall 1982. Candidates for this position should:

- 1) Be established scholars in aging with demonstrated records of funded research;
- Have distinguished records of teaching and research, preferably in one of the social sci-ences with an orientation toward public health or health-related issues;
- 3) Have worked collaboratively with faculty from different disciplines;
- 4) Be interested in establishing a multidisciplinary program in gerontology which includes university, local, and state participants; and
- 5) Have an interest in exploring aging issues in a

Letters of nomination or application, accompanied by résumés, should be addressed to: Dr. Virginia P. Clark, Department of English, 315 Old Mill, Box S, University of Vermont, Burlington, Vermont 05405.

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

BIOCHEMISTRY CHAIRPERSON—The University of South Alabama, College of Medicine, located in Mobile, Alabama, is seeking highly qualified applicants for the position of chairperson in the Department of Biochemistry. This position represents an outstanding opportunity for an individual committed to excellence in service, research, and teaching. Candidates must have demonstrated lead-rishin in research and administration. The College ership in research and administration. The College of Medicine is a state-supported, 4-year medical school which was established in 1970, and has a strong and developed basic science program, a growing clinical science program, full residency programs, a Ph.D.-M.D. program in basic medical sciences and well-trained graduate physicians. Indiences, and well-trained graduate physicians. Individuals with suitable academic training and experience are requested to forward their curriculum vitae and letter of interest to:

Dr. Joseph H. Coggin, Jr. Chairman, Biochemistry Search Committee LMB Building University of South Alabama College of Medicine Mobile, Alabama 36688

Closing date for applications: 15 October 1981. The University is an Equal Opportunity/Affirmative Action Employer.

DIRECTOR—University of Michigan, Museum of Zoology. Authorization is being sought for a position as director of the Museum of Zoology. Eligible applicants must hold a Ph.D., be distinguished conapplicants must hold a Ph.D., be distinguished contributors to systematic or evolutionary zoology, and be working with organisms in one of the Museum's six divisions of fish, birds, mammals, mollusks, insects, or amphibians and reptiles. Applications, including curriculum vitae, reprints, and four letters of recommendation, should be sent to: Search Committee, Museum of Zoology, The University of Michigan, Ann Arbor, Mich. 48109. A nondiscriminatory, Affirmative Action Employer.

FACULTY POSITION IN BIOMETRICS, 9-month, tenure-track position. Ph.D. required. Teach, perform research, advise students and faculty on fishery-related statistical problems. Salary based on qualifications. Start: 4 January 1982. Application, transcripts, three letters of reference, and résumé to be received by 20 October 1981. Send to: Mary Liszak, University of Alaska, Juneau, 11120 Glacier Highway, Juneau, Alaska 99801. Equal Opportunity/ Affirmative Action Employer.

FACULTY POSITION-Ph.D. to fill anticipated ten-FACULTY POSITION—Ph.D. to fill anticipated tenure-track position as assistant professor in organic chemistry, starting fall 1982. Will be expected to develop an outstanding research program and maintain excellent teaching. State-of-the-art equipment includes XL-200 (solid sample capability), FT-80 (multinuclear capability), and EM-390 NMR spectrometers. A ZAB-2F high-resolution mass spectrometer, an E-109 ESR spectrometer, and a CADF-4 single-crystal x-ray diffractometer are also available. Send résumé, statement of research plans, and three letters of recommendation to: Dr. Robert D. Guthrie. Chairman. Search Committee. Department Guthrie, Chairman, Search Committee, Department of Chemistry, University of Kentucky, Lexington, Kentucky 40506.

An Equal Opportunity/Affirmative Action Employer

Millipore offers opportunities in Biotechnology

Millipore is a multinational second Fortune 500 Corporation involved in critical separations. Recognized as a leader in the fields of membrane technology, liquid chromatography, and enzymology, it is presently one of the largest suppliers of separations products for the biological sciences. Separations technology has been identified as an area of major growth within the expanding biotechnology market. The Laboratory Products

Division develops and markets new products meeting the emerging requirements for critical separations tools for the life science researcher in the areas of genetics, hybridoma, protein chemistry and cell culture. Millipore offers tremendous career opportunities which provide the innovative, technically creative person with a chance to grow professionally. We are seeking candidates for the following positions:

Market Development

This senior technical marketing position involves the identification of opportunities for Millipore in the area of macromolecular and cellular separations. Additional responsibilities include the coordination of marketing and R&D resources.

The successful candidate possesses considerable experience across a broad range of disciplines within the biological sciences. Ph.D. or post-doctoral experience is required with several years' experience directing research in the areas of immunology, genetics, or cell culture. This person should possess a strong entrepreneurial spirit and the desire to develop this talent. The position can lead to careers in both Marketing or R&D Management.

Application Development/ Technical Service

This exceptional entry level position will provide you with an opportunity to expand your knowledge in applied separations technology and to advance rapidly within the organization. Responsibilities include developing new applications, handling telephone inquiries and producing technical and promotional draft material. Position leads to careers in market development, product management and sales. To qualify you must have a B.S. or M.S. degree in Biochemistry or Molecular Biology. Laboratory experience is preferable.

Research and Development • Senior Biochemist

This person will direct efforts of both professionals and technicians in the area of protein separations development. The successful appli-

cant should possess a Ph.D. in Biochemistry or related fields with 3-5 years' post-doctoral experience in the area of Immunology, DNA Manipulation, Receptor Studies and Protein Purification Procedures.

Research Engineer

This person should possess a B.S./M.S. or equivalent in Mechanical Engineering or related discipline with 3-5 years' experience in device design within the biomedical industry. Candidate should possess the ability to manage large projects from conception to completion in the product development cycle.

Sales

We are looking for dynamic self-starters who are interested in making the transition from research to a business environment. Candidates should be technically creative, ambitious, and entrepreneurial. We have an experienced sales management organization in place to provide training and direction to candidates new to sales.

Responsibilities include the sale of existing Millipore products to the life science researcher, providing technical support to customers, and providing input on new applications to Marketing and R&D.

Successful candidates should have a B.S./M.S. in Biochemistry or related field and 3-5 years' laboratory experience. Selling experience is not necessarily a prerequisite. Territories are available in San Francisco, Baltimore and Detroit.

Interested candidates should send resumes and salary history to Millipore Corporation, Personnel Department (DB), 80 Ashby Road, Bedford, MA 01730.



An Equal Opportunity Employer M/F H/V

DIRECTOR—NEW MEXICO ENERGY RESEARCH AND DEVELOPMENT INSTITUTE (NMERDI)

Director will have a proven and extensive knowledge of, professional expertise in, and experience in the management of energy R & D activities. Master's/Ph.D. in energy-related scientific or engineering discipline. Substantial experience in energy R & D. Skilled in written and oral communication. Successful research grant proposal writing and management. Proven ability to work with a wide variety of people, \$45,000 to \$55,000. Applications and nominations must be postmarked by 16 October 1981. Applicants should submit résumés and names, addresses, and telephone numbers of three professional references to: Dr. Louis Seig, Administrator, NMERDI, P.O. Box 2770, Santa Fe, N.M. 87501. Equal Opportunity Employer.

FACULTY POSITION IN ROOT BIOLOGY

A position of assistant professor of biology at Harvard University is available with research opportunities at The Arnold Arboretum and teaching obligations at the Department of Biology.

The Arnold Arboretum has excellent modern greenhouse facilities, sited among its living collections, with good control of temperature and water, low temperature facilities, two small laboratories, and adjacent field plots and saran houses.

The person should be a vascular plant physiologist, with background training in plant growth and development, and with special interest in woody plants, their propagation, multiplication, growth and development. The desired field of research may be root physiology, hormonal physiology, or possibly seed dormancy and germination.

We hope that the person would have the breadth of vision to bridge the gap between pure and applied forestry and/or horticulture. As a particular instance, tropical silviculture is still immensely hampered by the lack of effective propagation techniques for hardwood species.

Salaries for the 1981-1982 academic year begin at \$20,600.

Harvard University is an Affirmative Action/Equal Opportunity Employer.

Application should, by 30 November 1981, be made to:

Martin H. Zimmerman, Chairman Root Biology Search Committee Harvard Forest Petersham, Mass. 01366

THE UNIVERSITY OF IOWA

FACULTY POSITION IN BIOCHEMISTRY—The department invites applications and nominations for a faculty position that will become available 1 July 1982, at the level of assistant professor. Responsibilities will include participation in the department's teaching programs for undergraduate, graduate, and professional students and the development of a vigorous independent program of scholarly research. Applicants must hold a doctoral degree and preferably should have postdoctoral experience. Outstanding applicants with expertise in any area of biochemistry or closely related disciplines will be considered, and we expect that the new appointee will complement the expertise of our current faculty. Women and minority candidates are especially encouraged to apply. Applicants should send curriculum vitae, including a list of publications and summary of future research plans, and arrange to have three letters of reference sent to: Dr. Arthur A. Spector, Chairman, Faculty Search Committee, Department of Biochemistry, The University of Iowa, Iowa City, Iowa 52242. The University of Iowa is an Equal Opportunity/Affirmative Action Employer.

PATHOGENIC MICROBIOLOGIST or TUMOR VIROLOGIST trained in hybridoma technology to teach general microbiology, supervise graduate students, and maintain an active research program in area of specialty. Candidate must have demonstrated research ability in either of the above areas. Position will be at the level of assistant professor and salary will be competitive and commensurate with qualifications. Submit curriculum vitae, transcript of graduate work, three letters of recommendation, and statement of research interest to: Dr. S. S. Husain, Search Committee Chairperson, Indiana State University, Terre Haute, Ind. 47809, by 1 November 1981. Position is to be filled no later than 1 September 1982. Indiana State is an Equal Opportunity/ Affirmative Action Employer.

POSITIONS OPEN

UNIVERSITY OF CALIFORNIA SANTA BARBARA

Faculty position in natural resource management. One joint appointment at the assistant professor level in economics and environmental studies, beginning 1 July 1982, subject to availability of funding. Qualifications normally include Ph.D. and notable academic record and demonstrated ability in teaching and research scholarship. The candidate should have demonstrable research capabilities in the application of stochastic processes and optimization theory to the study of renewable natural resources. Teaching duties will include courses in environmental economics and quantitative methods in natural resource management. Candidates should send a résumé, published and prepublished work, at least three letters of recommendation, and evidence of teaching performance to: Llad Phillips, Chairman, Department of Economics, or Daniel B. Botkin, Environmental Studies, University of California, Santa Barbara, California 93106. Applications will be accepted until 31 October 1981. The University of California is an Equal Opportunity/Affirmative Action Employer.

Colorado School of Mines (CSM). FACULTY POSITION IN ENVIRONMENTAL SCIENCES. Applicant must have Ph.D. degree and a minimum of 3 years of appropriate industrial experience. Rank and salary dependent upon experience and credentials. Program is new and expanding. Resources and facilities must be developed. Send résumé and references, together with a description of your expertise and how it would be employed in the education of mineral engineers, to: Dr. Beatrice E. Willard, Head, Department of Environmental Sciences and Engineering Ecology, Colorado School of Mines, Golden, Colo. 80401. CSM is an Affirmative Action Employer stressing Equal Opportunity.

FACULTY RESEARCH POSITION IN PHYSIOLOGY available at the level of assistant professor. Work involves the physiologic regulation of bone repair processes, utilizing both in vivo and in vitro models. Experience desirable in whole animal work, kinetics, tissue culture, RIA, membrane receptors, computer, and statistical methods. Competitive salary and exceptional opportunity in a well equipped, multidisciplinary laboratory. Contact: D. J. Baylink, M.D., Department of Medicine, Room 1501, Loma Linda University, Loma Linda, Calif. 92350. Telephone: 714-796-7311, extension 2171. An Equal Opportunity/Affirmative Action Employer.

HEAD, DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY

The University of Arizona, College of Pharmacy, invites applications for head of the Department of Pharmacology and Toxicology. Candidates should be senior level scientists with experience in teaching and research in pharmacology and/or toxicology. They should have an active research program and be dedicated to furthering the strong education and research programs of the department. The department consists of ten faculty members with research interests in neuropharmacology, behavioral pharmacology, and toxicology. The educational responsibilities of the department include the pharmacology and toxicology courses for students in the Colleges of Pharmacy and Nursing and the Interdisciplinary Toxicology Program. The faculty is also actively involved in the graduate training programs in pharmacology and toxicology leading to the M.S. and Ph.D. degrees. The College of Pharmacy is a component of the Arizona Health Sciences Center which includes the Colleges of Medicine, Nursing, the School of Health Related Professions, and University Hospital. In 1982 the College of Pharmacy will be moving into its new building at the Health Sciences Center. Submit curriculum vitae and references by 1 December 1981 to: Jack R. Cole, Ph.D., Dean, College of Pharmacy, The University of Arizona, Tucson, Arizona 85721. An Equal Opportunity/Affirmative Action Employer.

MARINE ECOLOGIST, Ph.D., three or more years of experience, to manage a large Gulf of Mexico project and further develop a biology and living resources program with a field-oriented environmental consulting firm. Job to start 15 October; \$28,000 plus benefits offered to most competent and creative applicant. Send résumé, telephone numbers of two references, and most recent publications to:

Dr. Miles O. Hayes Research Planning Institute, Inc. 925 Gervais Street Columbia, South Carolina 29201

POSITIONS OPEN

TWO FACULTY POSITIONS IN BIOCHEMISTRY

Two positions for tenure-track biochemists at the assistant professor level are open. Candidates must have a Ph.D. or M.D. and a minimum of 2 years of postdoctoral training.

postdoctoral training.

For one position, preference will be given to individuals working in the area of mode of hormone action or hormone receptors. The system under investigation might relate to membrane structure and function, especially transport systems. For the other position, preference will be given to strong candidates working in the area of protein synthesis and informational macromolecules (regulation, genetics, structure, or function) who complement programs of existing faculty.

grams of existing faculty.

Candidates must be able to establish an independent research program with external funding and to participate in the teaching of medical, graduate, and undergraduate students. Please send curriculum vitae, copies of the three most significant publications, bibliography, a brief description of research interests and career objectives, and three letters of recommendation by 1 December 1981 to: Dr. John N. Fain (for the first position) or Dr. Albert E. Dahlberg (for the second position), c/o Gerlinde Celona, Secretary of the Search Committee, Section of Physiological Chemistry, Division of Biology and Medicine, Brown University is a nondiscriminatory. Affirmations of the second position of the second Linux of the second position.

Brown University is a nondiscriminatory, Affirmative Action Employer and welcomes applications from all qualified individuals, in particular women and members of minority groups.

MEMBRANE BIOCHEMISTRY

POSTDOCTORAL POSITION available immediately for a recent Ph.D. to participate in biochemical research on the structure and mechanism of ion translocating ATPases. We have recently demonstrated that the electrogenic proton-translocating ATPase in the plasma membrane of the eukaryotic microorganism Neurospora, operates via a mechanism that is quite similar to that of the Na⁺/K⁺- and Ca²⁺-translocating ATPases of animal cell origin. Research will involve investigation of the structure and mechanism of this ATPase with the goal of elucidating the molecular mechanism of ion-translocating ATPases in general. Reply with curriculum vitae and names of three references to: Dr. Gene A. Scarborough, Department of Pharmacology, School of Medicine, The University of North Carolina at Chapel Hill, Chapel Hill, N.C. 27514. Equal Opportunity Employer.

UNIVERSITY OF NEW MEXICO (UNM)—MO-LECULAR BIOLOGIST. Tenure-track assistant professor. Molecular biologist with interest in immunoglobulins preferred but not required. Three years of postdoctoral experience with demonstrated productivity and potential for independent granting required. Deadline for applications and starting dates extended. New dates: start I January through September 1982; applications by 15 November 1981. Send to: Thomas Tomasi, M.D., Ph.D., Director, Cancer Research and Treatment Center, UNM Medical Center, Albuquerque, N.M. 87131. Affirmative Action/Equal Opportunity Employer.

Brandeis University, faculty position (research and teaching) in the Rosenstiel Research Center for a MOLECULAR BIOLOGIST with a strong research interest in immunology and a good record of publications. The level of the appointment will depend on the background and experience of the candidate. Excellent laboratory facilities and equipment available. Brandeis is located 10 miles west of Boston. An Affirmative Action/Equal Opportunity Employer. Please send résumé to: Chairman, Search Committee, Rosenstiel Research Center, Brandeis University, Waltham, Mass. 02254.

PEDIATRIC NEUROPATHOLOGIST—CALIFORNIA. THE Childrens Hospital of Los Angeles (CHLA) is seeking a Board-certified neuropathologist for a newly created position. Strong interests in teaching and research with expertise in morphology are necessary. Faculty rank in pathology at the University of Southern California (USC) School of Medicine will be commensurate with experience. Address applications to: Dr. Harry B. Neustein, Chairman Search Committee, Department of Pathology, Childrens Hospital of Los Angeles, 4650 Sunset Boulevard, Los Angeles, Calif. 90027. CHLA and USC practice Affirmative Action and are Equal Opportunity Employers.

Careers in Biotechnology

VIRAL IMMUNOLOGIST

BRL's Molecular Diagnostics Division has an immediate opening in its rapidly expanding Hybridoma Antibody Program.

The individual in this staff scientist position will be responsible for the development of anti-viral monoclonal antibodies for use in the diagnosis of viral infections of importance to the clinical community.

Our company is an industry leader in molecular and cellular biology. . . and continues to demonstrate the translation of biotechnical advances into significant clinical and industrial products.

A Ph.D. in a biological science is required with 1-2 years post-doctoral experience in virology and/or immunology. A working knowledge of hybridoma technology is preferred, but not required.

Please send your resume'/ C.V. in confidence, to:

J. Wamstad

BETHESDA RESEARCH LABORATORIES

Box 577B, 8717 Grovemont Circle Gaithersburg, Md. 20877 (A suburb of Washington, D.C.)



An Equal Opportunity Employer, M-F-H

Director of AdministrationFor Comparative Biology And Allied Institutions

Reporting to the Dean of the Faculty of Arts and Sciences, the Director will assist the department chairman and Allied Institutions Directors in interfacing the Department of Comparative Biology with the Allied Institutions, including: The Botanical Museum, Bussey Institution, Farlow Herbarium and Library, Gray Herbarium, Museum of Comparative Zoology, and Cambridge Segment of the Arnold Arboretum. The Director will oversee all administrative services, such as accounting and purchasing, for the institution operating budgets and for research grants; will be responsible for management and operation of Allied Institutions buildings, including space occupied by natural history collections, experimental laboratories offices, libraries, and exhibit areas open to the public, and will assist in planning and implementing renovation to this space. S/he will serve as a resource in the preparation of Federal and private grant applications for research and for collection improvement, and will explore new avenues for such support.

The buildings of the Allied Institutions are contiguous with each other and with The Biological Laboratories. They house approximately 35 faculty, 70 graduate students, and 80 support staff, and have a combined annual budget of approximately \$5,600,000 in University and sponsored research funds.

Candidates should have a doctoral degree in some aspect of organismic and evolutionary biology and at least 3 years' experience in scientific administration. This should include management of complex budgets, operation of physical plants, and mechanics of research support. Knowledge about the problems of systematic biology and management of natural history collections is desirable. Ability to communicate and work effectively with diverse groups of people and to understand management problems from the point of view of the working scientist are essential.

Applicants should submit vitae and names of 3 references to Robert M. Woollacott, The Biological Laboratories, Harvard University, Cambridge, MA 02138 before November 1, 1981.

HARVARD UNIVERSITY

An Affirmative Action/Equal Opportunity Employer

Research Scientists and Research Engineers

The Amoco Research Center currently requires the immediate staffing of scientists and engineers with Ph.D. degrees and postdoctoral and industrial experience in the following fields of specialization:

- Enzyme Technology
 Industrial Microbiology
- Fermentation Technology Immunochemistry
- Bioengineering Eukaryotic Genetic Engineering

The above positions involve research, engineering and market studies toward industrial applications of new biology. Candidates should have recent Ph.D. degrees or up to two (2) years of postdoctoral or equivalent industrial experience.

In addition to professional growth and outstanding opportunities, the AMOCO RESEARCH CENTER offers superior working conditions and is located in a highly desirable community just west of Chicago. An excellent compensation package and a comprehensive benefit package is provided. Please send a resume with a detailed qualifying letter in confidence to:

Professional Recruiting Coordinator



AMOCO RESEARCH CENTER

P.O. Box 400 Naperville, Illinois 60566

An Equal Opportunity Employer M/F

MANAGER BIOCIDES DEVELOPMENT

Our client is a well-established East Coast chemical manufacturing company. They seek a PhD organic chemist with a record of creativity in the synthesis and evaluation of industrial biocides. Candidates must also have supervised professional level technical personnel and exhibit the management skills necessary to spearhead a development effort. They should be able to interact with marketing, sales and engineering personnel. The person selected will lead an expanding multigroup department in the industrial biocidessynthesizing and screening new materials, supporting market and product development, and supervising field studies for a variety of industrial applications.

Excellent growth potential. Campus-like R&D center in a desirable suburban setting. Generous relocation policy. Liberal starting salary.

For discreet inquiry contact:

Gene Taylor (215) 363-1600

ANDERSON(A) TAYLOR

P.O. Box 130 Exton, PA 19341

BIOTECHNOLOGY

REPLIGEN CORPORATION is offering several outstanding opportunities for exceptionally well-qualified molecular biologists to help lead the biotechnological revolution. The company is devoted to designing and implementing molecular solutions to a wide range of problems and currently requires both Ph.D. level and B.S.-M.S. level scientists skilled in nucleic acid biochemistry, microbial genetics, protein chemistry, and cell biology.

Our laboratories are located in Cambridge to facilitate interactions with members of our Scientific Advisory Board as well as with other faculty members and students at nearby academic institutions.

REPLIGEN CORPORATION offers attractive salaries, excellent fringe benefits, and equity participation. Interested and qualified candidates should submit their C.V.'s and references in confidence to: Dr. T. H. Fraser, Repligen Corporation, 50 Staniford Street, Boston, MA 02114.

MICROBIOLOGIST & BIOCHEMIST

Two challenging career-oriented positions are presently available in the Infectious Disease Research Section, Medical Research Division of American Cyanamid Company.

Ph.D. Microbiologist with 1–3 years' postdoctoral training in microbial genetics or molecular biology.

Ph.D. Biochemist with 1–3 years' post-doctoral training in microbial physiology and in in vitro enzyme assay systems. Experience in computers is desired.

The successful candidates will be responsible for initiating new and innovative screening methodologies in our infectious disease research programs.

American Cyanamid offers competitive salaries, excellent benefits, and a stimulating scientific environment.

Please send resume, including salary history, to: Ms. Sandra L. Johnson, Professional Employment Coordinator, Dept. SCI



CYANAMID

American Cyanamid Company Medical Research Division Lederle Laboratories Pearl River, New York 10965

An Equal Opportunity Employer m/f

POSITIONS OPEN

MARINE GEOLOGIST

The Maine Geological Survey is seeking an individual with interest and experience in nearshore and coastal processes to address a range of concerns and research topics dealing with Maine's 3000-mile coastline. Responsibilities include development and implementation of research on sediment transport and beach nourishment, assessment of impacts of development on dune systems, and technical review and assistance for other state agencies and the public. Applicant should have a Ph.D. and demonstrated research ability and experience in securing outside funding. Salary range: \$18,450 to \$24,200, plus health insurance, retirement, and so forth. Submit résumé to: Walter A. Anderson, State Geologist, Maine Geological Survey, Station Number 22, Augusta, Maine 04333. The Maine Geological Survey is an Equal Opportunity/Affirmative Action Employer.

MICROBIOLOGY FACULTY POSITION—MICROBIAL PATHOGENESIS. Medical school Microbiology Department seeks candidates with experise and demonstrated research productivity in molecular aspects of microbial pathogenesis for a tenure-track or tenured faculty appointment. Level of appointment and salary commensurate with training and experience. Proposed starting date on or before I September 1982. Responsibilities include teaching in medical and graduate courses and development of an independent research program. Ph.D. or equivalent professional degree plus postdoctoral research experience required. Submit curriculum vitae, bibliography, names of three professional references, and major publications to: Dr. Randall K. Holmes, Professor and Chairman, Department of Microbiology, c/o Personnel/Manpower Division, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, Md. 20814. Equal Opportunity/Affirmative Action Employer.

MICROBIOLOGY FACULTY POSITION—MO-LECULAR GENETICS. Medical school Microbiology Department seeks candidates with expertise and demonstrated research productivity in molecular genetics for a tenure-track or tenured faculty appointment. Experience with gene cloning, DNA sequencing, and related areas of molecular biology is desirable. Level of appointment and salary commensurate with training and experience. Proposed starting date on or before 1 September 1982. Responsibilities include teaching in medical and graduate courses and development of an independent research program. Ph.D. or equivalent professional degree plus postdoctoral research experience required. Submit curriculum vitae, bibliography, names of three professional references, and major publications to: Dr. Randall K. Holmes, Professor and Chairman, Department of Microbiology, c/o Personnel/Manpower Division, Uniformed Services University of the Health Sciences, Bethesda, Md. 20814. Curriculum vitae will not be returned. Equal Opportunity/Affirmative Action Employer.

PEPTIDE CHEMIST—RESEARCH ASSOCIATE

A postdoctoral position is available for research on structure-function relationships in aminoacyl-tRNA synthetases. Consideration will be given only to applicants with experience in protein chemistry. Interested individuals should send curriculum vitae and letters including professional objectives and references to:

Dr. Alan H. Mehler Medical College of Wisconsin P.O. Box 26509 Milwaukee, Wisc. 53226

PHARMACOLOGIST—Tenure-track, 12-month appointment at the level of assistant profesor to be filled by 1 January 1982 or as soon thereafter as reasonably possible. Duties will include teaching autonomic pharmacology to medical students and developing an active research program. Qualifications include: a Ph.D. or M.D. degree, at least 1 year of postdoctoral experience, and demonstrated research productivity. Primary consideration will be given to those applicants with experience in autonomic or cardiovascular pharmacology. Those interested should send curriculum vitae, including asummary of teaching and research experience, and the names of three references to: Dr. Edward Knych, Room 305C, Department of Pharmacology, University of Minnesota, Duluth, School of Medicine, Duluth, Minnesota 55812, by 31 October 1981.

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

KUWAIT

University of Kuwait Faculty of Medicine

MEDICAL SCIENCE AND CLINICAL APPOINTMENTS

Applications are invited for the following appointments in the Faculty of Medicine:

Anatomy:

Assistant Professor in neuroanatomy. Candidates should have teaching and research experience in anatomy and neuroanatomy.

Assistant Professor in histology. Candidates should have teaching and research experience in anatomy and histology. A thorough knowledge of ultrastructure and cell biology is essential.

Assistant Professor in human development (embryology), Candidates should have teaching experience in anatomy and embryology and research experience in experimental embryology or genetics.

Preference for the above posts will be given to suitable, medically qualified candidates. The successful candidates will be expected to teach medical, dental, allied health and graduate students.

Assistant or Associate Professor with an interest in respiratory medicine. Assistant or Associate Professor in dermatology.

Assistant or Associate Professor with an interest in endocrinology.

Associate Professor in primary care.

Microbiology:

Assistant Professor in bacteriology (2 posts). Assistant Professor in virology.

Assistant Professor in clinical microbiology

Preference for the above posts will be given to suitable, medically aualified candidates.

Paediatrics:

Associate Professor in histopathology. Associate Professor in clinical haematology. Associate Professor in clinical chemistry.

Assistant or Associate Professor, or Professor (2 posts).

Surgery:

Associate Professor in thoracic surgery.

Associate Professor in plastic and reconstructive surgery.

Associate Professor or Professor in traumatology.

Associate Professor in ENT surgery.

Associate Professor in paediatric surgery.

Associate Professor in neurosurgery.
Candidates for surgical posts should have at least 5 years' clinical

and teaching experience in their respective specialties.

Requirements for Appointment:

Applicants should possess a Ph.D., or higher professional medical qualification in their respective specialty, and have conducted and published research in their field. Professors should have 14 years' experience, 4 as an associate professor or its equivalent, i.e. senior lecturer or reader. Associate professors should have 9 years' experience, 4 as an assistant professor or its equivalent, i.e. lecturer.

Conditions of Appointment:

Salaries: Total monthly salaries will be within the following scales according to qualifications and experience (1 KD = £1.8, US\$3.5 approx.)

Professors with clinical appointments: KD 1190-1350 (8 increments).

Professors medically qualified with medical science appointments: KD 1120-1280 (8 increments).

Professors non-medically qualified: KD 1050-1210 (8 increments).

Associate Professors with clinical appointments: KD 969-1129 (8 increments)

Associate Professors medically qualified with medical science appointments; KD 912-1072 (8 increments).

Associate Professors non-medically qualified: KD 855-1015 (8 increments).

Assistant Professors with clinical appointments: KD 748-908 (8 increments).

Assistant Professors medically qualified with medical science appointments: KD 704-864 (8 increments).

Assistant Professors non-medically qualified: KD 660-820 (8 increments).

Clinical supplements: In addition to the above University salaries there will be a monthly clinical supplement paid by the Ministry of Public Health for ten months' a year to medical school staff with clinical service commitments. These are: Professor and Chairman—KD 250, Professor—KD 200, Associate Professor—KD 150, Assistant Professor—KD 100

Gratuity: There is a gratuity of one month's basic salary for each year employed payable on termination of contract.

Housing: Suitably furnished, air-conditioned accommodation, electricity and water are provided free of charge.

Medical care: Free, comprehensive treatment is available in Kuwait under the State Health Service.

Travel: Air tickets are provided from the country of recruitment for the appointee, spouse and up to 3 dependent children under 20 years. Thereafter, return air tickets are issued annually to the country of citizenship or permanent residence. On termination of contract, air tickets are provided to the country of recruitment. A baggage and freight allowance is also provided. In addition, travel expenses for attending one scientific meeting a year are paid by the University.

Vacation: Sixty days paid annual leave and various national holidays.

Education: This is provided free in state schools where the instruction is in Arabic. Staff who have to send their children to non-Arabic schools in Kuwait will have the tuition fees of up to a maximum of three met by the University.

Taxation: There is no income tax in Kuwait. Currency is transferable without restriction.

Method of Application:

Curriculum vitae in duplicate, which should include the names of three referees, personal particulars, qualifications with dates, career history, teaching experience, research accomplishments and, where appropriate, clinical experience should be sent to the Dean, Faculty of Medicine, University of Kuwait, P.O. Box 24923 Safat, Kuwait to arrive no later than 31st October 1981.

18 SEPTEMBER 1981 1425

PHYSICAL CHEMIST. Assistant professor, tenure-track position beginning spring or fall 1982 in a Ph.D. degree-granting Chemistry Department. Postdoctoral experience highly recommended. Applicant should have the ability and desire to teach undergraduate and graduate courses and is expected to develop a vigorous, independent research program in an area of experimental physical chemistry and to attract outside research grant funding. Please send résumé, transcripts, description of proposed research (one or more pages per problem), and three letters of recommendation by 23 October 1981 to:

Chairman, Search Committee Department of Chemistry Duquesne University Pittsburgh, Pa. 15282

Affirmative Action/Equal Opportunity Employer

PLANT BIOCHEMISTS

The Department of Agricultural Biochemistry at the University of Nebraska-Lincoln invites applications and nominations for two tenure-track faculty positions with research interests in (i) PLANT MEMBRANES and (ii) PLANT GROWTH AND DEVELOPMENT. Salary and rank are open for both positions. Application deadlines are 30 October 1981 and 31 December 1981, respectively. Postdoctoral experience is desirable. Although these 12-month positions will primarily entail basic research within the Experiment Station, the appointees will also participate in the teaching program. Résumé and names of three references should be sent to: Dr. R. V. Klucas, Department of Agricultural Biochemistry, The University of Nebraska-Lincoln, Lincoln, Nebraska 68583-0718. Telephone: 402-472-2932. An Equal Opportunity/Affirmative Action Employer.

PLANT VIROLOGIST—Ph.D., full-time, tenure-track position as assistant professor with research (75 percent) and teaching (25 percent) duties. Emphasis on epidemiology and control. Develop research program, teach graduate course, and direct graduate programs. For full consideration, submit current résumé, transcripts of grades, and three letters of reference to: Dr. W. L. Klarman, Professor and Head, Department of Plant Pathology, Oklahoma State University, Stillwater, Okla. 74078, by 1 November 1981. Telephone: 405-624-5643. An Affirmative Action/Equal Opportunity Employer.

University of Michigan Medical School, Department of Surgery, Section of Plastic Surgery, will have a position available in July 1982 for a PLASTIC SURGEON at the assistant professor level. The applicant must have a strong research background and be interested in devoting part of his time to research. The position involves teaching in an active plastic surgery residency program, and an active clinical practice. Further training in oculoplastic surgery, hand surgery, or microsurgery is desirable. Send curriculum vitae to: William C. Grabb, M.D., Head, Section of Plastic Surgery, University of Michigan Medical Center, Ann Arbor, Mich. 48109. A nondiscriminatory, Affirmative Action Employer. Code 97FO.

POSTDOCTORAL FELLOW

Postdoctoral fellow (Ph.D. or M.D.) with primary interest in cell biology-biochemistry to join in established group investigating lung injury, repair, and fibrosis. This is a 2-year appointment. Applications with names of three referees should be sent to:

Dr. Drummond H. Bowden
Professor and Head
Department of Pathology
University of Manitoba
Health Sciences Centre
700 William Avenue
Winnipeg, Manitoba, Canada R3E 0Z3

POSTDOCTORAL POSITION for research on chromatin associated proteases involved in spermatogenesis. Some experience in research on proteins and enzymes desired. Salary: \$13,500. Send curriculum vitae and names of three references to: J. Logan Irvin, Department of Biochemistry, School of Medicine, University of North Carolina, Chapel Hill, N.C. 27514. Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITIONS. Ph.D. in biochemistry or microbiology. Experience with protein purification and/or cell biology (immunobiology would be very helpful). To study factors which regulate hemopoiesis in a virus-induced leukemia. Affirmative Action/Equal Opportunity Employer. Send résumé to:

Box 231, SCIENCE

POSITIONS OPEN

POSTDOCTORAL FELLOW

Postdoctoral fellow positions for organic chemist or biochemist. Research involves the chemical synthesis and isolation of polypeptides of biological important and structure-activity studies. Candidates should have some experience in polypeptide chemistry. Send résumé and three letters of recommendation to: Dr. P. G. Katsoyannis, Chairman, Department of Biochemistry, THE MOUNT SINAI SCHOOL OF MEDICINE, 1 Gustave L. Levy Place, New York, N.Y. 10029. An Equal Opportunity Employer.

POSTDOCTORAL POSITION available for a candidate with a recent doctorate in chemistry, biochemistry, or related area. Investigations employ nucleic acid chemistry, DNA sequencing and recombinant technology, cell culture, and DNA replication in vitro to understand chemical mutagenesis, carcinogenesis, and control of gene expression. Send letter of application, curriculum vitae, and three references to: Michael D. Topal, Ph.D., Cancer Research Center, University of North Carolina, Box 30, MacNider Building, Chapel Hill, N.C. 27514. An Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION

Available immediately for a period of 2 to 3 years to work on problems related to microtubule structure and assembly in vivo and in vitro using mammalian cell mutants affected in microtubule structural components. A strong background in biochemistry and cell biology is required. Initial salary: \$15,000 per annum. Send curriculum vitae to: Dr. R. S. Gupta, Department of Biochemistry, McMaster University, Hamilton, Ontario, Canada L8N 3Z5.

POSTDOCTORAL POSITION available fall 1981. The route of transport of proteins into algal chloroplasts will be studied by EM immunocytochemistry. Experience in electron microscopy and/or immunocytochemistry desirable. Please send curriculum vitae and names of three referees to: Dr. Sarah P. Gibbs, Department of Biology, McGill University, 1205 Avenue Docteur Penfield, Montreal, Quebec, Canada H3A 1B1.

POSTDOCTORAL POSITION IN ASTRONOMY. We are inviting applicants for a postdoctoral appointment. The selected applicant will be participating in an experiment in very narrow band speckle interferometry using the MMT and other telescopes at the University of Arizona to study millisecond of arc phenomena on bright stellar objects. The applicant should have an interest and background in experimental astrophysics, preferably in the areas of image detection and computer image analysis. This appointment will be subject to the approval of a proposal to the NSF. Applications, including résumé, should be submitted to: Dr. J. M. Beckers, whill be incompleted in the provided proposal to the NSF. Applications, including résumé, should be submitted to: Dr. J. M. Beckers, Multiple Mirror Telescope Observatory, University of Arizona, Tucson, Ariz. 85721. For more information, telephone: J. M. Beckers, 602-626-1812, or E. K. Hege, 602-626-1049. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL RESEARCH ASSOCIATE positions are available for studying biochemical, pharmacologic, and pathophysiologic aspects of Ca^{2+} -dependent (phospholipid- or calmodulin-sensitive) and cyclic nucleotide-dependent protein phosphorylation systems in heart, brain, spleen, and human leukocytes. Qualified and interested persons contact:

Dr. J. F. Kuo Department of Pharmacology Emory University School of Medicine Atlanta, Georgia 30322

Emory University does not discriminate on the basis of race, color, religion, sex, national origin, handicap, age, or Veteran status.

Scripps Institution of Oceanography invites applications for the position of POSTGRADUATE RESEARCH THROUGH ASSISTANT RESEARCH. Appointment as assistant researcher requires publication record. Candidates should have experience in and/or a desire to participate in ocean-related research. Principal research areas include physical oceanography, acoustical remote sensing and signal processing, ocean acoustics, sea-floor studies, marine geophysics, and marine technology. Send curiculum vitae and names of references to: Professor K. M. Watson, Director, Marine Physical Laboratory of the Scripps Institution of Oceanography, University of California, San Diego, Calif. 92152. The University of California, San Diego, is an Equal Opportunity/ Affirmative Action Employer.

POSITIONS OPEN

POSTDOCTORAL POSITION available immediately for studies on the regulation of oocyte maturation in amphibians. Areas of study include characterization of hormone receptors on oocytes, identification of receptor mediated insulin responses in eggs, and analysis of regulatory events during cell division that utilize protein phosphorylation. Most projects will involve the use of microinjection techniques in combination with biochemical and physiological analysis. A background in biochemistry or cell biology is highly desirable. Two-year position with possibility of renewal at a starting salary of \$15,000 to \$17,000. Send curriculum vitae and names of three references to: Dr. James L. Maller, Department of Pharmacology (Box C236), University of Colorado School of Medicine, Denver, Colorado 80262.

POSTDOCTORAL POSITION available immediately to study the regulation of the different rates of DNA synthesis during the S-phase of human cells see J. Biol. Chem. 255, 3585 (1980)]. NIH funding. Research will require analysis of DNA polymerases, ligases, DNA structural studies, quantitative determination of rates of DNA synthesis, recombinant DNA cloning and sequencing, and flow cytometry in cultured cells. Send curriculum vitae and names of three references to: Dr. James Collins, Box 614, Department of Biochemistry, Medical College of Virginia campus, Virginia Commonwealth University, Richmond, Va. 23298. An Equal Opportunity Employer.

POSTDOCTORAL POSITION available for Ph.D. in biochemistry, cell biology, or related field. Research involves regulation of lipid synthesis in developing neural systems, especially in tissue and cell culture. Approach emphasizes regulation at the enzyme level and interrelations of this regulation and membrane structure and function. Stimulating academic environment. Salary competitive. Send curriculum vitae to: Dr. Joseph Volpe, Department of Pediatrics, Neurology and Biological Chemistry, Washington University School of Medicine, P.O. Box 14871, St. Louis, Mo. 63178.

POSTDOCTORAL POSITION available 1 December 1981 for investigating molecular details of the structure and function of the receptor for immunoglobulin E from a mammalian cell line. Applicants should have experience in fluorescence spectroscopy, membrane biochemistry, or immunology. Send résumé and the addresses of three references to: Professor Barbara Baird/Dr. David Holowka, Baker Laboratory of Chemistry, Cornell University, Ithaca, N.Y. 14853. Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION IN ANATOMY is available for qualified M.D. and/or Ph.D. in anatomy or physiology to develop collaborative biomedical research program in neuroendocrinology, specifically in the adrenal or reproductive system of the obese Zucker rat. Salary negotiable depending on qualifications and experience. Send curriculum vitae, bibliography, and three letters of recommendation to: Professor Panayotis G. latridis, Assistant Dean and Director, Northwest Center for Medical Education, Indiana University School of Medicine, 3400 Broadway, Gary, Indiana 46408. Indiana University is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION available immediately to study enzymology of sphingolipid biosynthesis with a bacterial system, in particular, purification of enzymes and design of specific inhibitors. Applicants with a background in enzymology, lipid biochemistry, and some microbiology. Send curriculum vitae and names of references to: Dr. Meir Lev, Professor and Chairman, Department of Microbiology, Southern Illinois University, Carbondale, Ill. 62901. An Equal Opportunity/Affirmative Action Employer. Open until filled.

POSTDOCTORAL POSITION to investigate the transport of sodium and calcium across isolated cardiac sarcolemmal membranes. We are interested in basic transport mechanisms and their regulation, membrane structure, and the effects of interventions, such as myocardial ischemia, on membrane properties.

Send curriculum vitae and names of three references to:

Dr. Kenneth D. Philipson Department of Physiology University of California, Los Angeles School of Medicine Los Angeles, Calif. 90024

UCLA is an Equal Opportunity/Affirmative Action Employer. Minority and women candidates are encouraged to apply. Career in Biotechnology

IMMUNOLOGY/ **HYBRIDOMA** TECHNOLOGY

We are proud of the company's demonstrated track record in the field of biotechnology and the fact it has doubled its sales every year since its formation.

The Molecular Diagnostics division of BRL has a Ph.D level position available. The applicant should have solid training and experience in cellular membrane antigens, particularly their isolation and molecular characterization.

A strong background in cellular immunology and hybridoma technology is also required. The successful candidate will join an expanding group of cellular immunologists dedicated to several clinically-oriented research programs.

BRL is an industry leader in the research and application of molecular and cellular biology... and continues to announce significant clinical and industrial products.

We invite your inquiry.

Please send your resume'/ C.V., in confidence to:

J. Wamstad

BETHESDA RESEARCH LABORATORIES

Box 577 A, 8717 Grovemont Circle, Gaithersburg, Md. 20877 (A suburb of Washington, D.C.)



An equal opportunity employer,

35th Annual Symposium on Fundamental Cancer Research

"Perspectives on Genes and the Molecular Biology of Cancer" March 2-5, 1982

This symposium, sponsored by The University of Texas M. D. Anderson Hospital and Tumor Institute, will focus on the molecular biology of cancer and explore in depth the metabolism involved in cellular cancer growth. Over 30 lectures and several poster sessions will cover the following topics:

- Gene organization and evolution
- Gene transfer
- Regulation of gene expression
 Novel applications of recombinant DNA technology to human cancer

Speakers will include:

R. Axel, D. Baltimore, J. Baxter, P. Berg, M. Birnstiel, D. Botstein, D. Brown, P. Chambon, D. Clayton, R. Davis, B. DeCrombrugghe, W. Gilbert, W. Hazeltine, L. Hood, R. Kamen, P. Leder, T. Miniatis, B. Mintz, B. O'Malley, D. Robberson, F. Ruddle, G. Saunders, R. Schimke, C. Schmid, P. Sharp, H. Temin, S. Tonegawa, G. Vande Woude, H. Varmus, R. Weinberg, C. Weissman, and R. White.

For scientists interested in presenting poster papers, please send abstracts by Dec. 31, 1981 to:

Dr. Grady F. Saunders or Dr. Donald L. Robberson M. D. Anderson Hospital and Tumor Institute 6723 Bertner Ave. Houston, Tex. 77030

Registration information may be obtained from Frances Goff, Room 115, at the same address.

RECOMBINANT DNA RESEARCH

CORNING GLASS WORKS invites an outstanding scientist to join its expanding Biosciences Department as a member of the recombinant DNA research group.

The successful candidate should have a doctoral degree, experience in recombinant DNA research, and a significant record of scientific achievement. Experience with both DNA sequencing and synthesis is desirable.

We are located in the beautiful Finger Lakes region of upstate New York, approximately 250 miles from New York City.

We offer a pleasant working environment in addition to a competitive salary and benefits package.

Interested candidates should forward their resumes, lists of publications, reprints or preprints of pertinent publications and the names of three references, by no later than October 15, 1981 to:

Mr. Gordon R. McPherson, Manager **Personnel Administration** Research and Development Division **Corning Glass Works** Sullivan Park Corning, New York 14831

CORNING GLASS WORKS

An Equal Opportunity Employer

Research Scientist

GI Pharmacology

G. D. Searle & Co., Research & Development Division, has a position available in their Gastrointestinal Pharmacology Section. This unit conducts research focused on the discovery of new drugs for treating gastrointestinal diseases. Expansion of our basic research program in gastrointestinal diseases. Expansion of our basic research program in this area dictates the need for a person holding a Ph.D. degree with 3-5 years post-doctoral experience. The qualified candidate should have a strong background in Biochemistry/Cell Physiology and be well versed in the techniques for studying cellular and subcellular systems. Special emphasis will be directed toward research involving both the physiological and pathological mechanisms of secretion, absorption and inflammatory processes in the gastrointestinal tract. Particular interest centers on prostaglandins and other agents and their role as mediators of gastrointestinal function. Initiative, creativity, and managerial skills will be necessary for developing this new program.

We offer a rewarding environment of growth and challenge, competitive salary and benefits package, and relocation assistance. Interested applicants are encouraged to send a detailed curriculum vitae or resume, including salary history to:

> Barbara Gardner #8125-019

Research & Development Division G. D. Searle & Co. P.O. Box 5110 Chicago, IL 60680

Equal Opportunity M/F/H . . . A Practice, Not Just A Policy

POSTDOCTORAL POSITIONS (TWO) IN ENVIRONMENTAL TOXICOLOGY

To participate in hepatic cell culture investigations of chemical carcinogens and neuropharmacologic effects of chemicals. Write to:

Dr. Rajender Abraham Professor of Toxicology and Director, IEP&T Albany Medical College Albany, New York 12208 Telephone: 518-445-5492

POSTDOCTORAL/RESEARCH ASSOCIATE POSITION FOR A PROTEIN BIOCHEMIST to study human plasma and intracellular proteins which influence regulation of cell growth and differentiation in normal and neoplastic cells. Two- to 3-year position available summer 1982 for recent graduate of Ph.D. program in United States. Competitive salary. Send curriculum vitae and three letters of recommendation to: Dr. Robert E. Scott, Head, Section of Experimental Pathology, Mayo Clinic/Foundation, Rochester, Minn. 55905. An Equal Opportunity/Affirmative Action Institution.

POSTDOCTORAL RESEARCH POSITION. Available immediately. To study and develop specific antibodies to DNA damage and to quantitate DNA damage and repair in vitro and in vivo. Candidates should have experience in immunochemistry/immunology, molecular genetics and/or cellular toxicology. Please send curriculum vitae and names of three references to: Dr. Steven D'Ambrosio, Department of Radiology, Ohio State University Hospital, Columbus, Ohio 43210.

NATIONAL SCIENCE FOUNDATION (NSF)

NSF, Division of Physics, anticipates a need for PROGRAM OFFICERS for 1- or 2-year rotational appointments starting about 1 September 1982. The subfields of physics and qualifications are: (i) Elementary particle physics requiring a Ph.D. and several years of recent, successful research experience in experimental elementary particle physics; (ii) Nuclear science requiring a Ph.D. and several years of recent successful research experience in experimental intermediate energy/nuclear physics; (iii) Theoretical physics requiring a Ph.D. and several years of recent experience in theoretical physics with special expertise in nuclear theory; (iv) Atomic physics requiring a Ph.D. and several years of recent successful research experience in theoretical or experimental atomic physics. Responsibilities include proposal processing, budgeting, and long-range planning for physics. A broad knowledge of recent activities and of researchers in the field is essential. Salaries are negotiable based on qualifications and experience and range from \$37,871 to \$50,112.50 per annum. Candidates should send résumé to: National Science Foundation, Personnel Administration Branch, 1800 G Street, NW, Washington, D.C. 20550, attention: E. Paul Broglio. For further information, telephone: 202.357-7841. NSF is an Equal Opportunity Employ-

NATIONAL SCIENCE FOUNDATION

The Division of Policy Research and Analysis of the National Science Foundation is seeking nominations for a SENIOR PHILOSOPHER OF SCIENCE under the provisions of the Intergovernmental Personnel Act of 1970. Duties include the examination of the key dimensions of the utilization of research in the science and technology policy-making process. Methodological and epistemological issues as they influence research results in the inexact sciences are a major concern.

Applicants should hold a Ph.D. in philosophy and have a demonstrated record of research in philosophy of science.

The assignment is for 1 to 2 years, starting between February and June 1982. The individual selected for assignment will remain an employee of the nominating organization which may be reimbursed by NSF for a portion of salary and other costs related to the assignment.

Letters of nomination and curriculum vitae should be forwarded by the applicant's institution (not by the individual) to:

> Joshua Menkes, Group Leader Technology Assessment and Risk Analysis Room 1233 National Science Foundation 1800 G Street, NW Washington, D.C. 20550

POSITIONS OPEN

POSTDOCTORAL POSITION—DRUG METABOLISM. Opportunity to study the role of metabolism (particularly formation of reactive intermediates) in the mechanism of action of the neurotoxin, parachloroamphetamine. Project involves use of stableand radiolabeled isotopes, GC and GC/MS analyses, in vitro metabolism studies, and in vivo metabolism studies opportunity to participate in related studies with antitumor agents. Send curriculum vitae and list of three references to: Matthew M. Ames, Ph.D., 442 Guggenheim Building, Mayo Clinic, Rochester, Minn. 55905. An Equal Opportunity/Affirmative Action Institution.

TRUDEAU INSTITUTE, INC.

A POSTDOCTORAL RESEARCH POSITION in immunology-parasitology is available immediately to study cellular mechanisms involved in the regulation and expression of immunity to rodent malaria. A background in immunology is highly desirable. Salary is \$14,000 per year, plus fringe benefits. Send curriculum vitae, date available, and three references to:

Dr. George L. Spitalny, Trudeau Institute, Inc., Box 59, Saranac Lake, New York 12983.

The Research Division of the Joslin Diabetes Center is undergoing reorganization and expansion providing a unique opportunity for those interested in basic and clinical research in diabetes and related disorders. Positions are now available for individuals (M.D. and/or Ph.D.) who could sustain a creative program in one of several areas, including: immunology/virology; eukaryotic molecular genetics; biology of blood vessels; and islet cell transplantation/physiology. Start up salary and research support available. Individuals will also have appropriate appointments at Harvard Medical School and The Brigham and Women's Hospital.

Please send updated curriculum vitae and names of three references to: Dr. C. Ronald Kahn, Research Director, Joslin Diabetes Center, One Joslin Place, Boston, Mass. 02215

The Joslin Diabetes Center is an Equal Opportunity/Affirmative Action Employer.

RESEARCH ASSISTANT PROFESSOR OF CHEMISTRY (assistant faculty fellow). An appointment is available to participate in ongoing research in the chemistry and immunology of proteins involved in blood coagulation and fibrinolysis. Reappointment on a year-to-year basis is anticipated for 2 to 3 years. Candidates must possess postdoctoral experience and must have qualifications sufficient for a faculty level appointment. Applicants should send curriculum vitae and arrange for three references to be sent to: Dean, College of Science, University of Notre Dame, Notre Dame, Ind. 46556. An Equal Opportunity/Affirmative Action Employer.

RESEARCH ASSOCIATE POSITION

Position available immediately for studies on prostaglandins and H-2 receptor antagonists on upper and lower gastrointestinal lesions. Candidates must have a strong background in gastrointestinal physiology and function, enzymology, and receptor pharmacology.

macology.

M.D. or Ph.D. in physiology, biochemistry, or related area preferred. Cándidates must also have demonstrated the ability to carry out independent research in biochemical or related field. Send curriculum vitae and letters of reference to: Head of the Gastroenterology Research Laboratories, Hektoen Institute, 627 South Wood Street, Chicago, Illinois 60612. Equal Opportunity Employer.

RESEARCH ASSOCIATE. Background in neurochemistry and/or neuropharmacology, and/or CNS electron microscopy including freeze-fracture techniques. Our laboratory studies structural and neurochemical properties of photoreceptors and other retinal neurons. Position available fall 1981. Send curriculum vitae to: Dr. Adolph I. Cohen, Department of Ophthalmology, Box 8096, Washington University School of Medicine, 660 South Euclid Avenue, St. Louis, Mo. 63110. An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

RESEARCH ASSOCIATE. Multidisciplinary project on molecular cloning of plasma proteins. Preference will be given to candidates with experience in molecular genetics, protein biochemistry, immunochemistry and/or blood coagulation. Position available immediately. M.D. or Ph.D. Send curriculum vitae, statement of research interests, and names of three referees to: Dr. Frank E. Young, Dean and Director, University of Rochester Medical Center, 601 Elmwood Avenue, Rochester, New York 14642.

RESEARCH ASSOCIATE position available immediately to participate in a study on the flux of volatile sulfur compound between the oceans and the atmosphere. The work involves both laboratory and field studies. Ph.D. (or nearing completion) and experience in analytical chemistry and/or marine or atmospheric chemistry required. One-year contract. Renewal for up to 3 years. Salary: \$15,000. Applications, including résumé and names of three references, to be sent to: Dr. Meinrat O. Andreae, Department of Oceanography, Florida State University, Tallahassee, Florida 32306.

RESEARCH ASSOCIATE. Ph.D. in biochemistry or biology to study sequence specific interaction of RNA and proteins in the globin HnRNP and the nuclear matrix. Experience in recombinant DNA and molecular biology is desirable. Send curriculum vitae to: Dr. Chi-Bom Chae, Department of Biochemistry, School of Medicine, University of North Carolina, Chapel Hill, N.C. 27514. Equal Opportunity/ Affirmative Action Employer.

RESEARCH ASSOCIATE with experience and interest in nucleic acids to join a team studying gene structure and expression in human tumors. Studies will involve extensive use of recombinant DNA technology. The position is available immediately, in the laboratory of Dr. Susan M. Astrin, with funding assured for at least 2 years in the range of \$15,000 to \$25,000, according to experience. Send-curriculum vitae, list of publications, and the names of three references to: Mary T. Dixon, Professional Staffing, c/o Personnel Office, INSTITUTE FOR CANCER RESEARCH, THE FOX CHASE CANCER CENTER, 7701 Burholme Avenue, Philadelphia, Pa. 19111. An Equal Opportunity/Affirmative Action Employer.

RESEARCH ASSOCIATE

Ph.D. with experience in the use of x-rays and in the assay of cells of human origin cultured in vitro. Strong background in radiation biology essential. Position to begin 1 June 1982. Send credentials, reprints, and three letters of reference to: Dr. Erie J. Hall, Radiological Research Laboratory, College of Physicians & Surgeons, Columbia University, 630 West 168 Street, New York, N.Y. 10032. An Affirmative Action/Equal Opportunity Employer.

RESEARCH INSTRUCTOR POSITION

It is anticipated that a research instructor position at the postdoctoral level will be available 1 February 1982. The salary will be in the range of \$16,000 to \$17,500, depending on experience. The work will require diamond high-pressure studies, the Mössbauer effect and angular correlation studies at high pressures, and the theoretical treatment of alloys. Send résumé, references, and date of availability to: Professor Louis D. Roberts, Department of Physics and Astronomy, The University of North Carolina, Chapel Hill, N.C. 27514. An Equal Opportunity/ Affirmative Action Employer.

TOXICOLOGIST (Dermal Toxicology and Carcinogenesis)

The Bushy Run Research Center (BRRC), a jointly operated Carnegie-Mellon University/Union Carbide Corporation toxicology laboratory, is currently seeking a Ph.D. toxicologist. Applicant must have to 3 years of post-degree experience or an M.S. with 4 to 7 years of experience or the equivalent. Performance of scientific studies in dermal toxicology and carcinogenesis and relevant professional publications are also required. The person will plan and coordinate the activities pursuant to the conduct and reporting of dermal oncogenesis studies involving industrial chemicals. Experience with dermal oncogenesis bioassays is preferable but not essential Send résumé and references to: R. J. Jackman, Administrative Director, Bushy Run Research Center, Carnegie-Mellon University, 4400 Fifth Avenue, Pittsburgh, Pa. 15213. Salary will be commensurate with training and experience.

BRRC is an Equal Opportunity Employer

POSTDOCTORAL POSITION/ RESEARCH **ASSOCIATE:** available immediately to study the **GENETICS of METHANO-**GENIC BACTERIA. A strong background in molecular biology (bacterial genetics and recombinant DNA technology) is desirable. A part of this research will involve development of genetic systems for these methane producing microorganisms. curriculum vitae and names of three references to:. Dr. J. Konisky, Department of Microbiology, 131 Burrill Hall, 407 South Goodwin, University of Illinois, Urbana, Illinois 61801. Equal Opportunity Employer



National Research Council Canada

Conseil national de recherches Canada

RESEARCH OFFICERS **Biological Production of Fuels**

The Division of Biological Sciences of the National Research Council of Canada requires Research Officers to conduct research in the area of microbial and enzymatic production of fuels from biomass, such as wastes and cellulose. The Group involved is developing new and im-proved technologies for fuel production both at laboratory and pilot plant scales. An example is the development of fixed film reactors for high rate production of methane from wastes. Duties include the study and development of these new technologies both by in-house research and by management of research contracts with interested industries and outside research institutions. The work may also involve a study of the characteristics of the microorganisms as these relate to the technologies being used.

Applicants must have a Ph.D. in biochemical, sanitary or civil engineering or microbiology. Preference will be given to applicants with interest and experience in engineering aspects of fermenter design and operation, yet having a broad background in microbiology or biochemistry. M.Sc. with pertinent experience will also be considered.

Salary-Up to \$37,385 per annum, depending on qualifications.

Apply in writing to the Employment Officer, National Research Council of Canada, Ottawa, Ontario, K1A OR6. In reply, please quote BY-81-5-S.

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DEAN FACULTY OF ARTS AND SCIENCE

Applications and nominations are invited for the position of Dean of the Faculty of Arts and Science. Candidates should have a commitment to excellence in education and research as demonstrated by superior scholarship, managerial skills, and capacities to coordinate various university constituencies.

The Dean has responsibility for the leadership of academic programs at the undergraduate and graduate levels. In addition to monitoring the related fiscal and personnel matters, the Dean should promote and coordinate internal and external ventures of approximately thirty five departments and programs that comprise the Faculty of Arts and Science.

Applications with current resumes and a list of references should be submitted prior to November 1, 1981 to:



FACULTY OF ARTS AND SCIENCE

Dean Search Committee 4 Washington Place, Room 509 New York, New York 10003 Attn: Professor Edward McNelis, Chairperson

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RESEARCH ASSOCIATE II available 15 October 1981. To investigate epidemiology and management of plant disease. Initial efforts will focus on potato late blight. Ph.D. in plant pathology, ecology, microbiology, or genetics is required, and experience in plant disease epidemiology is desired. Send curricular vite and three letters of reference to: Delum vitae and three letters of reference to: Dr. William F. Fry, Plant Pathology Department, 334 Plant Science Building, Cornell University, Ithaca, N.Y. 14853. Cornell University is an Equal Opportunity/Affirmative Action Employer.

Position open for RESEARCH SCIENTIST to study effects of toxic metals and other environmental pollutants on the central nervous system. This nontenure-track, contingent-upon-funds position requires a minimum of 3 years of directly related postdoctoral training. Experience should include all or most of the following areas: psychopharmacology or most of the following areas: psychopharmacology of drugs and/or toxicants in rodents and primates; use of computers (software design and management) for behavioral and physiological testing; and experience with commonly used biochemical or neurochemical techniques (for example, enzyme activity measurements, radioligand binding, measurement of biogenic amines, and so forth). The ability to work independently in an interdisciplinary program and conduct or interpret the disc from various disciplinary. conduct or interpret studies from various disciplines is essential. Please reply to: Judy Perry, Business Manager, Biological Sciences Research Center, University of North Carolina School of Medicine, Chapel Hill, N.C. 27514. Closing date for applications: 15 October 1981 October 1981.

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SKIN RESEARCH PRINCIPAL SCIENTIST

The Gillette Research Institute, a division of The Gillette Company, has a career opportunity for an established researcher, seven or more years beyond doctorate with recognized accomplishment and broad experience in skin related research. Cell structure-function related research. Cell structure-func-tion relationships or receptor related bio-chemical experience preferred. Must have ability to transfer new findings and method-ologies from academia to industrial research

Primary responsibility will be to initiate and develop research programs leading to the development of a new generation of skin products on basis of recent and anticipated advances in biological sciences. Will also maintain productive liaison with academia and other researchers in allied fields.

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VISUAL/CLINICAL SCIENTIST

ASSISTANT RESEARCH SCIENTIST I-III/ASSO-ASSISTANT RESEARCH SCIENTIST I-III/ASSO-CIATE SPECIALIST I-II wanted with Ph.D. or M.D. or O.D. with clinical and/or research experi-ence for full-time appointment to active optometry/ ophthalmology research laboratory in San Francisco Bay area. Duties include conducting research and training of postdoctoral fellows and graduate stu-dents in various aspects of applied visual science, including refraction, fields, psychophysical testing of Stiles Crawford Function, increment threshold, acuity infant vision, and accommodation. Salary of Stiles Crawford Function, increment inresnoid, acuity infant vision, and accommodation. Salary from \$21,600 to \$23,800 for 11-month appointment beginning as soon as possible. Please send curriculum vitae, statement of interest and experience and three references to: Dr. Jay M. Enoch, Dean, School of Optometry, University of California, Berkeley, Calif. 94720. An Equal Opportunity/Affirmative Action Fundlycer. tion Employer.

POSITIONS OPEN

RESEARCH ASSOCIATE

Ph.D. required with experience of oncogenic transformation assay systems with cells in vitro exposed to radiation and chemicals. Strong background in radiation biology essential. Send credentials, reprints, and three letters of reference to: Dr. Eric J. Hall, Radiological Research Laboratory, College of Physicians and Surgeons of Columbia University, 630 West 168 Street, New York, N.Y. 10032. An Equal Opporturity/Affirmative Action Employer. Opportunity/Affirmative Action Employer.

The Stanford Synchrotron Radiation Laboratory (SSRL) has an opening for a SENIOR RESEARCH ASSOCIATE or ADJUNCT PROFESSOR in the field of vacuum ultraviolet and soft x-ray science. Major responsibilities include working with users in development, maintenance, and characterization of SSRL's experimental stations. The scientist will have opportunities for research utilizing synchrotron radiation in such areas as solid-state sciences, chemradiation in such areas as solid-state sciences, chemical physics, physical optics, semiconductor surface and interface fundamentals and applications, utilizing photoemission, surface EXAFS, gas-phase molecular spectroscopy or time-resolved spectroscopy. Experience with ultrahigh vacuum techniques is necessary; familiarity with the operations of a synchrotron radiation laboratory desirable. Write by 15 October 1981 to: 1. Lindau, SSRL, Bln 69, P.O. Box 4349, Stanford, Calif. 94305.

TRAINING PROGRAM

PRE- AND POSTDOCTORAL TRAINING IN AG-ING AND THE NERVOUS SYSTEM. A new training grant awarded to the Sanders-Brown Research Cengrant awarded to the Sanders-Brown Research Center on Aging of the University of Kentucky provides support for pre- and postdoctoral fellows to work with a multidisciplinary faculty studying aging and the nervous system. Research includes studies of microchemical changes in cortex and hippocampus, membrane chemistry, brain trace elements alterations, neuroimmunology, neuroendocrine aspects of reproductive aging, effects of brain lesions on behavior, physiology of the life history of single neurons, and cytoskeletal studies.

Resources include a new 30 000-square-foot build-

Resources include a new 30,000-square-foot building for aging research, EM facilities, a planned maximum-security barrier system for long-term holding of animals, and a university-wide commit-

ment to gerontology.

Interested applicants should send credentials and letters of recommendation to: William R. Markesbery, M.D., Director, Sanders-Brown Research Center on Aging, University of Kentucky, Lexington, Ky. 40536.

FELLOWSHIPS

JOSIAH T. MACY FELLOWS Division of Health Policy Research and Education Harvard University

Harvard University is seeking applications from professionals in a variety of disciplines for a 1-year research on health policy matters, participate in division activities, and interact with students and division, including the Harvard Schools of Public Health, Medicine, and Government. Stipends will range from \$25,000 to \$30,000, depending on individual circumstances. For application forms and further information, write to: Center for Health Policy and Management, Kennedy School of Government, 79 Boylston Street, Cambridge, Mass. 02138. Harvard is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL FELLOWSHIPS

Postdoctoral positions available in a large immunology group. Opportunities available for study with individual faculty members in areas of immuno-chemistry, cellular immunology, bacterial immunology, clinical immunology, immunopathology, aller-gy, autoimmunity, tumor immunology, immunoge-netics, inflammation, and host defense mechanisms. Send three copies of curriculum vitae and names and addresses of three references to:

Dr. Ralph Kubo
Department of Medicine
National Jewish Hospital
3800 East Colfax Avenue Denver, Colorado 80206

FELLOWSHIPS

POSTDOCTORAL POSITION in cardiopulmonary physiology now available. Two years. Recent Ph.D. Areas available include myocardial oxygen uptake, regional flow and metabolism, respiratory gas exchange. Send curriculum vitae, your letter stating career goals, and letters directly from three references to: Dr. S. F. Sullivan, School of Medicine, University of California, Los Angeles, Calif. 90024. Equal Opportunity/Affirmative Action Employer.

Myasthenia Gravis (MG) Foundation 1982 POSTDOCTORAL FELLOWSHIP for MYASTHENIA GRAVIS RESEARCH

Full-time postdoctoral (M.D./Ph.D.), MG or MGrelated research, preceptor supervised, \$20,000 award, plus support services grant up to \$10,000. Write with reason for applying, curriculum vitae, two sponsor recommendations, and proposed program by 31 December 1981 to: Dr. Masland, MG Foundation, 15 East 26 Street, New York, N.Y.

HEISER PROGRAM FOR RESEARCH IN LEPROSY

Beginning postdoctoral research fellowships, research grants, and visiting research awards available in amounts up to \$16,500 per annum, plus other allowances, depending on type of award applied for. Applicants should have M.D., Ph.D., or equivalent degree. Applications by 1 February 1982, for awards to be activated June to December 1982. For information, write: Helser Program for Research in Leprosy, 450 East 63 Street, New York, N.Y. 10021.

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announces **SHORT COURSES**, **FALL 1981** - Intensive residential programs emphasizing laboratory practice and intended primarily for scientists and physicians who require the techniques and information for their own work.

QUANTITATIVE ANALYSIS OF ELECTRON MICROGRAPHS - November 29 - December 4, 1981 Lee D. Peachey, University of Pennsylvania, Instructor in Chief, assisted principally by Robert Buschmann of Chicago's Veterans Administration Medical Center and John Hazelgrove and Larry Palmer of the University of Pennsylvania. This course will be offered for the fifth time; attendance is limited to 20.

SMALL COMPUTERS IN BIOMEDICAL RESEARCH - December 6 - 11, 1981

Larry Palmer of the University of Pennsylvania is the Instructor in Chief of this course offered for the third time at MBL. He will be assisted principally by Lee Peachey, also of the University of Pennsylvania; attendance is limited to 16.

OPTICAL MICROSCOPY AND IMAGING IN THE BIOMEDICAL SCIENCES - December 6 - 11, 1981 Instructor in Chief will be Robert Day Allen of Dartmouth College. For this fifth offering of the course, associate faculty will be Nina Allen of Dartmouth College and Watt Webb of Cornell University; attendance is limited to 16.

OTHER SHORT COURSES available this Fall include Liquid Scintillation Counting, October 18-23, Yutaka Kobayashi, New England Nuclear Corp., Instructor in Chief; Protein Analysis by Polyacrylamide Gel Electrophoresis, November 1-6, Raymond E. Stephens, Marine Biological Laboratory/Boston University, Instructor in Chief; and Biological Electron Microscopy for Technicians, November 15-20, Morton Maser, Marine Biological Laboratory, Instructor in Chief.

ADDITIONAL INFORMATION on course content and application materials may be obtained from the Admissions Office, Marine Biological Laboratory, Woods Hole, MA 02543; telephone 617-548-3705. MBL is an Equal Opportunity Institution.

