

The paper is illustrated with high-quality electron micrographs. Though there have been a number of recent reviews on the subject of symbiotic algae and their relationships with invertebrates, a review by Cook of the initial cell recognition events, as deduced largely from experimental studies of *Hydra viridis* and *Paramecium bursaria*, is a welcome addition to the literature. Ahmadjian reviews recent attempts to resynthesize lichens from separately cultured symbionts and concludes that the experimental evidence does not suggest that the algal symbiont influences the kinds of chemical substances that are released or the morphology of the mycobiont. The methods that have been used to examine the structural and functional aspects of the cestode surface are analyzed in a lucid chapter by Lumsden and Murphy. Within a conceptual framework designed to illustrate a parasite's escape mechanisms from host immunological systems, Seed, Bogucki, and Merritt discuss the trypanosome cell surface and its interaction with immunoglobulins. They present evidence that suggests that trypanosomes have evolved on their cell surfaces at least two distinct mechanisms for escaping the host's immune response.

In a paper on enzyme interactions at the host-parasite interface Pappas reviews the evidence concerning the enzymatic mechanisms by which trematodes, cestodes, and acanthocephalans carry out absorptive functions and yet escape the host's digestive enzymes.

Rhodes and Gerdemann review the transport of nutrients in mycorrhizal associations and conclude that the present evidence suggests that the fungi in vesicular-arbuscular mycorrhiza play important roles in the mobilization, absorption, and translocation of nutrients (particularly phosphorus) to host roots.

The advantages and disadvantages of various techniques used to study nutrient movement between lichen symbionts are discussed by Smith. He concludes that although there is good evidence that large amounts of carbohydrates flow from algae to fungi there is no evidence to show movement of substances from fungi to algae.

There is a brief review of the experimental evidence for fluxes of nutrients in symbiotic reef corals by Muscatine and one of symbiotic bacteria in *Amoeba proteus* by Jeon. Jeon has developed a model system that may have great utility in the study of partner integration at the subcellular level. His experiments suggest that an amoeba infected with sym-

biotic bacteria can become dependent on the symbionts in fewer than 200 cell generations.

In separate brief papers, Trench discusses integrative mechanisms in symbioses and Margulis discusses symbiosis as a parasexual phenomenon.

Taken as a whole the book is an important contribution to the literature. I have the feeling that I will reach for it many times in the next few years to gain perspective on various aspects of this field.

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Books Received

Abstract Harmonic Analysis. Vol. 1, Structure of Topological Groups, Integration Theory, Group Representations. Edwin Hewitt and Kenneth A. Ross. Springer-Verlag, New York, ed. 2, 1979. x, 520 pp. \$50.60. *Grundlehren der mathematischen Wissenschaften* 115.

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Psycholinguistics. An Introduction to Research and Theory. Han Hörmann. Translated from the second German edition by H.

(Continued on page 1146)

mal's head and a carbon electrode in contact with the round window of the cochlea during microwave exposure. Our experiments and other evidence had shown that microwave pulses could easily vibrate both carbon and foam. We suggested that the data of Chou *et al.* may have been confounded by one or both of these artifacts. Nowhere in their comment do they reply to this critical finding (8). In fact, they admit that foamed plastic and carbon materials would "yield displacements that are much greater than are those of biological materials. . . ." Thus, they acknowledge that their microphonic data, the fundamental support of the hypothesis, may be due to an artifact (9).

Their commentary misleads also because they state: (i) "Frey and Coren conclude that thermoelastic expansion within the cochlear apparatus 'probably' underlies microwave hearing. . . ." What we in fact said was, "Among the many mechanisms in the cochlea that might account for the perception of microwave energy, consideration should be given to the possibility of thermoacoustic expansion within the cochlea." And (ii), "In an earlier paper [Frey argued]

that the cochlea is not activated by microwaves." Frey actually said the reverse may be the case (7, 10). Frey is honored, though, that Chou *et al.* acknowledge that, if warranted, he would willingly discard an old hypothesis in the light of new data.

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References and Notes

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2. C.-K. Chou, A. W. Guy, K. R. Foster, R. Galambos, D. R. Justesen, *Science* **209**, 1143 (1980).
3. See their reference 6, which was published in 1970. Stetson [K. A. Stetson, in *Holographic Nondestructive Testing*, R. K. Erk, Ed. (Academic Press, New York, 1974), p. 182] states: "The first hologram of a vibrating object was made on December 4, 1964." He also states: "To date [1974], very little application has been made of hologram interferometry to nonlinear vibration problems, but we may expect this to increase in the future."
4. This is similar to their earlier calculations on thermoacoustic expansion using a tank of water to represent the head and a hydrophone to represent the auditory system from which they concluded that such expansion in the brain, via bone conduction, is the mechanism for microwave hearing.
5. N. E. Molin and K. A. Stetson, *J. Opt. Soc. Am.* **60**, 1378 (1970); *Optik* **33**, 399 (1971); K. A. Stetson, *Appl. Opt.* **11**, 1725 (1972); A. D. Wilson, *J. Opt. Soc. Am.* **60**, 1068 (1970); _____

and D. H. Strobe, *ibid.*, p. 1162; A. D. Wilson, *ibid.* **61**, 924 (1971).

6. In their equation, they assigned values to τ and ($n\tau \ll 1$) that have been derived from their microphonic data—data apparently due to an artifact. Thus, their calculation and conclusion are not valid on that basis alone.
7. A. H. Frey and E. Coren, *Science* **206**, 232 (1979).
8. They also do not reply to four of the other independent lines of evidence published by others that we discussed in calling into question the thermoacoustic expansion-bone conduction hypothesis.
9. Chou *et al.* used their thermoacoustic expansion-bone conduction hypothesis to interpret their microphonic data in such a way that microwave pulses must generate pressure waves in the delicate tissues of the brain that pass into the skull, thence through the muscle of the head, thence through the skin, where it is radiated into the ear canal; then the waves, via air vibration, move the tympanic membrane, the ossicles, and then the oval window of the cochlea. The losses due to mismatches and attenuation in passing through all those interfaces would be substantial, so the initial wave would have to be large.
Yet Chou *et al.* assume that the tissue displacement induced is so small that it is about one-thousandth (0.001) of the thickness of a cell membrane—a displacement supposedly propagated via the pathway and with the losses noted above. One of the simpler explanations for their data is that the microwave pulses are moving their carbon electrode which is at the round window of the cochlea. Another is if there can be thermoacoustic expansion in the brain, why not in the basilar membrane of the cochlea, as White suggested to us and we cited [see reference 22 in (7)]. That would require much less power to induce hearing than the tortuous path to the basilar membrane that they postulate.
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5 May 1980; revised 14 July 1980

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Immunogeneticist. M.D., 3 years of postdoctoral training in autoimmune diseases. Well published. Recipient of postdoctoral fellowship award. Seeks tenure-track faculty position in research and training. Box 212, SCIENCE. X

Microbiologist. M.S., desires position of research associate and laboratory manager. Independent research. Strong interest and experience in microbial ecology. Broad background in microbiology and science. Also has editing and writing experience. L. Loudon (formerly M. L. Brock), 26 Fairway Court, Appleton, Wis. 54911. Telephone: 414-734-9251, extension 368. 9/12

Technical Writer. Smart, broadly acquainted in subjects and thoroughly versed in genre, management experience, likes variety of content, looking for stimulating work, San Francisco Bay area. Box 209, SCIENCE. X

POSITIONS WANTED

Versatile Scientist. Ph.D. Educated rather than trained, not narrowly specialized; intelligent, well-read, adaptable. Administration, teaching, microbiology, virology, immunology, tissue culture, cancer research, environmental studies, science writing, history medicine/science, and many other active interests. Interested in new endeavors in academia, industry, government, hospital. Prefer Southwest and Sunbelt. Box 213, SCIENCE. X

POSITIONS OPEN

ANIMAL VIROLOGY

Full-time positions for **Research Associates in Virology** now available. Seeking experienced investigators (Ph.D. or equivalent) with a good working knowledge of contemporary biochemical techniques for the study of RNA viruses. Funded research program involves the characterization of avian coronaviruses and host-range mutants of rhabdoviruses (VSV). Minimum starting salary of \$15,200. Liberal fringe benefits including 22 paid vacation days and paid health insurance. Postdoctoral fellowships for recent graduates including foreign nationals also available. Send complete résumé, a statement of research interests, and letters of reference to: **Dr. Robert W. Simpson, Professor of Virology, Waksman Institute of Microbiology, P.O. Box 759, Piscataway, New Jersey 08854.** Rutgers University is an Affirmative Action/Equal Opportunity Employer.

The Division of Environmental Studies seeks applications for a regular faculty position at the **ASSISTANT PROFESSOR** level in **ECOLOGICAL**. Requirements include a Ph.D. degree (or equivalent experience) in ecology or closely related disciplines and evidence of scholarly achievement and promise in field, experimental, and/or theoretical ecology. Teaching duties will include responsibility for core courses in the undergraduate and graduate curriculum and in the successful candidate's area of specialization. The research concentration may be any area relevant to basic ecology and population biology. Both terrestrial and aquatic ecologists will be considered. The deadline for applications is 15 October 1980. Applicants should submit a curriculum vitae, a statement of teaching and research interests, the names and addresses of three references, and copies of relevant papers and manuscripts to **Peter J. Richerson, Chair of the Search Committee, Division of Environmental Studies, University of California, Davis, 95616.** Candidates should also submit graduate and undergraduate transcripts.

The University of California is an Equal Opportunity and Affirmative Action Employee and invites application from all qualified individuals.

ASSISTANT PROFESSOR. Department of Medical Genetics seeks applications from M.D.'s or Ph.D.'s with postdoctoral training and strong background in molecular genetics of eukaryotes or the application of molecular genetics to medical or related problems. Appointee is expected to lead research program in area of expertise and participate in the teaching of molecular and cell biology. Applications should include a résumé and the names and addresses of three referees and should be sent to **Dr. Andrew Becker, Department of Medical Genetics, University of Toronto, Toronto, Canada M5S 1A8.** Closing date: 30 October 1980.

ASSISTANT PROFESSOR. Tenure-track (12 months). An individual with good training in modern aspects of microbiology, biochemistry, and molecular genetics who will develop an active research program possibly dealing with broad or fundamental aspects of applied microbiology or cell structure and function is desired. Examples of areas would be applied microbial genetics, physiology and genetics of microbial photosynthetic processes, structure and function of membranes with respect to energetics and transport processes, and fixed enzyme or cell matrices for microbial transformation reactions. Ability and willingness to teach in our undergraduate and graduate program are necessary. Individuals with postdoctoral training are invited to send their curriculum vitae, most significant reprints, a short statement of projected research plans, and the names of three references to **Dr. T. D. Brock, Chairman, Department of Bacteriology, University of Wisconsin, 1550 Linden Drive, Madison, Wis. 53706.** The University of Wisconsin is an Affirmative Action/Equal Opportunity employer in compliance with Title VI and IX. Deadline: 1 November 1980.

POSITIONS OPEN

DEPARTMENT OF ANATOMY

The Department has one opening for an assistant professor level appointment. A minimum of 2 years of postdoctoral experience in the neuroscience field is required. Research fields of interest which the department wishes to have developed involve: (i) pain mechanisms, (ii) immunocytochemistry of peptides, (iii) tissue and/or organ culture, (iv) cytostructure, or (v) intracellular recording and labelling techniques. The teaching requirement will be in gross anatomy.

The University of California is an Equal Opportunity Employer. Women and minorities are encouraged to apply.

Applications must include up-dated curriculum vitae, a minimum of three professional references, and copies of all publications.

Send applications to: **John E. Swett, Ph.D., Professor and Chairman, Department of Anatomy, College of Medicine, University of California, Irvine, Calif. 92717.**

ASSISTANT (ASSOCIATE) DEAN AND DIRECTOR OF THE COLLEGE URBAN HEALTH PROGRAM. Due to the promotion of the incumbent to a campus-level administrative post, the University of Illinois College of Medicine in Chicago is seeking qualified applicants for the position of assistant or associate Dean and director of the College Urban Health Program. This program aims to (i) identify and nurture the development of potentially qualified disadvantaged/minority students, (ii) monitor the admission and enrollment of qualified disadvantaged/minority students, and (iii) provide an environment supportive of these students' graduation. An earned doctorate and academic credentials sufficient for appointment to the faculty are required. By 15 September 1980, nominations/applications including a complete curriculum vitae and the names of three references should be received by **Dr. Morton C. Creditor, Interim Executive Dean, University of Illinois College of Medicine, 1853 West Polk Street, Chicago, Illinois 60612.** *The University of Illinois is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR. The Department of Chemistry, University of Virginia, invites application for full-time tenure-track appointments beginning September 1981. Candidates with research interests in any area of organic or biological chemistry are invited to apply for these research-oriented positions. Applicants should submit a curriculum vitae, an outline of proposed research, and at least two letters of recommendation to: **S. M. Hecht, Department of Chemistry, University of Virginia, Charlottesville, Virginia 22901.** *An Equal Opportunity Employer.*

ASSISTANT PROFESSORS

Applications are invited for two positions at the level of Assistant Professor (tenure-track) in the Department of Chemistry at Stanford University. One position will be in the general area of organic chemistry and the other in inorganic chemistry. Applicants must be strongly motivated toward research and have a commitment to teaching undergraduates as well as graduates. In applying, send curriculum vitae, list of publications, a brief statement of research interests (three pages or less) and, in addition, have three letters of recommendation sent to **Professor John I. Brauman, Chairman, Department of Chemistry, Stanford University, Stanford, California 94305.** *Stanford is committed to equal opportunity through affirmative action in employment, and we are especially eager to identify minority persons and women with appropriate qualifications.* The deadline for receipt of applications is 15 December 1980.

ASSISTANT PROFESSOR, IMMUNOGENETICS

The Department of Medical Genetics of the University of British Columbia invites applications for a tenure-track faculty appointment from individuals with a background in immunogenetics. Experience in the genetics of cellular response is desirable. Applicants should send up-to-date curriculum vitae and the names of three referees before 1 November 1980 to:

**Dr. P. A. Baird, Head
Department of Medical Genetics
235-5804 Fairview Crescent
The University of British Columbia
Vancouver, British Columbia, Canada V6T 1W5**

The University of British Columbia offers Equal Opportunity for Employment to qualified male and female candidates.

POSITIONS OPEN

ASSISTANT OR ASSOCIATE PROFESSOR OF ANATOMY

The Department of Anatomy at the University of Cincinnati invites applicants for two faculty positions in molecular aspects of developmental biology. Applicants must have at least 2 to 3 years of both postdoctoral experience and evidence of productivity on a research program with current extramural grant support. The applicant should also have training or background in teaching one of the anatomical sciences (histology, gross, or neuroanatomy).

Candidate should respond by 1 October 1980 with curriculum vitae, bibliography, and a statement of past and planned research activity to: **Dr. Robert R. Cardell, Department of Anatomy, University of Cincinnati, 231 Bethesda Avenue, Cincinnati, Ohio 45267.**

An Equal Opportunity Employer, M/F/H

University of Wisconsin-Madison

The **DEPARTMENT OF BIOCHEMISTRY** invites applications for the position of **ASSISTANT PROFESSOR.** Candidates must have a research interest in the field of plant biochemistry. Areas that the department is particularly interested in include, but are not limited to, photosynthesis, plant development, and nitrogen metabolism. Responsibilities will include teaching, supervision of graduate students, and development of an independent research program. Salary will be on a 12-month basis; it will be commensurate with the experience of the candidate and compatible with the salary structure of the University of Wisconsin System. Women and minority candidates are especially encouraged to apply. Send detailed curriculum vitae, and statement of research interests to: **H. F. DeLuca, Department of Biochemistry, University of Wisconsin, Madison, Wisconsin 53706,** before 31 November 1980. Applicants should have three letters of recommendation submitted to the same address. *The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR OF BIOLOGY

The Biology Department of Pomona College anticipates making an appointment at the assistant professor level for September 1981. Primary requirements are extensive training in membrane-related functions and a strong commitment to undergraduate education. Postdoctoral experience in biochemically related research is expected. Research areas of particular interest include molecular aspects of membrane transport, receptors, transmitters, hormones, and neurobiology. Responsibilities include: (i) teaching undergraduate courses in area of specialty, (ii) participation in our introductory core biology course, and (iii) developing a research program involving undergraduates. Send letters of application, curriculum vitae, and names of three or more referees to **Biology Search Committee, Biology Department, Pomona College, Claremont, Calif. 91711.** Application deadline is 15 October 1980.

Pomona College is an Equal Opportunity/Affirmative Action Employer.

BIOCHEMIST. The Department of Chemistry at the University of Oklahoma anticipates having an opening for a permanent faculty member in biochemistry. Minimum qualifications include a Ph.D. in biochemistry or chemistry and excellent credentials in, as well as a strong commitment to, both teaching and research in biochemistry. The successful applicant will be expected to teach at the undergraduate and graduate level and to maintain an active research program. Depending on background and experience, the appointment could be made at the rank of professor, associate professor, or assistant professor. Minority candidates are most strongly encouraged to apply. Applicants should submit a complete résumé including research and teaching experience, future research plans, and any other supporting material and have at least three letters of reference sent to: **Professor Eddie Carol Smith, Chairperson of the Search Committee, Department of Chemistry, University of Oklahoma, 620 Parrington Oval, Norman, Oklahoma 73019.** Applications must be postmarked by 1 November 1980. *The University of Oklahoma is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR—ORGANIC CHEMISTRY THE JOHNS HOPKINS UNIVERSITY

The Department of Chemistry seeks an outstanding organic chemist to fill a tenure-track assistant professorship beginning 1 July 1981. The successful candidate is expected to teach at both the undergraduate and graduate levels and to establish a strong, independent research program that complements current research in the department. Qualified applicants should send their curriculum vitae, a complete summary of research plans, and three letters of recommendation as soon as possible (but not later than 1 December 1980) to **Professor Gary H. Posner, Chairman, Search Committee, Department of Chemistry, The Johns Hopkins University, Baltimore, Maryland 21218.** *The Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR, PLANT PATHOLOGY. The Department of Plant Pathology at the University of California, Riverside, has a full-time, tenured position open for an assistant professor who will conduct applied and basic research on diseases of avocado and subtropical plants. A Ph.D. degree is required and an academic background in plant pathology, mycology, epidemiology, soil microbiology, or the ecology of soil-borne microorganisms would be desirable. Candidates should be prepared to work on *Phytophthora* spp. and the diseases they cause, but prior experience with *Phytophthora* is not required. Send résumé, three confidential letters of recommendation, and complete transcripts to: **Dr. John A. Menge, Department of Plant Pathology, University of California, Riverside, Calif. 92521.** Deadline for applications is 15 November 1980, or later if a suitable applicant has not been selected. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

BIOCHEMISTRY FACULTY POSITION at the assistant professor level (tenure-track) in Department of Chemistry, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina 27514. Available 1 July 1981. The department is looking for a candidate with outstanding potential for research in biochemistry at both the graduate and undergraduate levels. Applicants should provide a detailed résumé and a brief summary of future research plans and arrange to have three letters of recommendation sent to: **Dr. John H. Harrison, Department of Chemistry, University of North Carolina, Chapel Hill, North Carolina 27514** by 15 November 1980. *The University of North Carolina at Chapel Hill is an Affirmative Action/Equal Opportunity Institution.*

BIOCHEMIST, ASSISTANT PROFESSOR. Beginning early in 1981; Ph.D. required, postdoctoral training desirable; 12-month position, salary negotiable; 3 weeks vacation, health care, and retirement benefits included. Biochemical research in Agricultural Experiment Station, to develop ongoing research program in plant biochemistry, muscle biochemistry, or residue utilization. Well-equipped, modern laboratories. Interested persons send transcripts, résumé, and three letters of reference to **J. Grove, Department of Chemistry, South Dakota State University, Brookings, S.D. 57007.** Application deadline 15 October 1980. *South Dakota State University is an Affirmative Action/Equal Opportunity Employer (male/female).*

BIOLOGICAL OCEANOGRAPHY, UNIVERSITY OF SOUTH CAROLINA. Extended Search. The search to fill the tenure-track oceanography position at the University of South Carolina has been reopened. The position will be at the rank of **Assistant/Associate Professor** with a joint appointment in the Marine Science Program and the Department of Biology. Responsibilities will include graduate and undergraduate teaching in marine science and biology, development of a vigorous and funded research program (nutrient dynamics or benthos-water column processes preferred), and active participation in the South Carolina Sea Grant Program. Postdoctoral and/or professional experience required. Previous applicants in the area of biological oceanography who wish to be reconsidered should notify the committee chairman. All new applicants should send résumé, reprints, names of three references, and a statement of research interest to **Dr. L. Harold Stevenson, Chairman, Marine Science Search Committee, Department of Biology, University of South Carolina, Columbia, S.C. 29208** by 1 November 1980. *The University of South Carolina is an Affirmative Action and Equal Opportunity Employer.*

POSITIONS OPEN

BIOCHEMIST-MOLECULAR ENDOCRINOLOGIST. Several research positions available at junior or senior faculty level. Preference given to applicants with Ph.D. in biochemistry or its equivalent in training and experience. Problem areas relate to the biochemistry of reproduction with emphasis on mechanism of hormone action, receptor purification, membrane biochemistry, glycoprotein hormone chemistry, and associated problem areas. Several years of assured support possible. Development of independently funded programs encouraged. Salaries are competitive and starting date is flexible. Please forward curriculum vitae and names of three references to:

Dr. Leo E. Reichert, Jr.
Professor and Chairman
Albany Medical College of
Union University
Albany, New York 12208

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CELL CULTURE

Derive new lines of lung cells for drug receptor studies. Salary: \$12,500. Contact: **Irene H. Raisfeld, M.D.,** Department of Pharmaceutical Sciences, Health Sciences Center, State University of New York at Stony Brook, Long Island, N.Y. 11794; telephone: 516-246-2568. *An Equal Opportunity/Affirmative Action Employer.*

DEPARTMENT CHAIRPERSON OF ANIMAL SCIENCES, ASSOCIATE/FULL PROFESSOR to begin 1 July 1981 or earliest possible date thereafter. To provide leadership in the development and conduct of appropriate programs in undergraduate/graduate teaching and research in animal sciences and pre-veterinary medicine and to collaborate in administering Cooperative Extension programs/activities; provide direction for efficient operation of the dairy, livestock, and veterinary diagnostic laboratory; assume responsibility and accountability for departmental budgets for college teaching, New Hampshire Agricultural Experiment Station supported research and Veterinary Diagnostic Laboratory; represent the Animal Science Department to agricultural interests in New Hampshire and elsewhere; and stimulate faculty interest in and encourage development of external support for research. Qualifications: Ph.D. degree in some area of animal sciences and/or a D.V.M. degree from an accredited veterinary medical college required, teaching and research experience required, agricultural extension or industrial experience desirable; and administrative experience at department level strongly recommended. Send letters of nomination, applications and requests for further information by 1 December 1980 to: **Dr. W. M. Collins, Chair, Search Committee, Department of Animal Sciences, University of New Hampshire, Durham, N.H. 03824.** Applicants should include a résumé and names of at least three persons who have been asked to write letters of support. *The University is an Affirmative Action/Equal Opportunity Employer.*

THE DEPARTMENT OF CHEMISTRY at Purdue University solicits applications for two faculty positions in any areas of **INORGANIC CHEMISTRY**, effective August 1981.

Applicants will be considered at any professional rank but at least one of the positions will be filled at the assistant professor level. Minimum requirements include a Ph.D. in chemistry and exceptional promise in research and teaching at the undergraduate and graduate levels. Applicants for more senior ranks must have demonstrated distinguished research and teaching abilities. Curriculum vitae, including undergraduate and graduate transcripts for applicants at the assistant professor level, a summary of planned research, and three letters of recommendation should be sent by 1 November 1980 to: **Professor D. W. Margerum, Head, Department of Chemistry, Purdue University, West Lafayette, Ind. 47907.** *Purdue is an Equal Opportunity/Affirmative Action Employer*

CHEMIST/MICROBIOLOGIST

Postdoctoral. Available 1 December. To work on identification, quantitation, and metabolism of organometals. Experience with GC, HPLC, AA essential. GC/MS desirable. Send résumé and three letters of recommendation to:

J. J. Cooney
Chesapeake Biological Laboratory
University of Maryland
Box 38, Solomons, Maryland 20688

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

POSITIONS OPEN

SENIOR BIOLOGIST IN MOLECULAR AND CELL BIOLOGY RESEARCH

The Lilly Research Laboratories are seeking a Senior Biologist for their Molecular and Cell Biology Division.

The position involves chemical synthesis of oligodeoxynucleotides and development of research programs in the field of recombinant DNA in collaboration with a multidisciplinary group of molecular biologists.

Required are skills in nucleic acid synthesis, sequencing, and enzymology. The individual we are seeking must be capable of developing and improving methods for synthesis and sequencing of oligonucleotides and polynucleotides in order to apply nucleic acid synthetic techniques to the study of the molecular biology of eukaryotic and prokaryotic systems.

Applicants should have a Ph.D. degree in synthetic organic chemistry and academic training in biochemistry. In addition, the position requires 4 years of postdoctoral experience, at least 2 years of which have been spent in a laboratory specializing in the synthesis of DNA-oligonucleotides using triester methodology.

Send résumé with salary requirements to:

Peter D. Cullen
Senior Personnel Representative
Lilly Research Laboratories
307 East McCarty Street
Indianapolis, Ind. 46285

An Equal Opportunity Employer

CHAIRMAN, DEPARTMENT OF ANATOMY COLLEGE OF MEDICINE UNIVERSITY OF TENNESSEE CENTER FOR THE HEALTH SCIENCES

The University of Tennessee College of Medicine seeks a new chairman for its Department of Anatomy. In addition to creative leadership abilities, the ideal candidate should have (i) significant and continuing research achievements, (ii) an appropriate background in the anatomical sciences, (iii) commitment to excellence in teaching at the professional and graduate and postgraduate levels, and (iv) academic administrative experience. Continuation of an active research program with extramural support is expected and ability to interact effectively with both preclinical and clinical colleagues is essential. The department's current faculty members, who number more than 20, have diverse research interests in neurobiology, reproductive and developmental biology, endocrinology, and other aspects of cell biology. The new chairman should continue the development of a department with strong research programs in several areas but is expected to maintain the current highly respected teaching programs. New faculty openings, as well as replacements for faculty approaching retirement, are expected to provide excellent growth potential over the next several years. Nominations or applications should include a curriculum vitae and the names of three or more individuals who will provide references on request to be sent to **Dr. Robert E. Taylor, Jr., Chairman, Anatomy Search Committee, University of Tennessee Center for the Health Sciences, 800 Madison Avenue, Memphis, Tennessee 38163.** *An Equal Opportunity/Affirmative Action Employer.*

NATIONAL SCIENCE FOUNDATION Washington, D.C. 20550

The Directorate for Biological, Behavioral, and Social Sciences is seeking qualified candidates for the position of Executive Assistant, Planning. The Executive Assistant is principal adviser to the Assistant Director and Deputy Assistant Director on Directorate-wide planning and budgeting as well as other directorate activities. Experience in the planning or management of research and development programs is essential. Applicants must have a Ph.D. or equivalent professional experience in a biological, behavioral, social, or closely related science, or education and experience in public administration, policy analysis, and program development. This position is part of the Senior Executive Service with a salary limited by law to \$50,112 per annum. Appointment to this position is on a career basis to a career-reserved position. Entrance on duty date for this position is the end of 1980. Send SF-171 and supplemental narrative to National Science Foundation, Room 212, 1800 G Street, NW, Washington, D.C. 20550. For information on application procedures, contact Ms. Peggy Cadematori at 202-357-7857. All applications must be received by 31 October 1980.

POSITIONS OPEN

The DEPARTMENT OF CHEMISTRY at Purdue University solicits applications for an assistant professor-level tenure-track position in any area of **ORGANIC CHEMISTRY**, effective August 1981. Applicants for an associate professor-level position also will be considered. Minimum requirements include a Ph.D. in chemistry and exceptional promise in research and teaching at the undergraduate and graduate levels. Applicants for a more senior rank must have demonstrated significant research and teaching accomplishments. Curriculum vitae, including undergraduate and graduate transcripts, a summary of planned research, and three letters of recommendation should be sent by 1 November 1980 to: **Professor D. W. Margerum, Head, Department of Chemistry, Purdue University, West Lafayette, Ind. 47907.** *Purdue is an Equal Opportunity/Affirmative Action Employer.*

CHAIRPERSON, BIOLOGY, LOYOLA UNIVERSITY OF CHICAGO. The department consists of 16 faculty members with a broad range of interests in biology and enrolls approximately 1100 undergraduate and 20 graduate students. The chair will have responsibility for continuing development of academic programs, teaching in an area of specialization, promoting ongoing faculty research, and administration. Qualifications: a distinguished record of research and teaching, administrative experience, and ability to interact effectively with both faculty and students. Appointment at rank of professor with consideration of highly qualified individual at associate professor level. Salary negotiable. Send curriculum vitae and names of four references by 15 October 1980 to **Dr. Alice Hayes, Chairperson of Search Committee, Office of the Vice President, Loyola University, 820 North Michigan Avenue, Chicago, Illinois 60611.**

DEAN VICE PRESIDENT FOR ACADEMIC AFFAIRS STATE UNIVERSITY OF NEW YORK (SUNY)

State College of Optometry, SUNY, invites nominations and applications for the position of Vice President (Dean) for Academic Affairs.

The Dean will be responsible for the quality and content of the educational programs in which the O.D., M.S., and Ph.D. degrees are conferred.

The Institution prefers candidates with records of excellence in optometric education and/or research or equivalent professional accomplishments. Candidates should have experience in administration, including planning and development. Ability to obtain external funding for research and program development is desirable.

Projected date of appointment is September 1981. Salary is negotiable. Letters of application with current résumés and names of three references should be sent no later than 15 January 1981, to:

Dr. Martin Birnbaum, Chairperson
Search Committee for V.P. for Academic Affairs
SUNY College of Optometry
100 East 24 Street
New York, N.Y. 10010

Equal Opportunity/Affirmative Action Employer

DIRECTOR, CANCER RESEARCH GROUP

The University of Alberta and the National Cancer Institute of Canada invite applications for the post of Director of the University of Alberta Cancer Research Unit. The present laboratories, which are fully equipped to undertake research on most problems in modern biology, particularly biochemistry, occupy approximately 10,000 square feet in the Medical Services Building. The focus of interest of the present staff is the mechanism of action and metabolism of various classes of antineoplastic agents in animal, in vitro, and clinical systems. Support for the research program and the salaries of senior staff members is provided by the National Cancer Institute of Canada. It is customary for senior staff members to hold academic appointments, to be eligible to accept graduate students, and to accept a modest teaching load. The salary will be dependent on experience and on levels prevailing at the University of Alberta. The deadline for the receipt of applications is 31 October 1980 and the appointee could commence duties as early as convenient. Applications, recommendations, and inquiries should be addressed to:

Dr. D. F. Cameron
Chairman, Selection Committee
Faculty of Medicine
University of Alberta
Edmonton, Alberta, Canada T6G 2E1

BIOLOGISTS

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Career growth opportunities with Lederle Laboratories—American Cyanamid's Pharmaceutical Division. Positions require BS/MS Microbiology and, preferably, expertise in handling the growth and purification of bacteria and end products.

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Please reply in confidence, indicating salary history/requirements to Mrs. Nancy Levine, Professional Employment Coordinator,

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You will be involved in the development & evaluation of new dosage forms, primarily topical & respiratory. You will be responsible for all formulation & drug delivery activities associated with R&D of new human pharmaceutical dosage forms.

Position requires PhD in Pharmacy with at least 2-5 years industrial experience in pharmaceutical R&D or basic research in physical pharmacy in areas of emulsion & gel systems and/or topical products. Your ability to plan & execute experimental work utilizing good oral & written communications skills essential. (Refer to Job #9163).

STAFF RESEARCHER

Pharmaceutical Stability/QC

You will plan & execute laboratory, research & technical activities in stability studies of new drug substances in their dosage forms. Other responsibilities will include development & validation of stability specific analytical methods to assay new drug substances in complex formulations and the design & execution of experiments in suitable systems to identify & quantitate degradation products of the formulated drug substances.

Position requires PhD, either newly acquired or with up to 3 years of research experience in analytical method development & utilization of statistics in treating kinetic data. Broad theory knowledge in chemistry and/or pharmaceutical chemistry as well as working & theoretical pharmaceutical analysis background necessary. (Refer to Job #RT01).

SYNTEX offers most attractive salaries & benefits. Please forward resume to Ralph Torrence, SYNTEX, 3401 Hillview Ave., Palo Alto, CA 94304. We are an equal opportunity employer.



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TRANSGENE S.A., a new research company, is being launched by leading industrial and financial French groups.

TRANSGENE S.A. will carry out high level biological research oriented towards applications of medical and industrial importance.

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and invites applications from:

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- Molecular Geneticists
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at the post doctoral level, or having at least 2 to 3 years of practice in the aforementioned fields.

Salaries will be competitive and commensurate with qualification.

Initial contract duration will be 3 years.

Knowledge of French is not necessary.

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The laboratory will be located next to the University and will have close contacts with well known groups in fundamental research.

For confidential consideration, send a CV, a list of publications and an indication of salary requirements to:

TRANSGENE S.A.
att. M. R. LATTES
41, AVENUE de l'OPERA
75002 PARIS FRANCE



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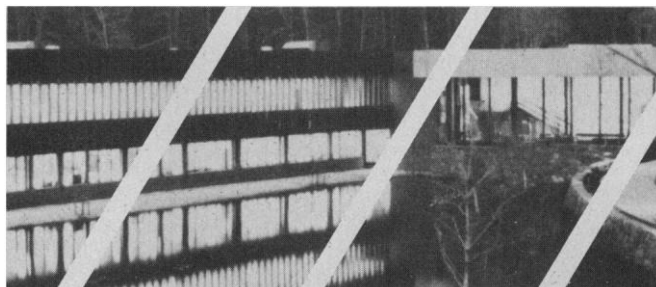
Preliminary submissions are again solicited for the Technicon Program of Grants for Research in Biomedical and Industrial Instrumentation. This innovative activity supports significant academic research on novel concepts and technologies that can establish the basis for the development of products having a significant commercial value. The fields of interest include the detection and diagnosis of disease, including but not limited to laboratory medicine, and the automated analysis of various industrial, pharmaceutical, and agricultural products. No formal proposal should be sent until a preliminary submission has been reviewed. For further information, including forms for preliminary submissions, write to either address below.

Dr. Morris H. Shamos

Technicon Instruments Corporation
Tarrytown, NY 10591 U.S.A.

Dr. Harry W. Holy

Technicon International Division S.A.
12-14 Chemin Rieu
1208 Geneva, Switzerland



**GOVERNMENT OF PAPUA NEW GUINEA
DEPARTMENT OF MINERALS AND ENERGY
ENERGY SPECIALISTS**

COMBUSTION ENGINEER

To conduct research into combustion characteristics of alternative fuels, assist with the modification of existing combustion equipment and design of new equipment, and coordinate programs of energy conservation in industry. Applicants must be specialists in combustion engineering and fuel technology with at least 8 years experience in combustion of solid fuel in heat raising/exchange equipment.

ENERGY ECONOMIST

To carry out major energy projects for economic performance including project modeling for discounted cash-flow analysis, and develop economic models of energy supply and demand for planning purposes. A background in macroeconomic theory with experience in development economics, construction, and manipulation of economic models and models for project analysis are required.

PROJECT EVALUATION ENGINEER

The appointee will review technical merits of projects submitted to the Energy Planning Council, assist with the coordination of technical programs of energy conservation, and foster greater awareness of alternative means of electricity generation. Broad experience in general engineering analysis with work experience in implementation and evaluation of industrial projects is required.

Remuneration: Kina 16,510 per annum plus gratuity of Kina 3962 per annum (approximate equivalent \$U.S.31,037 per annum gross).

Conditions of service include a 3-year contract, rent-free accommodation, leave fares to home country, and educational subsidies for dependent children.

For application forms and detailed information contact

**The Recruitment Representative
GOVERNMENT OF PAPUA NEW GUINEA
G.P.O. Box 4201
Sydney, Australia 2001**

In reply please quote advertisement No. 128/80/44.

CHAIRMAN

**DEPARTMENT OF LARGE ANIMAL
CLINICAL SCIENCES**

**College of Veterinary Medicine
University of Minnesota**

Applications and nominations are invited for the position of chairman of the Department of Large Animal Clinical Sciences, which encompasses epidemiology, food hygiene and public health; large animal medicine; large animal surgery; theriogenology; and veterinary medical continuing education and extension. A new building is under way which will provide expanded modern facilities for teaching and research. The appointee will be expected to provide leadership in developing professional, graduate, and continuing education, plus the department's research and extension programs. Qualifications should include: appropriate professional and research degrees; high achievement in teaching and research in one of the listed departmental areas, complemented by clinical experience; evidence of competence in leadership and administration, with a keen interest in adapting curriculum and research to meet the changing roles of the profession; and active participation in professional organizations. Letters of applications should include current curriculum vitae, a brief statement of views on future needs in research and education, plus names and addresses of three persons who will provide letters of reference.

Applications and nominations with supporting material will be accepted until 30 September 1980, and should be sent to: **Dean R. H. Dunlop, College of Veterinary Medicine, University of Minnesota, St. Paul, Minnesota 55108.** A detailed outline of departmental faculty and activities is available on request.

The University of Minnesota is an Equal Opportunity Educator and Employer.

POSITIONS OPEN

DEPARTMENT HEAD, Natural Resources Management Department, California Polytechnic State University, San Luis Obispo, California. Eleven faculty and approximately 450 students. Department prepares students for careers in the management and protection of natural resources with areas of specialization in environmental services, fish and wildlife management, forest resources management, and parks and recreation.

Minimum qualifications include a doctorate in appropriate field with at least one degree in natural resource management field, demonstrated commitment and contribution to practical resource management, demonstrated administrative ability, and teaching experience at a 4-year college or university. Department heads carry a part-time teaching assignment and are appointed by the president for an indefinite term. Salary for 9-month appointment is dependent on qualifications and experience and ranges from \$20,604 to \$31,416 and is subject to any cost of living increase granted by the State. *Affirmative Action/Equal Opportunity/Title IX Employer.*

Direct applications, résumés, transcripts, and three letters of recommendation, no later than 1 November 1980, to **Howard C. Brown, Dean, School of Agriculture and Natural Resources, California Polytechnic State University, San Luis Obispo, Calif. 93407 (telephone: 805-546-2161).**

DIRECTOR AND CHIEF EXECUTIVE OFFICER

for regional museum of anthropology, natural history, and art with international reputation. Administrative and executive experience with nongovernmental organizations is important. Must have positive interest in developing broad community relations and ability to work with other institutions. Must be informed in fields of Southwestern culture and have interests in regional scientific research.

Detailed job description will be forwarded to applicants who respond. *The Museum of Northern Arizona is an Equal Opportunity Employer.* Address curriculum vitae and references to: **Search Committee, Museum of Northern Arizona, Route 4, Box 720, Flagstaff, Ariz. 86001.**

ELECTRON MICROSCOPY CURATOR

The Department of Biological Sciences of the State University of New York at Albany invites applications for an electron microscopist. Duties include routine maintenance of microscopes and supporting equipment, consultation and collaboration with faculty and students, and training of selected personnel. Applicants must have at least a B.S. degree, must be experienced in operation and maintenance of electron microscopes and in sample preparation for TEM and SEM, and must be able to run the facility with a minimum of supervision. Salary range is \$18,000 to \$19,500. Please send curriculum vitae and names of three references prior to 30 September 1980, to **Dr. Helen Ghiradella, Department of Biological Sciences, State University of New York at Albany, 1400 Washington Avenue, Albany, N.Y. 12222.** *SUNY is an Equal Opportunity/Affirmative Action Employer. Applications from women, minorities, and handicapped are especially welcome.*

EXTENSION SPECIALIST—SOIL FERTILITY. University of Idaho, Department of Plant and Soil Sciences. Assistant or associate extension professor. Rank and salary commensurate with training and experience. Tenure-track position, 75 percent extension and 25 percent research, located at the Research and Extension Center, Twin Falls, Idaho. Ph.D. in soils with emphasis in soil fertility required. The position deals with soil fertility in diversified irrigated and dryland crops in southern Idaho. For further information and application forms write or call: **Dr. H. S. Fenwick, Chairman Screening Committee, Extension Soil Fertility Position, Department of Plant and Soil Sciences, University of Idaho, Moscow, Idaho 83843. Telephone: 208-885-6319.** Closing date for receipt of application forms, transcripts, and at least three letters of reference is 5 December 1980 or until a qualified candidate has been identified.

Applications are now invited for a **FACULTY POSITION** at the University of California at San Francisco. We are seeking a person with research interests in theoretical aspects of **structural biology at the molecular level.** The successful candidate will have demonstrated research and teaching skills in this general area. Salary is negotiable.

Send curriculum vitae and direct three letters of reference to: **Robert J. Fleterick, Professor of Biochemistry and Biophysics, Department of Biochemistry and Biophysics, University of California School of Medicine, San Francisco, California 94143.** We are an *Equal Opportunity Employer.*

POSITIONS OPEN

ENTOMOLOGIST

Assistant professor to teach an undergraduate course in economic entomology and team-teach an upper division graduate course in insect transmission of plant diseases. Undergraduate and graduate advising. Research preferred in the control of insect-vectored diseases of agricultural crops. Send résumé, transcript, and three letters of recommendation to: **Dr. Milton W. Weller, Head, Department of Entomology, Fisheries, and Wildlife, University of Minnesota, 219 Hodson Hall, 1980 Folwell Avenue, St. Paul, Minn. 55108,** by 10 December 1980. Position available 1 March 1981. *The University of Minnesota is an Equal Opportunity Educator and Employer.*

ENTOMOLOGIST/PARASITOLOGIST to expand program for rearing ectoparasites and other medically and economically important invertebrates for research and sale; conduct in vitro and in vivo tests of pesticide products against these species; and report preparation. Strong background in statistical analysis desired. Minimum of B.S. required; salary commensurate with education and experience. Send résumé to: **Environmental Consultants, Inc., 1022 West 24 Street, Norfolk, Va. 23517; attention Mr. Van Hoose. Telephone: 804-625-5373.**

ENVIRONMENTAL CHEMIST

To design and conduct basic chemical research aspects of a long-term estuarine-watershed ecosystem study in the Chesapeake Bay region. Involves a combination of individual and interdisciplinary group research. Three-year position which could lead to career appointment. *Equal Opportunity Employer.* Résumés and three letters of reference should be sent to **Associate Director, Science, Smithsonian Chesapeake Bay Center, Box 28, Edgewater, Maryland 21037.**

EXPERIMENTAL POPULATION GENETICS. The Department of Ecology and Evolution at State University of New York at Stony Brook invites applications for a faculty position to begin 1 September 1981. Applicants should have an active research program in experimental population/evolutionary genetics. Although some preference will be given to candidates working with *Drosophila*, those studying other organisms, such as plants, will also be considered. The candidate must possess a distinguished record with a strong academic background, and a commitment to research and graduate education. Teaching responsibilities open. Excellent research facilities available. Level of position dependent on qualifications, but preference is for associate professor. Reply with curriculum vitae and names of three references by 15 October 1980 to **Dr. Robert R. Sokal, Chairman, Department of Ecology and Evolution, State University of New York at Stony Brook, Long Island, N.Y. 11794.** *An Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION at assistant/associate professor level available immediately. Applicants with interest in toxicology will be given preference. In particular, research interests related to xenobiotic metabolism and biochemical investigations on mechanisms of toxicity are preferable. Interested candidates should have three letters of reference sent to the address below. Address a curriculum vitae and brief statement of future research and career goals to: **Dr. William O. Berndt, Department of Pharmacology and Toxicology, University of Mississippi Medical Center, 2500 North State Street, Jackson, Miss. 39216.** *Equal Opportunity Employer, Male/Female.*

**FACULTY VACANCY
IN THE DEPARTMENT OF ANATOMY
AT THE GEORGE WASHINGTON
UNIVERSITY MEDICAL CENTER**

There is an immediate vacancy in the Department of Anatomy for an **Assistant Professor.** The teaching responsibilities will be in the field of gross anatomy. Evaluation will be largely based on demonstrated excellence in research, potential for obtaining external funding, and ability to effectively teach students. All applicants should have the M.D. degree or Ph.D. degree in anatomy and should have completed at least 2 years postdoctoral training.

Candidates should submit their curriculum vitae and bibliography to **Dr. Richard S. Snell, Professor and Chairman, Department of Anatomy, 2300 Eye Street, NW, Washington, D.C. 20037.**

The George Washington University is an Equal Opportunity/Affirmative Action Employer.

G. D. Searle's Department of Medicinal Chemistry has two openings in the Prostanoid Group of the Cardiovascular and Renal Disease (CVR) Section. This group has the responsibility for the design and syntheses of prostaglandins, prostacyclins and thromboxanes in the CVR area. It is a well established, successful research unit with six scientists.

Senior Research Scientist

This leader of the Prostanoid Group should have 5-10 years of successful industrial and/or academic research experience. He should have a high level of creativity as evidenced by scientific publications and patents. He will have leadership skills, drive and a dedicated desire to devise novel agents for the treatment of human disease. He must work closely with his biological counterparts in the initiation and prosecution of this prostanoid program.

Large and effective service groups in preparative chromatography, spectral analysis (NMR, IR, UV and mass) and hydrogenation are available to facilitate the prostanoid synthetic program.

The successful candidate will receive a salary commensurate with his responsibility and with his experience.

Research Investigator

A recent Ph.D. or post-doctoral fellow in organic or medicinal chemistry is sought for the expansion position of Research Investigator.

The successful candidate for this position will design and synthesize modified prostacyclins and prostaglandins for the CVR programs in platelet dysfunction and hypertension areas. Together with his biological colleagues, he will evaluate the biological results, then carry out further syntheses based upon the structure activity correlates.

These Searle Research Positions offer an outstanding opportunity for professional achievement and growth. In addition to its Dual Ladder Policy (scientific as well as managerial advancement routes), Searle has vigorous Publication, Seminar and Professional Development (Sabbatical) programs.

Interested applicants please submit detailed curriculum vitae or resume to:

Mr. R. Rook

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

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



Director of the Division of Educational Programs—Argonne National Laboratory

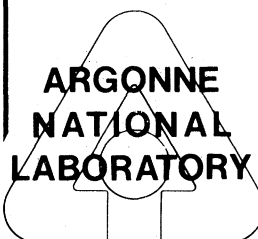
Argonne National Laboratory is inviting nominations and applications for the position of Director of the Division of Educational Programs, which is the Argonne organizational unit responsible for developing, administering, and evaluating programs in education, training and educationally-supportive research participation. Education and training activities at Argonne take advantage of the Laboratory's unique capabilities to further the scientific, technical and professional development of men and women for energy research and engineering careers. The activities of the Division are conducted for, and in partnership with, the U. S. Department of Energy, the academic community and other private and public groups. The Division also serves the Laboratory internally in the development and administration of programs and activities in continuing education and professional renewal for Argonne staff.

The Director is responsible for formulating, developing and conducting the education and training programs and for providing the leadership for a Division comprising thirty-five professional and support personnel as well as a substantial number of consultants. He or she also makes primary contributions to the development and administration of Argonne's policies dealing with education and training.

Special attention is given to the capabilities of Argonne in developing energy technology opportunities and careers for minorities and women.

Respondents will be favored who have had substantial recent on-campus academic experience; demonstrated success in an administrative capacity (Department Chairman, Dean's office or the equivalent thereof) will be given particularly favorable consideration. It is expected that the nominees and applicants will have a strong background in the sciences or engineering and will have demonstrated significant ability to work cooperatively with industry and with the public. The new Division Director should be prepared to take up this post early in 1981.

Please respond by October 15, 1980 to:
Ronald A. Johns, Personnel Division, Box DEP-143,
Argonne National Laboratory, 9700 So. Cass
Avenue, Argonne, IL 60439.



An Affirmative Action/
Equal Opportunity
Employer. Women,
Minorities, the Handi-
capped and Veterans
Urged to Apply.

POSITIONS OPEN

FACULTY POSITIONS

The Department of Microbiology, Cell Biology, Biochemistry and Biophysics of The Pennsylvania State University invites applications for one or more tenure-track positions available at any rank. Candidates should have postdoctoral experience and be capable of developing an independent research program in molecular and cell biology with emphasis on gene structure and function, or in microbial genetics and microbial physiology. Individuals with expertise in recombinant DNA techniques are of particular interest. We provide excellent physical facilities, competitive salary and benefits, and a stimulating research environment. Applications should consist of curriculum vitae, copies of recent publications, a brief but detailed description of research goals, and the names of four references from whom we may request letters. Applications will be received until 15 October 1980, or until the positions are filled thereafter. Send to: **Dr. R. W. Bernlohr, Department of Microbiology, Cell Biology, Biochemistry and Biophysics, The Pennsylvania State University, 108 Alt-house Laboratory, University Park, Pennsylvania 16802.**

An Affirmative Action/Equal Opportunity Employer

CHAIRPERSON—MARINE AFFAIRS

The Rosenstiel School of Marine and Atmospheric Science (RSMAS), University of Miami, is seeking to fill a full-time tenure-track position as chairman of the newly created marine affairs division. The candidates must have a record of scholarly/professional accomplishments in one of the areas of marine affairs and be able to lead and attract talented faculty and support. The division of marine affairs will interact with five other disciplinary divisions at the Rosenstiel School in engineering, biology, geology and geophysics, physical oceanography, and atmospheric science and also the law school and school of business administration of the University of Miami. RSMAS is a graduate school and oceanographic research institution with 80 faculty and 150 students located on Virginia Key. Send application to **Dr. B. Le Méhauté, Acting Chairperson, Division of Marine Affairs, RSMAS, University of Miami, 4600 Rickenbacker Causeway, Miami, Florida 33149.**

An Equal Opportunity/Affirmative Action Employer

MEDICINAL CHEMISTRY—ASSISTANT PROFESSOR. The Department of Pharmaceutical Chemistry, University of California, has a tenure-track vacancy in the area of medicinal chemistry. Candidates must have a solid chemistry background, postdoctoral experience, a strong commitment to research and to undergraduate and graduate education, and demonstrated excellence in their fields. Research interests may be in any aspect of medicinal chemistry or in areas of pharmacology or biochemistry relevant to modern medicinal chemistry. Interest and competence in the teaching of medicinal chemistry is essential. The salary is \$25,000 to \$27,500 for an 11-month appointment. Candidates should request letters from three referees and send curriculum vitae, a list of publications, a brief summary of research accomplishments, and a brief outline of proposed research to: **Professor M. E. Wolff, Chairman, Department of Pharmaceutical Chemistry, School of Pharmacy, 926-S, University of California, San Francisco, Calif. 94143.** Applications will be accepted until 1 January 1981 for a 1 July starting date. *The University of California is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.*

NEUROCHEMIST/NEUROPHARMACOLOGIST

Neurochemist/Neuropharmacologist, at least 2 years post-Ph.D. Must have solid experience with standard neurochemical (for example, radioenzymatic, HPLC, and receptor binding) and neuropharmacological (for example, isolated organ and intracerebral cannulation) techniques and experience in the study of drug effects on complex operant behaviors. Please do not apply if your background has not combined these areas. To work in established behavioral pharmacology laboratory on collaborative studies of neurochemical correlates of behavior and the behavioral effects of drugs. Position will be for 1 or 2 years, with extension possible depending on availability of grant funds. Application deadline is 19 September 1980. Send curriculum vitae, representative reprints, and names of three referees to: **Neurochemistry Search, Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, Mass. 01545.**

An Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

JUNIOR FACULTY MEMBER OF PHARMACOLOGY

Opportunity exists for 6 months of work, experienced in peptide synthesis to work on a project concerned with the synthesis of peptides derived from insulin. Applications are invited from qualified candidates with a Ph.D. or M.D. degree. Submit a résumé of research interests, curriculum vitae, and three letters of recommendation to **Dr. Joseph Larner, Department of Pharmacology, Box 448, University of Virginia School of Medicine, Charlottesville, Virginia 22908.** *An Affirmative Action/Equal Opportunity Employer.*

IMMUNOLOGIST. A full-time faculty position at the level of associate professor or professor. Candidate must have a Ph.D., M.D., or equivalent degree, have an established research program in some aspect of modern immunology, and experience in the training of young scientists. Duties will include teaching of graduate and medical students. This position offers an opportunity for a scientist to play a major role in the further development of active and ongoing research and training programs in immunology of this department and institution. Send curriculum vitae and references to: **Dr. Gerald D. Shockman, Professor and Chairman, Department of Microbiology and Immunology, Temple University School of Medicine, 3400 North Broad Street, Philadelphia, Pa. 19140.** *An Equal Opportunity/Affirmative Action Employer.*

NEUROSCIENCE POSTDOCTORAL POSITIONS AVAILABLE in the following areas: cellular neurophysiology (with W. H. Calvin, Ph.D., or P. A. Schwartzkroin, Ph.D.), epileptic neuron physiology and motor control (A. R. Wyler, M.D., and A. A. Ward, Jr., M.D.), neuroanatomical mechanisms of epilepsy and deafferentation (A. B. Harris, M.D., and L. E. Westrum, M.D., Ph.D.), physiology of human language and memory (G. A. Ojemann, M.D.), behavioral effects and mechanisms of action of anticonvulsants (J. S. Lockard, Ph.D.), and neurophysiology of peripheral nerve disorders (J. D. Loeser, M.D., and W. H. Calvin, Ph.D.). NRSA stipends for U.S. citizens or permanent residents with Ph.D. or M.D. and relevant research experience. Write individual faculty or: **Dr. William H. Calvin, Chairman, Selection Committee, Neurological Sciences Training Program, Department of Neurological Surgery RI-20, University of Washington, Seattle, Washington 98195.**

Ph.D. NUTRITIONIST sought by University of Chicago Clinical Nutrition Research Center, preferably with postdoctoral experience in basic and/or clinical nutrition research. Position involves coordination of research and training activities and teaching graduate and medical students. Collaborative research opportunities available. Send curriculum vitae, including a brief description of research experience and interests and three references, to: **Irwin H. Rosenberg, M.D., Director, Clinical Nutrition Research Center, University of Chicago, 950 East 59 Street, Box 400, Chicago, Ill. 60637.** *Equal Opportunity/Affirmative Action Employer.*

ORGANIC CHEMIST. We have a postdoctoral position available 1 October 1980 for a recently graduated organic chemist with a strong interest in a career in neurochemistry or pharmacology. Experience in syntheses of peptides and microchemical techniques is highly desirable. Salary is \$17,000. Position is for a minimum of 1 year with a possibility of extension to 2 years. Send résumé and names of three references to: **Dr. V. E. Shashoua, Mailman Research Center, McLEAN HOSPITAL, Affiliate of Harvard Medical School, 115 Mill Street, Belmont, Mass. 02178.** *An Equal Opportunity Employer.*

ORNITHOLOGIST. Position available 1 January 1981, Carnegie Museum of Natural History. Appointee will (i) direct a major computerized bird-banding program supervising a bird-bander and research assistant and analyze and publish resulting data, (ii) perform routine museum curatorial duties, (iii) act as liaison with local bird and conservation groups, and (iv) conduct a productive, museum-related personal research program. Required: Ph.D. plus significant experience with a bird-banding program. Rank and salary depend strongly on previous experience. Exceptionally well qualified applicant without Ph.D. may be considered. Write before 15 November 1980, with names, addresses, and telephone numbers of three references, to: **Dr. Kenneth C. Parkes, Chief Curator, Life Sciences, Carnegie Museum of Natural History, Pittsburgh, Pa. 15213.** *An Equal Opportunity Employer.*

POSITIONS OPEN

NATIONAL SCIENCE FOUNDATION NEUROSCIENCES

The National Science Foundation's Division of Behavioral and Neural Sciences is seeking qualified applicants to fill 1- or 2-year rotational appointments in its Neurobiology and Sensory Physiology and Perception Programs. The positions are excepted from the competitive civil service (equivalent to GS-14/15); the salary range is \$34,713 to \$53,081 (\$50,112.50 by statute) per annum, based on qualifications and experience. The Neurobiology Program is concerned with research in all aspects of nervous systems, their function and development, whether at the molecular, cellular, physiological, or behavioral levels; the Sensory Physiology and Perception Program is similarly broadly defined and deals with structure function and development of sensory modalities and with transduction, encoding, and perception of sensory stimuli.

Applicants should have at least 6 to 8 years of experience beyond the Ph.D. and a broad interest in current neuroscience research. Applicants should submit curriculum vitae to the **Division of Personnel and Management Personnel Administration Branch, Room 212, 1800 G Street, NW, Washington, D.C. 20550.** Attention: **E. Paul Broglio.** Closing date for appointments during 1981 is 1 January 1981, but individuals interested in appointments for later years are also encouraged to apply now. For further information call **Dr. Richard Louttit** or **Dr. James Brown** at 202-357-7564. *The National Science Foundation is an Equal Opportunity Employer.*

PATHOLOGIST

Two-year Intergovernmental Personnel Assignment (IPA). Responsibilities include performance of histopathologic evaluation of tissues from animal toxicity studies being conducted at the EPA Health Effects Research Laboratory in Cincinnati. The incumbent will also supervise the activities of the pathology group, evaluate grant and contract proposals in area of expertise as well as participate in planning and conduct of the research programs in the laboratory.

Qualifications for the position include possession of a DVM, M.D., or Ph.D. degree with experience in assessing the effects of pollutant exposure upon oncogenesis, induction of chronic lung disease, and cardiovascular and neurological disorders. To be eligible for an IPA appointment the applicant must be a university faculty member or a state or local government employee. Send résumé to **Dr. William E. Pelpko, U.S. Environmental Protection Agency, 26 West St. Clair Street, Cincinnati, Ohio 45268.** *We are an Equal Opportunity Employer.*

BERKELEY PHYSICS

The Department of Physics of the University of California, Berkeley, expects during the next 2 years to be making one or two appointments at the assistant professor level. Preferred areas of experimental and theoretical research are astrophysics, atomic and plasma physics, condensed matter physics, nuclear physics, and particle physics. For exceptional candidates there is a possibility of a research fellowship for 1 or 2 years preceding the assumption of the regular duties of an assistant professor.

Applicants should write, as soon as possible, and definitely before 15 October 1980, to: **Chairman, Department of Physics, University of California, Berkeley, Calif. 94720,** giving curriculum vitae, publication list, and references. *The University of California is an Affirmative Action Employer.*

POSTDOCTORAL POSITION, PHYSICAL OCEANOGRAPHY. The Marine Sciences Research Center expects to offer a postdoctoral position in area of **ESTUARINE OCEANOGRAPHY** dealing with meteorological forcing of low-frequency sea-level fluctuations. Duties would include extensive time series analysis of sea level, wind, and current records. Applicants should have background in dynamical oceanography with experience in time series analysis. Competitive salary. Submit curriculum vitae and names of three references by 15 October to **Dr. Robert E. Wilson, Marine Sciences Research Center, State University of New York at Stony Brook, Long Island, N.Y. 11794.** *An Equal Opportunity/Affirmative Action Employer.*

RESEARCH

Senior Scientist—
Occupational Health and Biomedicine

GEOMET Technologies, Inc., an environmental consulting firm, has an immediate opening for a senior scientist of its Occupational Health and Biomedicine program. Individual will be responsible for nonlaboratory research and project management in one or more of the following disciplines: occupational health, industrial safety and occupational medicine, industrial hygiene, toxicological and epidemiological research. Position will also be responsible for program and staff planning, client contact, business solicitation, and technical performance. Incumbent will have access to interdivisional capabilities in the physical and chemical sciences, multimedia pollution monitoring, and analysis, exposure and risk assessment, laboratory services, and information management systems.

Successful candidate should possess a Ph.D. in the biomedical sciences, industrial hygiene, or epidemiology, and should have substantial experience in management of professionals in occupational health or related fields.

GTI offers excellent salaries and a complete employee benefits package.

Interested candidates, please send résumés, including compensation requirements, to:

Kathy S. McPherson
Personnel Manager
GEOMET Technologies, Inc.
15 Firstfield Road
Gaithersburg, Maryland 20760
Telephone: 301-948-0755
Equal Opportunity Employer, M/F

DIRECTOR

CHEMISTRY OF CENTRAL NERVOUS SYSTEM DRUGS

The Warner-Lambert/Parke-Davis Pharmaceutical Research Division is seeking an outstanding, dynamic individual to serve as Director, Chemistry of Central Nervous System Drugs.

Reporting to the Director of Chemistry, this individual will be responsible for the efforts of a group of chemists engaged in the design and synthesis of various types of CNS agents and will work closely with other scientists in chemistry, pharmacology and allied disciplines.

The successful applicant will have:

- Ph.D. degree in Organic or Medicinal Chemistry or the equivalent and about 10 years experience in drug research.
- An in-depth knowledge of the chemistry and pharmacology of CNS drugs and a record of accomplishments in this field.
- Leadership and management skills, and ability to communicate well both in verbal and written form and to motivate staff to a high level of performance.

The research facilities, located next to the University of Michigan Campus in Ann Arbor, Michigan, are among the finest and best equipped in the world and are devoted exclusively to the discovery and development of new drugs.

Join the exciting Research and Development team at Warner-Lambert/Parke-Davis in this very key position and enjoy outstanding compensation, benefits, and work environment.

Send your resume and salary history/requirements in confidence to:

Mr. D.C. Misner
Personnel Supervisor

Warner-Lambert/Parke-Davis

Pharmaceutical Research Division

2800 Plymouth Road
Ann Arbor, MI 48105

An Equal Opportunity
Employer M/F

RESEARCH BIOCHEMISTS

CAPPEL LABORATORIES, a major company in the development and production of antigens, antisera and immunochemicals, has immediate openings for two (2) highly qualified Ph.D. level biochemists. These positions require extensive doctoral and post-doctoral experience in protein purification, preferably in complement and coagulation factors. Responsibilities include antigen purification and development of new products for the research and clinical laboratory market. Some experience or advanced courses in immunology is an added plus.

CAPPEL LABORATORIES is located in modern laboratory facilities situated in an attractive rural area 40 miles west of Philadelphia. Salary is open and excellent employee benefits are provided. Please forward curriculum vitae or resumes to:

William J. Stegeman, Ph.D.
Manager of Research and
Development
CAPPEL LABORATORIES
Cochranville, Pa. 19330

AUSTRALIA

Office of the Supervising Scientist

ENVIRONMENTAL RADIATION PHYSICIST

The Office of the Supervising Scientist is a statutory authority of the Australian Commonwealth government. The supervising scientist is responsible directly to the minister for science and the environment for co-ordinating and supervising activities concerned with the protection of the environment, mine workers and members of the public from the effects of uranium mining operations in the Alligator Rivers regions of the northern territory. He is also required to ensure that the research needed to establish standards and protection measures, and for defining practical and effective programs to monitor the environmental impact of uranium mining operations is carried out.

The focus of the research and monitoring activities is the Alligator Rivers Region Research Institute which will comprise a laboratory located in the region at Jabiru, about 200 KM east of Darwin, supported by a base laboratory in Sydney. A temporary laboratory with accommodation for families is currently established at the ranger mine site near Jabiru.

The institute is seeking an appropriately qualified scientist to study naturally occurring radiation and radionuclides in the environment of the uranium mining and milling operations. Emphasis will be on the establishment of laboratory low-level counting and spectrometer systems, with appropriate data handling and reduction facilities, and the development of instrumentation and techniques for specialised environmental and occupational radiological studies, e.g. the characterisation of radon daughter aerosols in the mine environment, the determination of thorium, radium and radon daughters in environmental samples.

Applicants should possess a Ph.D or equivalent qualifications together with a thorough knowledge of radiation detection and counting techniques. Experience in natural environmental radioactivity studies is desirable.

The successful applicant, if a British subject, may be appointed as a permanent officer of the Australian Public Service; alternatively, a fixed term employment arrangement may be negotiated. He, or she, may be located in Sydney or Jabiru, but it will be necessary to spend extensive periods in the region.

The engagement will be within the salary range DLR\$ A17,331 to A25,177 depending on qualifications and experience. A higher salary could be considered for a particularly well qualified and experienced research worker (DLR\$ A1.00 ; US\$1.15 or pounds stg 0.49 approximately).

Conditions of employment include 4 weeks annual leave (6 weeks if located at Jabiru), an annual leave loading and accumulative sick leave. Fares and removal expenses to take up duty and a short term accommodation allowance may also be payable in some circumstances. Applications (including curriculum vitae and nominated professional referees) should be forwarded to the Supervising Scientist, G.P.O. Box 2838, Sydney, N.S.W. 2001, Australia.

Applicants from within the United Kingdom and Europe should forward a copy of their application and direct any enquiries to Mr. K. Hollis, Public Service Board Representative, Australia House, The Strand, London WC2B/4LA (telephone 01 - 438 8000). Those from North America, to Counsellor (Administration) Australian Embassy, 1601 Massachusetts Avenue, Washington D.C. 20036 (telephone 202 797 3000). This copy should reach the appropriate location by 18 September 1980.

POSITIONS OPEN

PHYSIOLOGY DEPARTMENT. Accredited Medical School in Puerto Rico is seeking all ranks, full-time staff. Teaching areas: central and autonomous nervous systems, sensory, gastrointestinal, endocrinology, respiratory, cardiovascular, and others. Laboratory instructor at either Master's, Ph.D., or M.D. level is also needed. Research and supporting grants emphasized. Please send résumé and three references to: **Chairperson, Physiology Department, P.O. Box 7004, Ponce School of Medicine, Ponce, Puerto Rico 00731.**

POSTDOCTORATE ASSOCIATES. Studies on structure/function relations in enzymes of nucleotide biosynthetic pathway. Includes protein-peptide sequencing and carbon-13 NMR studies of protein-ligand interactions. Available immediately. Salary \$13,500 or higher depending on relevant experience. Résumé and references to **Dr. Raymond L. Blakley, Department of Biochemistry, University of Iowa, Iowa City, Iowa 52242. The University of Iowa is an Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION. Available now for research on the behavioral pharmacology of abused drugs including studies on drug tolerance, dependence, and neuroanatomical correlates. Applicants should have recent doctorate in pharmacology or other basic medical science or in experimental psychology. Send résumé with names of three references by 30 September 1980 to: **Dr. Stephen G. Holtzman, Department of Pharmacology, Emory University School of Medicine, Atlanta, Georgia 30322. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITIONS CELL BIOLOGY

The Cell Biology Group of the Worcester Foundation for Experimental Biology announces the availability of postdoctoral positions. The members of this group are: Earl Baril, Edward Berger, William Crain, Grant Fairbanks, Jay Greenberg, Thoru Pederson, Harriet Robinson, David Steffen, Greenfield Sluder, Richard Vallee, Samuel Wadsworth, Robert Weihing, and Paul Zamecnik. These are 2-year appointments with possible renewal; the initial salary is \$12,500. Applicants should submit a curriculum vitae, a brief synopsis of their Ph.D. thesis research, and at least three letters of recommendation. Candidates should indicate the faculty member(s) with whom they would wish to work if a position is awarded.

Application materials should be sent to: **Dr. Thoru Pederson, c/o Cell Biology Group Postdoctoral Fellowship Program, Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, Mass. 01545.**

An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL POSITION. Opportunity exists to work on project concerned with the biochemical mechanisms of hormone (insulin) action to control phosphorylation and redox state. Applications are invited from qualified candidates with a Ph.D. or M.D. degree. Submit a résumé of research interests, curriculum vitae, and three letters of recommendation to **Dr. Joseph Larner, Department of Pharmacology, Box 448, University of Virginia School of Medicine, Charlottesville, Virginia 22908. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL RESEARCH ASSISTANT position available September 1980. Ph.D. to do neuronal recording in adult and developing mammalian CNS. Individual with experience in recordings from single neurons preferred. Send curriculum vitae and names of references to: **N. A. Buchwald, Director, Mental Retardation Research Center, 760 Westwood Plaza, Los Angeles, Calif. 90024.**

University of California, Los Angeles, is an Affirmative Action Employer, M/F/H.

POSTDOCTORAL RESEARCH ASSOCIATE/RESEARCH FELLOWSHIP POSITIONS available in lipoprotein and apolipoprotein metabolism in atherosclerosis research. Candidate should have a strong background in biochemistry and immunology and be familiar with proteins, immunoassays, whole animal work, cell culture techniques, and enzyme kinetics. Interested candidates should send application letter and curriculum vitae to:

Dr. Moti L. Kashyap
Associate Director
Lipid Research Division, K Pavilion
University of Cincinnati Medical Center
Cincinnati, Ohio 45267
Telephone: 513-872-4471

POSITIONS OPEN

POSTDOCTORAL POSITION available immediately for study of sex hormone mechanisms of action and effects on the secretory immune system of the female genital tract and other related tissues. Please send curriculum vitae and names of three references to:

Dr. Charles R. Wira
Department of Physiology
Dartmouth Medical School
Hanover, N.H. 03755

An Equal Opportunity/Affirmative Action Employer, M/F

POSTDOCTORAL POSITION

Available on NIH training grant to study receptors for insulin and insulin-like growth factors on variant cell lines and somatic cell hybrids. Recent Ph.D. in biochemistry or cell biology preferred. Send résumé and names of references to: **Daniel S. Straus, Biomedical Sciences Division, University of California, Riverside, California 92521. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITIONS IN CANCER BIOLOGY available for investigating cellular and molecular events in carcinogenesis: initiation, promotion, modifiers of carcinogenesis, control mechanisms of DNA replication, and growth factors in neoplasm. Send curriculum vitae and bibliography to **Dr. G. Tim Bowden or Dr. Bruce F. Magun, Division of Radiation Oncology, University of Arizona Health Sciences Center, Tucson, Arizona 85724. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION

For research on the transport properties of lipid bilayer membranes under elevated hydrostatic pressure. Available 1 November 1980. Candidate should have a strong background in membrane biophysics. Send résumé and three letters of reference to: **Dr. L. J. Bruner, Department of Physics, University of California, Riverside, Calif. 92521. The University of California is an Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION, STEROID CHEMIST/BIOCHEMIST to work in synthesis and testing of C18 functionalized steroids. Background should include chemical synthesis and radioligand-hormone receptor assays. Salary commensurate with experience. Send curriculum vitae and two letters of recommendation to **David Williams, Department of Pharmacology, Health Sciences Center, State University of New York at Stony Brook, Long Island, N.Y. 11794. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH BIOCHEMIST

Position for Ph.D. available immediately for the study of enzymes of cholesterol biosynthesis and their regulation. Experience in enzymology and lipoproteins an advantage. Send applications to: **Dr. G. Popjak, Department of Biological Chemistry, University of California, Los Angeles, School of Medicine, Los Angeles, Calif. 90024. An Equal Opportunity Employer.**

POSTDOCTORAL RESEARCH POSITION

Available September or October 1980 for Ph.D. or M.D. wishing to study the molecular aspects of expression of messenger RNA in herpesvirus-infected cells. Interest in state of the art techniques essential. Send curriculum vitae and three letters of reference to **Professor E. K. Wagner, Department of Molecular Biology and Biochemistry, University of California, Irvine, Calif. 92717. The University of California is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH FELLOW, single-unit recording in the visual system, available for 2.5 years beginning 1 October 1980. Emphasis on microelectrode recording in the geniculostriate and extrastriate visual system of the tree shrew [namely, Albano, Humphrey, and Norton, *J. Neurophysiol.* **41**, 1140-1164 (1978)]. Applicants with background in visual system electrophysiology, anatomy, or psychophysics will be considered. Salary at current NIH stipend level. Please send curriculum vitae and names of three references by 1 November 1980 to:

Dr. Thomas T. Norton
Department of Physiological Optics
School of Optometry/The Medical Center
The University of Alabama in Birmingham
Birmingham, Alabama 35294

An Affirmative Action/Equal Opportunity Employer

POSITIONS OPEN

POSTDOCTORAL/RESEARCH ASSOCIATE. A position is available immediately for a Ph.D. in biochemistry or cell biology to join a group working on oligodendrocytes. Studies involve (i) isolation and characterization of plasma membrane, (ii) culture of oligodendrocytes, and (iii) use of isolated oligodendrocytes to establish a model system to study myelination. Send curriculum vitae and the name of three references to: **Dr. Sara Szuchet, Department of Neurology, THE UNIVERSITY OF CHICAGO, 950 East 59 Street, Chicago, Illinois 60637. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL RESEARCH POSITION in the area of placental transport of environmental pollutants. Strong background in placental physiology and experience in small animal surgery desired. The successful candidate will join a multidisciplinary group performing toxicological studies of energy-related environmental pollutants. Send résumé and three letters of reference to:

Dr. R. J. Chertok
University of Tennessee/DOE
Comparative Animal Research Laboratory
1299 Bethel Valley Road
Oak Ridge, Tennessee 37830
An Equal Opportunity Employer

POSTDOCTORAL TRAINING IN DENTAL CARIES RESEARCH. Apply now for the fall of 1981. The School of Dentistry, University of Minnesota, offers an NIH 3-year postdoctoral traineeship funded through the National Caries Program. Prepare for an exciting research and teaching career in a program that emphasizes a multidisciplinary approach in the investigation of dental caries. Training includes laboratory research rotations, epidemiologic and clinical trial studies, teacher training courses, and the teaching of dental school courses as well as independent and collaborative research opportunities. Special clinical courses provide an orientation to dentistry. This familiarization with existing clinical preventive and restorative techniques should provide a background which enhances the opportunity for employment in schools of dentistry and commercial dental research firms. Applications from D.D.S./D.M.D.'s or Ph.D.'s who are U.S. citizens or permanent U.S. residents are now being accepted. *Equal Opportunity/Affirmative Action Employer.* Stipends range from \$13,380 to \$17,040, depending upon experience. Application deadline is 15 December 1980. For further information write to: **Dr. Ralph V. Katz, Director, Cariology Postdoctoral Program, School of Dentistry, University of Minnesota, Minneapolis, Minnesota 55455.**

POSTDOCTORAL TRAINING IN ENDOCRINOLOGY at West Virginia University Medical Center. An interdisciplinary program supported by NIH. Positions filled as available, depending on candidate qualifications and needs of laboratories involved. Participating faculty, department affiliation, and research areas are: Margaret J. Albrink, M.D., Medicine, hyperlipidemia/insulin resistance; James B. Blair, Ph.D., Biochemistry, liver carbohydrate metabolism; Fred R. Butcher, Ph.D., Biochemistry, stimulus-secretion coupling; Roy L. Butcher, Ph.D., Obstetrics/Gynecology, pituitary-ovarian function; Howard D. Colby, Ph.D., Physiology, adrenal/hepatic monooxygenases; Robert A. Dailey, Ph.D., Animal Science, gonadotropins and follicular development; George A. Hedge, Ph.D. (program director), Physiology, thyroid/adrenal neuroendocrinology; E. Keith Inskeep, Ph.D., Animal Science, utero-ovarian relationships; Michael G. Mawhinney, Ph.D., Pharmacology, androgen/estrogen action; and John A. Thomas, Ph.D., Pharmacology, androgen actions/endocrine toxicology. Application information and more detailed descriptions of these research programs are available on request from: **Dr. George A. Hedge, Professor and Chairman, Department of Physiology, West Virginia University Medical Center, Morgantown, West Virginia 26506. West Virginia University is an Equal Opportunity/Affirmative Action Employer.**

POSTGRADUATE RESEARCH position available to study the role of the basal ganglia in movement of animals. Seeking individual with interests in the cellular plasticity of brain dopaminergic neurons in disease and senescence. Background in neurochemistry, neuropharmacology, histochemistry, and/or psychobiology is desirable. Send curriculum vitae, letter stating interests and goals, and three references to: **Dr. John F. Marshall, Department of Psychobiology, University of California, Irvine, Calif. 92717. Affirmative Action Employer.**

POSTDOCTORAL RESEARCH AWARDS

Competitive awards for research—*free of administrative duties*—as visiting scientists in selected federal laboratories throughout the United States. Over 200 new awards offered by the National Research Council. Opportunity for *specialized experience* in experimental or theoretical research in fields of:

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ENVIRONMENTAL SCIENCES
MATHEMATICS • SPACE SCIENCES**

Most of the 15 programs are open to non-U.S. nationals, and most are open to senior investigators as well as recent PhDs.

Application materials with details on research opportunities and laboratory locations are available from:

Associateship Office (JH 610-S1)
NATIONAL RESEARCH COUNCIL
2101 Constitution Avenue, N.W.
Washington, D.C. 20418
Postmark deadline for applications:
January 15.

*National
Research Council*

National Academy of Sciences
National Academy of Engineering Institute of Medicine

RESEARCH PARASITOLOGIST

The Upjohn Company has an opening in its Agricultural Division for a parasitologist. This individual will design and modify the parasitology screening models and conduct a veterinary and medical parasitology research program aimed at developing novel parasiticides. The primary focus will be on veterinary parasitological research; secondarily, the individual will collaborate on the parasitology-tropical disease program. The individual will provide oral and written communication of results, will work with other project teams and scientists, and will supervise research assistants and technicians.

The successful candidate will have a PhD or DVM-PhD in parasitology with a minimum two years relevant experience beyond the doctorate. Training and experience in helminthology and ectoparasite research are essential. Background in parasitic tropical diseases, protozoology and industrial research desirable.

Living in Kalamazoo, a mid-sized Southwestern Michigan community, provides immediate access to an excellent mix of cultural/recreational opportunities including lakes, nearby colleges, and a four-season climate. Excellent salary and benefits programs are available.

Please send resume in confidence to:

Upjohn

William J. Hall 12198
The Upjohn Company
7000 Portage Road
Kalamazoo, Michigan 49001

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UNIVERSITY CITY SCIENCE CENTER
3508 MARKET STREET
PHILADELPHIA, PENNA. 19104

VETERINARY MEDICAL OFFICERS

The National Cancer Institute is seeking several veterinary pathologists for positions in the Carcinogenesis Testing Program, National Toxicology Program (these positions will be located in Raleigh/Durham, NC area). The incumbents will be responsible for providing expertise in pathology for the evaluation of experimental design of long-term carcinogenesis and toxicity studies and for development of standards of pathology for the evaluation and interpretation of carcinogenic effects in these studies. The positions involve monitoring and evaluating pathology efforts in carcinogenesis studies at various laboratories. Opportunities for collaborative research within the Institute are available. Starting salary will be based upon training and experience of the selectee, and will range from \$32,442 to \$50,112. Board certification in veterinary pathology is desired. Experience in laboratory animal pathology is required and experience in toxicologic or experience in toxicologic or experimental pathology with emphasis on carcinogenesis is desirable.

All applications will be held in confidence. Please send a Personal Qualifications Statement (SF-171), Curriculum Vitae and bibliography to: Mr. Sherman Hatchett, National Institutes of Health, Public Health Service, 9000 Rockville Pike, Building 31, Room 3A-27, Bethesda, MD 20205. An Equal Opportunity Employer.

NATIONAL INSTITUTES OF HEALTH

POSITIONS OPEN

PROFESSOR AND CHAIR OF THE DEPARTMENT. The College of Agricultural and Environmental Sciences of the University of California, Davis, invites applications for the Maynard A. Amerine Professorship and the administrative Chair of the Department of Viticulture and Enology. Applicants should have made significant scholarly contributions at the professorial level in fields that include or are pertinent to enology, viticulture, or the fermentation sciences. This could include related disciplines such as biochemistry, microbiology, food science, and plant physiology. In addition, applicants should have an interest in providing intellectual and administrative leadership for the department. The formal appointment will be a permanent position as a tenured member of the Department of Viticulture and Enology at the professorial level. While the intent is to seek applicants who will fill both the Maynard A. Amerine Professorship and the administrative chair of the department, applications are also encouraged from those who would seek one or the other position separately. Applications, in the form of a letter describing research and teaching interests and background, together with a curriculum vitae and the names of three referees, should be submitted by 15 October 1980 to: Charles E. Hess, Dean, College of Agricultural and Environmental Sciences, 228 Mrak Hall, University of California, Davis, Calif. 95616.

The University of California is an Equal Opportunity and Affirmative Action Employer and invites applications from all qualified individuals.

The UCLA School of Medicine, invites applications and nominations for **PROFESSOR AND CHAIRPERSON**, Department of Medicine, effective 1 July 1981.

Candidates with distinguished academic records and with demonstrated ability or clearly evident potential for administrative leadership are sought.

Applications should be forwarded to: Dr. A. Frederick Rasmussen, Jr., The Associate Dean, UCLA School of Medicine, Los Angeles, California 90024, by 1 October 1980.

UCLA is an Equal Opportunity/Affirmative Action Employer.

Harvard University. The Department of Psychology and Social Relations is searching for nontenure appointees (initially for a 5-year term beginning 1 July 1981) in the areas of **SOCIAL, PERSONALITY, AND COGNITIVE PSYCHOLOGY**. In each case a secondary competence in developmental psychology is welcome but not essential. Applications should include current curriculum vitae, and applicants should ask at least three individuals familiar with their work to write directly to: David M. Green, Chairman, Department of Psychology and Social Relations, Harvard University, 33 Kirkland Street, Cambridge Mass. 02138. Applications received after 1 November 1980 may not be considered. *Harvard University is an Equal Opportunity/Affirmative Action Employer.*

RESEARCH ASSOCIATE AND POSTDOCTORAL POSITIONS IN MEMBRANE BIOCHEMISTRY

Several positions are available immediately in an expanding interdisciplinary group in the area of membrane biophysics and biochemistry.

The following topics of research are available:

- Membrane regulation of mitochondrial function,
- Calcium transport in membranes, liver cells, and organelles, and
- Metabolite transport in liver cells and organelles.

Salary is commensurate with experience. Send curriculum vitae and names of three references to:

Dr. Hagai Rottenberg
Hahnemann Medical College
230 North Broad Street
Philadelphia, Pa. 19102

Equal Opportunity Employer, M/F

RESEARCH ASSOCIATE POSITION. Biomedical applications of GC-MC and CI with positive and negative ion detection. Position involves development of quantitative methodology using SIM with stable isotope-labeled analogs. Applications involve the area of steroids and hydroxypolysaturated fatty acids. Position is available immediately at an annual salary of \$14,000. Send curriculum vitae and names of references to Dr. Jack Watson, Professor of Biochemistry and Chemistry, Biochemistry Department, Michigan State University, East Lansing, Michigan 48824. *Michigan State University is an Affirmative Action/Equal Opportunity Institution.*

POSITIONS OPEN

RECOMBINANT DNA, NUCLEIC ACID CHEMISTRY and MONOCLONAL ANTIBODIES in New York City

Enzo Biochem, Inc., a rapidly growing company with a firm commitment to research and development in many areas of biotechnology, is currently seeking individuals with Ph.D. degrees to join our highly qualified scientific staff. Applications are invited from professionals with several years of successful experience in the following fields:

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We are located in large, attractive offices in Manhattan, and offer competitive salaries as well as a comprehensive benefits package.

Candidates who meet the requirements for these positions should apply by sending a résumé.

Enzo Biochem
Personnel Department
300 Park Avenue South
New York, N.Y. 10010

RESEARCH OPPORTUNITIES WITH SANOFI

- ▶ If you are an experienced research scientist
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 - ▶ If you are attracted by biological and therapeutic research
 - ▶ If you feel that human contacts are important
 - ▶ If you are ready to organize and animate a research unit
 - ▶ If you are fluent in French and English
- then a major French pharmaceutical group can offer you in France or in Belgium a responsible research position in one of the following fields:

- Neurophysiology
- Neurobiochemistry
- Haemobiology and thrombosis research
- Metabolism and pharmacokinetics
- Cardiovascular physiopathology

The directorship of a research center could be offered to an outstanding candidate. All applications together with a curriculum vitae should be mailed to C.R.E.P. (subsidiary of SANOFI), Attention: J. SINGIER, 37, Avenue Pierre I^{er} de Serbie, F-75008 Paris, France.

RESEARCH ASSOCIATE

The Division of Applied Sciences at Harvard University has an immediate opening for a Research Associate to join an ongoing research program in superconductivity. Work involves the study of inhomogeneous superconductors, A-15 compounds, high-field measurements, superconducting weak links, and nonequilibrium properties of superconductors. Applicants must have a Ph.D. in experimental physics and several years of postdoctoral experience, a strong and diversified publication record of research achievements, and evidence of an ability to work well with graduate students in helping guide their research. We are seeking candidates with a good knowledge of superconducting materials, particularly composites, and who have conducted research on high-field superconductors. Experience in the use of a variety of lasers is necessary for the study of nonequilibrium states of superconductors. A theoretical and experimental background in the origin of noise in metals would also be of value for the research on weak links. Position is renewable annually, although continuation beyond an initial period will be dependent on funding and mutual interest. Starting salary is \$20,000. Please send curriculum vitae and list of publications to Dean Paul C. Martin, Pierce Hall 218, Harvard University, Cambridge, Mass. 02138. Application deadline is 30 September 1980. *An Affirmative Action/Equal Opportunity Employer.*

CHIEF OF SURGICAL PATHOLOGY and division of anatomic pathology at the George Washington University Hospital, Washington, D.C. Full-time faculty position (professor) in the Department of Pathology for academically oriented person with experience and expertise in surgical pathology. Send résumé to: Dr. H. Sidransky, Chairman, Department of Pathology, The George Washington University Medical Center, Washington, D.C. 20037. *An Equal Opportunity Employer.*

POSITIONS OPEN

Harvard University. The Department of Psychology and Social Relations is opening a search for a **FULL PROFESSOR IN SOCIAL PSYCHOLOGY** to begin 1 July 1981. The program is broad in scope, including the sociological as well as the psychological side of the discipline, with a strong emphasis on methods, and upon application as well as theory. Address inquiries, including curriculum vitae, and the names of at least five referees familiar with your work, to: Professor David M. Green, Chairman, Department of Psychology and Social Relations, Harvard University, Cambridge, Mass. 02138. Deadline for application is 1 October 1980. *Harvard University is an Equal Opportunity/Affirmative Action Employer.*

RESEARCH POSITIONS are available at the Trudeau Institute both at the **ASSISTANT PROFESSOR** level and the **ASSOCIATE PROFESSOR** level, for experienced immunobiologists wishing to develop their own independent lines of investigation. Applicants for the assistant professorship should have at least 3 years of postdoctoral experience. Because the Trudeau Institute is a not-for-profit pure research institute, the applicants will be judged almost exclusively on their scientific achievements. Send résumé to

The Director
Trudeau Institute for Biomedical Research
P.O. Box 59
Saranac Lake, N.Y. 12983

RESEARCH SCIENTIST. Biochemical Engineering Section, Biomedical Engineering Laboratory, American Red Cross Blood Services, Bethesda, Maryland. Available immediately. M.S., Ph.D., or Sc.D. in biomedical, chemical, or mechanical engineering with four or more years of relevant work experience. Primary goal of section is to improve collection, preparation, and storage of blood and blood components. Current activities relate to membrane plasma pheresis, human leukocyte interferon production, cryopreservation of platelets, leukocytes, and separation of plasma proteins. Future activities include studies of blood materials interactions and blood substitutes. Collaboration with academic, industrial, and government groups is encouraged. Salary is \$25,000 and up, commensurate with experience. Send résumé to Ms. Ruth Straub, 18th and D Streets, NW, Washington, D.C. 20006. *Equal Opportunity Employer, M/F.*

SENIOR EPIDEMIOLOGIST ENVIRONMENTAL HEALTH

GEOMET Technologies, Inc., a leading contract research organization in environmental and occupational health, is seeking a qualified individual for a challenging career opportunity as **SENIOR EPIDEMIOLOGIST**. Candidates must possess a doctoral degree in epidemiology and *recognized* professional experience, preferably in environmental health. The responsibilities of the position include design, development, conduct and marketing of epidemiological studies; statistical design and analyses for other research studies and technical assistance in a variety of ongoing projects. Work experience in interdisciplinary research is required. Outstanding verbal and written communication skills are essential.

GTI offers competitive salaries, commensurate with education and experience, and a comprehensive employee benefits package. Please forward résumé to:

Dr. Niren L. Nagda, Director
Environmental Exposure and
Effects Assessment
GEOMET Technologies, Inc.
15 Firstfield Road
Gaithersburg, Maryland 20760
Equal Opportunity Employer, M/F

THE NEW YORK ACADEMY OF SCIENCES

Conference on

HORMONAL REGULATION OF EPITHELIAL TRANSPORT OF IONS AND WATER

The Barbizon-Plaza Hotel, New York City
10 to 12 November 1980

The Conference is cochaired by Walter N. Scott (Mount Sinai School of Medicine) and David B. P. Goodman (University of Pennsylvania School of Medicine). Important topics to be discussed include the mechanisms of action of aldosterone, anti-diuretic hormone, vitamin D, and parathyroid hormone, as well as the role of insulin and catecholamines in the control of ion transport. The hormonal control of electrolyte and fluid transport in the gastrointestinal tract and the use of cultured epithelial cells to study hormone-regulated transport processes will also be featured.

This conference will bring together investigators from a variety of disciplines to discuss the biophysics and biochemistry of the action of several hormones that are important in the control of fluid and electrolyte transport. Recent studies of the electrophysiological and ultrastructural effects of hormones as transport epithelia will also be discussed. The conference will feature invited speakers as well as poster sessions. The deadline for submission of abstracts is 13 October 1980. The abstract should include the name of the author(s), institution, and a 100- to 200-word summary of the work to be presented in the poster. The summaries will be published as part of the proceedings. Send abstracts for poster sessions and inquiries about details of the program and registration to:

Conference Director
The New York Academy of Sciences
2 East 63 Street
New York, New York 10021

THE AUSTRALIAN NATIONAL UNIVERSITY invites applications for appointment to the following positions in the Research School of Earth Sciences:

1) RESEARCH FELLOW IN EXPERIMENTAL PETROLOGY

The School possesses a well-equipped experimental petrology laboratory including a wide range of solid pressure media, high-pressure, high-temperature apparatus, together with diamond anvil systems equipped with laser heating. High-temperature furnaces equipped for experimentation under controlled oxygen fugacities are also available. Extensive facilities for chemical analyses and other studies of high-pressure phases exist. These include two electron probe microanalyzers, an ion probe microanalyzer, x-ray diffraction equipment, 200-kv electron microscope and ultrasonic apparatus for measuring elastic properties at high pressure. The successful applicant should hold a Ph.D. degree and possess a good background in relevant fields such as geochemistry, chemistry, and physics and, preferably, should possess experience in the use of some of the above techniques. He or she will be expected to participate in research projects dealing with the constitution and composition of the earth's mantle and core, in collaboration with Professor A. E. Ringwood, Dr. L. G. Liu, and Dr. I. N. S. Jackson. In addition to these cooperative projects, the successful applicant will be afforded ample time to conduct his own independent research programs in the general field outlined above.

2) RESEARCH FELLOW IN COSMOCHEMISTRY

The successful applicant for this position should be interested in applying the methods of experimental petrology to cosmochemical problems relating to the chemical composition, internal structure, and evolution of the moon, and/or of the parent bodies of meteorites. Research programs envisaged include partition equilibria of siderophile elements between metallic and silicate phases, redox equilibrium and oxygen fugacities in lunar and terrestrial rocks and in meteorites, and phase equilibria relevant to the origin of lunar basalts. The vacant position is in Professor Ringwood's research group and the equipment available is detailed in the preceding advertisement. It will also be possible for the successful applicant to work in Dr. Compston's research group, with access to a newly developed ion probe microanalyzer and extensive mass spectrometry facilities. Interest and experience in meteorite petrology would be desirable for a candidate wishing to work in this latter area. The successful applicant should hold a Ph.D. degree and possess a good background in relevant fields such as geochemistry, lunar science, and meteoritics. Preferably, he or she should possess experience in application of the relevant experimental techniques. The successful applicant will be expected to participate and collaborate in ongoing research programs in cosmochemistry but will also have sufficient time to pursue independent lines of research.

No fixed closing date is specified for the above positions. However, applicants are invited to submit an outline of their proposed research programs with their application as soon as possible. Appointment up to 3 years with the possibility of extension to 5 years. Salary range \$17,739 to \$23,155 per annum Australian currency. Present exchange rates: \$A1 : \$Can1.33 : \$U.S.1.15. Reasonable appointment expenses, superannuation, and housing assistance. Applications to:

Registrar
Australian National University
Post Office Box 4
Canberra ACT 2600, Australia

ENVIRONMENTAL PROTECTION

LABORATORY DIRECTOR
ENVIRONMENTAL MONITORING AND SUPPORT LABORATORY
CINCINNATI, OHIO

OFFICE OF RESEARCH AND DEVELOPMENT

The U.S. Environmental Protection Agency (EPA) is seeking a director for its Cincinnati laboratory to direct in-house and extramural research in developing and applying analytical techniques and monitoring procedures to identify and measure major pollutants in fresh and marine ambient waters, municipal and industrial effluents, and municipal wastes, and provide quality assurance guidelines, reference materials, quality control samples, and performance audit samples for evaluating and maintaining the quality of monitoring data provided by EPA, state, municipal, and industrial laboratories.

Grade: This is a Senior Executive Service (SES) position. The person selected for this position must join the SES. Salary range: \$47,889 to \$50,112.50

Qualifications required: Applicants must meet Office of Personnel Management Qualification Requirements for either the General Biological Science, General Engineering, or General Physical Science series; have substantive professional experience related to the position; have experience demonstrating the ability to perform in an SES position; and meet the following mandatory requirements: (i) demonstrate experience managing programs devoted to research on pollutants; (ii) experience in working with the environmental science research community; (iii) experience in identifying, establishing and prioritizing research goals, allocating resources, and reviewing programs; and (iv) demonstrate experience directing research programs to develop monitoring methods and systems and associated quality assurance procedures.

Inquiries: Edna Morse, telephone: 202-755-2625.

Applications: All applicants must submit a completed Standard Form 171 (resumes cannot be accepted except in conjunction with a SF 171), which is available in federal Job Information Centers and federal agency personnel offices, to: Edna Morse, Waterside Mall, 401 M Street, SW, Washington, D.C. 20460. Applications must be postmarked by the closing date of 3 October 1980.



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POSITIONS OPEN

TECHNOLOGY AND PUBLIC POLICY

The Department of Engineering and Public Policy of Carnegie Institute of Technology and the Schools of Urban and Public Affairs and Humanities and Social Science, Carnegie-Mellon University, have one or more joint faculty openings: (i) for applied social scientists interested in doing collaborative policy research with engineers or (ii) for engineers interested in doing collaborative policy research with social scientists. Problem areas of interest include social impacts of computers and telecommunications, product liability and safety, electric power load management, retrospective technology assessment, and energy and environmental systems. Desirable areas of skill include decision analysis, optimization techniques, organizational analysis, and regulatory process and law. Send résumé with list of publications to **Indira Nair, Engineering and Public Policy, Carnegie-Mellon University, Pittsburgh, Pennsylvania 15213.**

Harvard University. The Department of Psychology and Social Relations is searching for candidates for a **TENURED PROFESSORSHIP IN COGNITION**. Specialization could be in any aspect of human information, learning, or perception. Address inquiries, including curriculum vitae and the names of at least five referees familiar with your work, to: **Professor David M. Green, Chairman, Department of Psychology and Social Relations, Harvard University, Cambridge, Mass. 02138.** Deadline for application is 1 October 1980. *Harvard University is an Equal Opportunity/Affirmative Action Employer.*

VETERINARY PATHOLOGIST to collaborate in acute, subchronic, and chronic toxicology, carcinogenesis, mutagenesis, reproduction, and teratology studies for industry and government. ACVP certification or advanced training and experience in the pathology of laboratory animals, including rodents, necessary. Experience in managing studies in the above fields is highly desirable. There is opportunity for individual to establish research programs according to his or her interests and to collaborate with investigators in a variety of disciplines. The position will be located in Menlo Park, Calif., on the San Francisco Peninsula. Applicants should send curriculum vitae and salary requirements to **D. J. Solomon, Personnel Services, SRI INTERNATIONAL, 333 Ravenswood Avenue, Menlo Park, Calif. 94025.** *An Equal Opportunity Employer.*

SCIENTIFIC EXCHANGES

NAS SCIENTIFIC EXCHANGE PROGRAMS WITH U.S.S.R. AND EASTERN EUROPE

Applications are invited from American scientists who wish to make professional visits in the U.S.S.R., Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary, Poland, Romania, and Yugoslavia between September 1981 and December 1982. Applicants must be U.S. citizens and have a doctoral degree in the natural or social and behavioral sciences by the time of visit. Deadline for requesting applications is Friday, 17 October 1980. Please contact:

Section on U.S.S.R. and Eastern Europe
National Academy of Sciences
2101 Constitution Avenue, NW
Washington D.C. 20418
Telephone: 202-389-6228 or 389-6616

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIPS IN REPRODUCTIVE BIOLOGY. Applications are invited for postdoctoral fellowships in the Laboratory of Human Reproduction and Reproductive Biology of Harvard Medical School. The laboratory is an interdisciplinary center for research on biological problems in reproduction. The laboratory provides research opportunities in the anatomical, physiological, endocrinological, and biochemical approaches to ovarian testicular function, cytokinesis, and molecular biology, fertilization, the preimplantation mammalian embryo, neuroendocrine physiology, behavioral endocrinology, and contraceptive development. Send complete curriculum vitae including a statement of research interests and names of at least three references to: **Kenneth J. Ryan, M.D., Director, Laboratory of Human Reproduction and Reproductive Biology, Harvard Medical School, 45 Shattuck Street, Boston, Mass. 02115.** *Harvard is an Equal Opportunity Employer.*

FELLOWSHIPS

DEVELOPMENTAL PSYCHOLOGIST AND NEUROPSYCHOLOGIST. Postdoctoral fellowship offering opportunities for participation in clinical research program with emphasis on assessment (behavioral and/or electrophysiological) of auditory function and speech perception abilities in children. The fellowship is offered by a university-affiliated facility which provides diagnostic and management services in an interdisciplinary setting. Stipend of \$10,000. Contact: **Steffi B. Resnick, Associate Director, Hearing and Speech Division, John F. Kennedy Institute, 707 North Broadway, Baltimore, Md. 21205.** *An Equal Opportunity Employer.*

POSTDOCTORAL FELLOWSHIP IN NEUROENDOCRINOLOGY. Available immediately for M.D./Ph.D. investigating neuroendocrine aspects of reproduction. Interests in RIA of peptide hormones and receptors, neurochemistry and/or neuropharmacology, and catecholamine metabolism are desirable. Send curriculum vitae and three references to: **Dr. S. P. Kalra, Department of Obstetrics-Gynecology, College of Medicine, University of Florida, Gainesville, Fla. 32610.**

POSTDOCTORAL FELLOWSHIPS IN NEUROBIOLOGY

Open to holders of Ph.D., M.D., D.Sc. Stipends (depending on experience): \$14,000 to \$18,000. Available preceptors: Drs. Wayne Albers, Gilbert Ashwell, Roscoe Brady, Harold Gainer, Helen Hess, William B. Jakoby, Phillip Nelson, Marshall Nirenberg, Thomas Reese, and Henry DeF. Webster. Send curriculum vitae, undergraduate and graduate school transcripts, and three letters of recommendation to: **Dr. Sean O'Reilly, George Washington University Medical Center, 2150 Pennsylvania Avenue, NW, Washington, D.C. 20037.**

POSTDOCTORAL FELLOWSHIP. Available immediately in cardiovascular physiology (coronary circulation). Emphasis on physical measurements, instrumentation, modeling, and computers. Medical student teaching experience available if desired. Send curriculum vitae and references to **Dr. Francis L. Abel, University of South Carolina, School of Medicine, Department of Physiology, Columbia, S.C. 29208.** *Affirmative Action/Equal Opportunity Employer.*

RESEARCH FELLOWSHIP FOR TEACHERS JOINT INSTITUTE FOR LABORATORY ASTROPHYSICS

The Joint Institute for Laboratory Astrophysics (JILA) announces a research fellowship for teachers in the physical sciences who have an active role in the instruction and counseling of minority and women students in their home colleges or universities. Selection is based on scholarly achievement or promise, experience, and interest in a field of science that will allow fruitful interaction with JILA scientists and demonstrated ability to motivate their students toward careers in the physical sciences. The JILA is devoted to research, study, and teaching in low-energy atomic and molecular physics, chemistry, theoretical astrophysics, and other closely related areas. Recipients of this fellowship have faculty status at the University of Colorado. There are no set duties or assignments. Duration of the appointment is normally for 1 year beginning in September. Please address inquiries and requests for application material to:

The Secretary
Visiting Scientists Program
Joint Institute for Laboratory Astrophysics
Campus Box 440
University of Colorado
Boulder, Colorado 80309

Completed applications for the 1981-82 fellowship must be received before 16 January 1981; the award will be announced about 15 March 1981.

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FELLOWSHIPS

HEISER PROGRAM FOR RESEARCH IN LEPROSY

Beginning postdoctoral research fellowships, research grants, and visiting research awards available in amounts up to \$15,000 per year, plus other allowances depending on type of award applied for. Applicants should have M.D., Ph.D., or equivalent degree. Applications by 1 February 1981, for awards to be activated June-December 1981. For information write: **Heiser Program for Research in Leprosy, 450 East 63 Street, New York, N.Y. 10021.**

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An interdepartmental Neuroscience Program is offered at Baylor College of Medicine for students interested in advanced study leading to the Ph.D. in neuroscience. The faculty of the program share common interests in neurobiology and strive to promote collaborative research intended to maximize the interdisciplinary nature of the student's education. Applications must be completed by 1 March 1981. Applicants are notified regarding admission and financial support by 15 April. Information regarding the program curriculum, research opportunities, and application procedures may be obtained from:

Scott F. Basinger, Ph.D.
Predoctoral Director
Program in Neuroscience
Baylor College of Medicine
Texas Medical Center
Houston, Texas 77030

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Alexander Hollaender, Ph.D.

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To register for the course please contact:

Gwen Savage
University of Texas Medical Branch
Department of Preventive Medicine
and Community Health
Galveston, Texas 77550
Telephone: 713-765-1803

MARKETPLACE

RESEARCH GRANTS

Research Funding Journal (RFJ) is published monthly. RFJ is an ongoing source of information on both governmental and foundation funding sources for the biological, medical, and physical sciences. Funding sources along with their eligibility, deadlines, and application procedures are described in each issue. Price: \$39 per year. **Warren Research, Department 109, Box 1771, Decatur, Illinois 62525.**



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Alan J. Brattesani, Ph.D.
Wizard Laboratories
1362 Monarch Lane
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Telephone: 916-753-6700

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U.S. PUBLIC HEALTH SERVICE EPIDEMIOLOGY TRAINING PROGRAM—1981

The U.S. Public Health Service (USPHS) invites applications for a proposed extension of a training program in medical epidemiology. Up to fifteen (15) persons per year, who already have an M.D., a doctorate in an allied health profession, or Ph.D. in a biomedical or behavioral science, may be accepted as Commissioned Officers in the USPHS for a three-year period of duty. Applications received by September 30, 1980 may be considered for service to begin July 1, 1981. During the first year, each successful applicant will attend a university, at government expense, as a candidate for the M.P.H. or equivalent degree. During the subsequent two years, individuals will work in association with senior epidemiologists in the participating USPHS agencies (Alcohol, Drug Abuse, and Mental Health Administration, ADAMHA; Center for Disease Control, CDC; Food and Drug Administration, FDA; and the National Institutes of Health, NIH) primarily in research studies. A matching procedure akin to the national internship matching will be employed to assure that each individual is assigned to a preceptor whose area of expertise is of interest to the trainee, and consistent with his/her further career plans.

Pay and allowances will be those established for USPHS Officers. The normal starting rank will be Senior Assistant (03). In the case of the medical officer with dependents, this would correspond to an

annual salary of \$23,000. During the second and third years, salary increments may be expected. Qualified officers may become eligible for special incentive pay if provided for by law.

Basic requirements for admission to the program are:

1. M.D., doctorate in an allied health profession, biomedical or behavioral science, and preferably at least one year of post-doctorate training or experience.
2. U.S. Citizenship, and ability to satisfy physical and other ancillary requirements for a USPHS commission. The PHS Act requires that a candidate without prior service not be over 43 years of age.
3. Acceptability to an accredited university offering an M.P.H. or equivalent degree.

For further details of the program, and for application forms, send inquiries to:

Robert S. Gordon, Jr., M.D.
Special Assistant to the Director, NIH
National Institutes of Health
Building 1, Room 238
Bethesda, Maryland 20205

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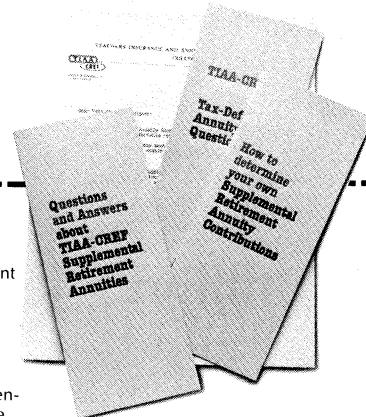
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