

emitting radiation at a redshift of around 4 are discussed in several papers. Weinberg provides an excellent review of the possible role of particle physics in the early universe, including baryosynthesis, the inflationary universe, and possible elementary particle candidates for the dark (invisible) matter that may dominate the universe. There is a good review of the observations of Hubble's constant, the deceleration parameter, and the local velocity field by Sandage and Tammann, although an advocate of the use of the Fisher-Tully relation might challenge their conclusion that the value of Hubble's constant is 50 kilometers per second per megaparsec.

On the whole, the volume provides a useful discussion of the current issues in astrophysical cosmology and of the relation of cosmology to particle physics. The book does not include several recent developments such as *N*-body simulations of the large-scale structure of the universe, the implications of candidate particles other than massive neutrinos for the dark matter, and evidence that dwarf spheroidal galaxies may contain large amounts of dark matter. Nevertheless, it should be most useful both to astrophysicists and to physicists who want to acquaint themselves with the cosmological issues that can be addressed by high-energy physics.

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Fossil Mammals

Mammalian Paleofaunas of the World. DONALD E. SAVAGE and DONALD E. RUSSELL. Addison-Wesley Advanced Book Program, Reading, Mass., 1983. xx, 432 pp., illus. \$79.95.

Fossil mammals have played an increasingly important role in biostratigraphy for more than a century. The distribution of some mammalian taxa is very wide, often intercontinental, and the temporal range of mammalian genera and species is generally quite restricted. Thus mammalian paleontology can provide significant information about the sequence and timing of geological events in widely separated areas of the globe. Radioisotopic dating and paleomagnetic stratigraphy combine with mammalian and other kinds of biostratigraphy to provide ever more useful and accurate knowledge about global correlation of the local events and processes of earth history.

Donald E. Savage and Donald E. Russell have set out to fill a major gap in the literature of biostratigraphy and chronostratigraphy by compiling what is known of temporal and spatial distribution of mammalian paleofaunas. Their effort is generally successful, although specialists will carp about details. The last such major compilation was made by E. Thenius in 1959, following a long gap after H. F. Osborn's pioneering efforts at the turn of the century. Meanwhile, the literature of mammalian paleontology has participated in the universal information explosion of recent years. The present compilation of the biostratigraphic and chronostratigraphic aspects of the subject took its roots in R. A. Stirton's attempts to keep track of it all, using as a vehicle the class lecture notes for mammalian paleontology courses at the Berkeley campus of the University of California. Various stages of the book have had wide circulation for years. The published 1983 version will serve as a nonevolving text for some years to come, but its main use to students and professionals alike will be as a guide to the literature; people who read dictionaries for fun (I am one) will find the long lists of names of localities and fossils useful, but others will simply choke on the vast amount of raw information presented, such as the 26 pages devoted to Miocene localities and lithostratigraphic units.

The book does not break major new conceptual ground. For instance, it is untouched by any current ferment in cladistics or vicariance biogeography and does not go into sufficient detail regarding the effects of plate tectonics on past geography. Rather, the book may be the last of its kind. Future such compilations might be better and more frugally distributed in the form of computer tape or disks, so that users could call up what information they need.

Although I find the book generally useful, even indispensable for the specialist and the generalist alike, I hope that future versions, whether printed or electronic, will make up for certain shortcomings. Students of Mesozoic faunas will learn little from Savage and Russell's book other than that they should read another one mentioned. Readers will also find that the treatment of South American faunas leaves much to be desired and that it goes little beyond Simpson's admirable but dated summaries. Russian paleontological literature seems strangely slighted. Instead, the concentration is focused on North America and Europe, which the authors know best, as well as Africa, Australia, and Asia. A heroic attempt is

made to summarize the now voluminous literature on Chinese fossil mammals and stratigraphy. One looks in vain, however, for a discussion of the nature and origin of the Antillean mammalian faunas.

The illustrations in the book range in quality from excellent to excruciatingly awful. Hasty compilations of line and stippled drawings of fossil mammals, mostly taken from publications of the authors' own institutions, are coupled with location maps that combine errors of design, sins both of commission and of omission, and poor editing and proof-reading. Annoyingly, in many cases distributions are shown on continents with present-day outlines. About half of the maps lack at least some of the numbers that identify localities, suggesting that overlays were lost or damaged at the press. However, other numbers are sometimes missing from the figure legends. One overlay (figure 6-25) was printed upside down. Only the correlation charts show care in preparation.

Although I salute Savage and Russell for their Herculean effort, I wish that they had taken a bit longer to prepare it and that the editors had done a more critical job of getting it into published form.

MALCOLM C. MCKENNA
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Aerosols in the Mining and Industrial Work Environments. Papers from a symposium, Minneapolis, Nov. 1981. Virgil A. Marple and Benjamin Y. H. Liu, Eds. Ann Arbor Science (Butterworths), Woburn, Mass., 1983. Three volumes. Vol. 1, Fundamentals and Status. xii pp. + pp. 1-360, illus., + index. \$34.50. Vol. 2, Characterization. xii pp. + pp. 361-644, illus., + index. \$18.75. Vol. 3, Instrumentation. xii pp. + pp. 645-1222, illus., + index. \$37.50.

Against the Night, the Stars. The Science Fiction of Arthur C. Clarke. John Hollow. Harcourt Brace Jovanovich, San Diego, 1983. x, 198 pp. \$14.95.

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Allosteric Enzymes. Kinetic Behaviour. B. I. Kurganov. Translated from the Russian edition by R. F. Brookes. V. A. Yakovlev, Ed. Wiley-Interscience, New York, 1983. xviii, 344 pp., illus. \$64.95.

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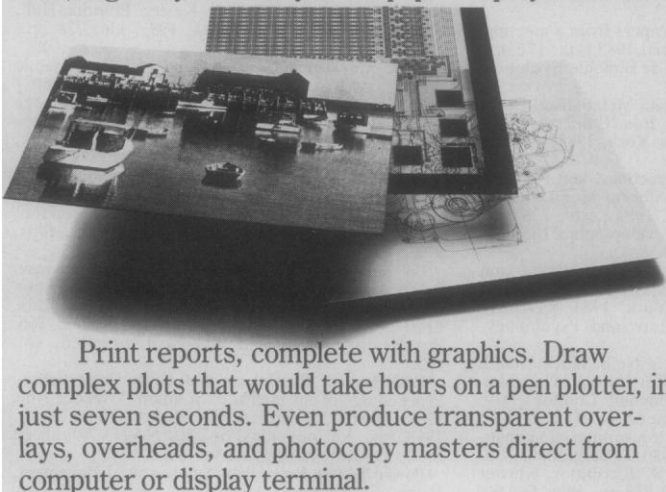
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Born Too Soon. Preterm Birth and Early Development. Susan Goldberg and Barbara A. DiVitto. (Continued on page 1316)

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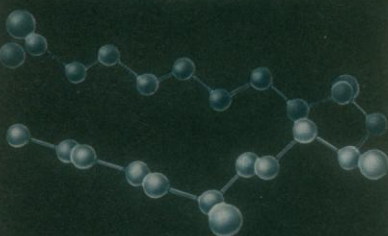
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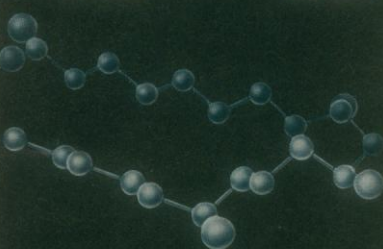
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Freeman, San Francisco, 1983. xiv, 202 pp., illus. Cloth, \$12; paper, \$6.95. A Series of Books in Psychology.

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Cataracts. A Consumers' Guide to Choosing the Best Treatment. Robert B. Leflar and Helen Lillie. Facts on File, New York, 1983. viii, 110 pp., illus. Cloth, \$11.95; paper, \$5.95.

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Electron Spin Resonance. A Comprehensive Treatise on Experimental Techniques. Charles P. Poole, Jr. Wiley-Interscience, New York, ed. 2, 1983. xxx, 780 pp., illus. \$69.

Elements of Biological Science. William T. Keeton and Carol Hardy McFadden. Illustrated by Paula Di Santo Bensadoun. Norton, New York, ed. 3, 1983. xvi, 730 pp. + appendixes. \$25.95.

Encyclopedia of Aviculture. Keeping and Breeding Birds. Richard Mark Martin. Arco, New York, 1983. xii, 228 pp., illus. \$14.95.

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Marriage, Family, and Kinship. Comparative Studies of Social Organization. Melvin Ember and Carol R. Ember. HRAF Press, New Haven, Conn., 1983. xviii, 412 pp. Cloth, \$30; paper, \$15.

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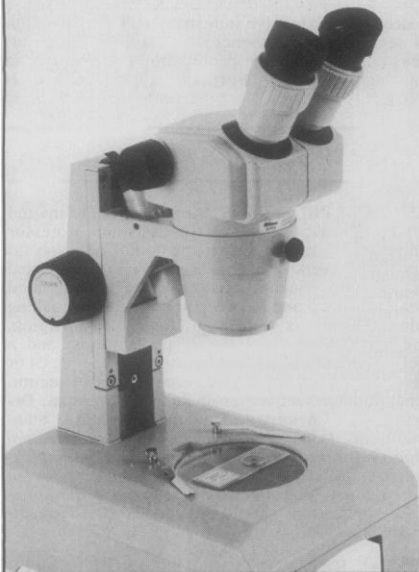
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Power System Reliability, Safety and Management. Balbir S. Dhillon. Ann Arbor Science (Butter-

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The Unexpected Vista. A Physicist's View of Nature. James S. Trefil. Scribner, New York, 1983. x, 210 pp., illus. \$14.95.

Uranium and Nuclear Energy: 1982. Proceedings of a symposium, London, Sept. 1982. Butterworths, Boston, 1983. xviii, 332 pp., illus. \$99.95.

Urbanization and Cancer Mortality. The United States Experience, 1950-1975. Michael R. Greenberg. Oxford University Press, New York, 1983. xii, 276 pp., illus. \$45. Monographs in Epidemiology and Biostatistics, vol. 4.

Personnel Placement

SCIENCE publishes each Friday, except the last Friday of the year. Advertising is accepted only in writing; no abbreviations. Also, personnel advertising is accepted only with the understanding that the advertiser does not discriminate among applicants on the basis of race, sex, religion, age, color, national origin, handicap, or sexual preference.

CLASSIFIED ADVERTISING DEADLINES:

14 October issue (mailed 7 October): **23 September**
21 October issue (mailed 14 October): **30 September**
28 October issue (mailed 21 October): **7 October**
4 November issue (mailed 28 October): **14 October**

POSITIONS WANTED: 40¢ per word, plus \$4 for use of box number, per insertion. \$10 minimum, per insertion. Prepayment required. This rate is available only to individuals seeking jobs.

DISPLAY (POSITIONS OPEN, COURSES, FELLOWSHIPS, MARKETPLACE, and so forth): \$9.80 per millimeter; \$245 minimum, per insertion (minimum charge covers 25 millimeters on a single column; 25 millimeters equals 10 lines of 50 spaces per line). No charge for use of box number. No agency commission for ads less than 103 millimeters (4 inches). No cash discount. Prepayment required for all foreign ads. Purchase orders and billing information required for all other advertising.

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Blind ad replies should be addressed as follows:

Box (give number)
SCIENCE
1515 Massachusetts Avenue, NW
Washington, D.C. 20005

POSITIONS WANTED

Biochemist/Clinical Chemist, Ph.D. (1982), 2 years of postdoctoral research in alcohol field. Experience with enzyme purification and kinetics, electrophoresis, electrofocusing, GLC, synthesis of radiobiochemicals. Also, manual and automated methods in clinical chemistry, including supervisory and teaching experience. Publications. Industry/hospital/academia; research or clinical. Available March 1984. Box 239, SCIENCE. X

Biochemist/Immunochemist, Ph.D. Industrial R & D supervisory experience. Expertise: enzymology, protein chemistry and purification, HPLC, RIA, ELISA, method development, radiochemical analysis, affinity techniques, and analytical instrumentation. Publications. Desires industry or government position. Box 262, SCIENCE. 9/23, 30

Biochemist/Neuropharmacologist, Ph.D. Interested in clinical neuropharmacology; knowledge of analytical techniques, including HPLC, GC, fluorometry, GC-MS (limited). Experienced investigator; publications. Box 264, SCIENCE. X

Consultant for Grant Preparation. Biochemist with excellent record of NIH funding offering editorial and technical services assisting other investigators in writing successful research grant applications. Specializing in medical research areas. Box 263, SCIENCE. X

Microbiologist, Ph.D. Seeks research position in industry/government. Experience in anaerobic microbiology, radioisotopes, GC, with background in bacterial physiology and ecology. Available immediately. Box 266, SCIENCE. 9/23, 30

Physical Anthropologist, Ph.D.; 7 years of university experience in physical anthropology, functional morphology, evolutionary processes, paleoecology, mammalian paleobiology. Excellent publications and references. Desires position with group conducting research or field work in museum or academic environment. Box 256, SCIENCE. X

POSITIONS WANTED

Employer Wanted, for high-performance thinking machine. Advancement of science must be first priority. Box 236, SCIENCE. 9/23, 30; 10/7, 14, 21

Regulatory Affairs, Ph.D. 1977; 6 years of industrial experience managing human safety and environmental issues (FDA, CPSC, EPA). Seeking managerial position. Box 254, SCIENCE. X

Scientific Photographer. B.A. in biology, 7 years of experience. Strong research background in microbiology, botany, and zoology. Seeks position with university or industry. W. S. Ormerod, Harvard University, Harvard Forest, Petersham, Mass. 01366; telephone: 617-724-3285. 9/23, 30; 10/7, 14

Toxicologist. Extensive industrial, academic, chemical regulations experience; program management; seeks position with companies, trade associations in Washington, D.C., Northeast. Box 265, SCIENCE. 9/23, 30

POSITIONS OPEN

ASSISTANT PROFESSOR. Applications are invited for a position at the level of assistant professor (tenure-track) in the Department of Chemistry at Stanford University in the general area of physical 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, and a brief statement of research interests (three pages or less) and, in addition, have three letters of recommendation sent to: **Professor John I. Brauman, Department of Chemistry, Stanford University, Stanford, Calif. 94305.** Stanford is committed to Equal Opportunity through Affirmative Action in employment, and we are especially eager to identify women and minority persons with appropriate qualifications. Applications should be received by 1 November 1983.

MENTAL RETARDATION RESEARCH CENTER (MRRC), University of California, Los Angeles (UCLA). Applications are invited for an **ASSISTANT PROFESSORSHIP.** Candidates should have research interests in developmental neurobiology of the central nervous system with emphasis on molecular biology, pharmacology, or immunohistochemistry. Submit curriculum vitae and three references by 1 December 1983 to: **Developmental Biology Committee, c/o Director, MRRC, 760 Westwood Plaza, Los Angeles, Calif. 90024.** UCLA is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR IN MARINE BIOCHEMISTRY

The University of Delaware invites applications for an academic position in the Marine Biology and Biochemistry Program at the College of Marine Studies. Applicants should have postdoctoral experience and must demonstrate the ability to develop a strong research program in an area at the forefront of marine biochemistry and to teach at the graduate level. Send curriculum vitae, a succinct statement of research plans and goals, and four professional references before 8 October 1983 to:

Dr. J. L. Gallagher, Chairman
Search Committee
University of Delaware
College of Marine Studies
700 Pilottown Road
Lewes, Del. 19958

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

MEDICINAL CHEMISTRY AND PHARMACOLOGY—ASSISTANT PROFESSOR
Tenure-track appointment, available 1 January 1984. Applicants should have strong commitment to the development of a vigorous research program in natural products chemistry, pharmacognosy, biochemistry, or related disciplines with biochemical expertise and postdoctoral experience desirable. Duties will include teaching undergraduate and graduate students; conducting independent research; and service on committees. Application deadline: 1 December 1983. Applicant should submit detailed curriculum vitae, list of publications, and summary of future research interests, and have three letters of recommendation transmitted to: **Dr. Duane D. Miller, Chairman, Division of Medicinal Chemistry and Pharmacognosy, College of Pharmacy, The Ohio State University, 500 West 12 Avenue, Columbus, Ohio 43210.** Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

ASSISTANT OR ASSOCIATE PROFESSOR. Division of Pharmacology, Department of Medicine. Potential tenure-track position available to Ph.D. or M.D. with 2 years of experience in cellular, molecular, or biophysical pharmacology. Applicants expected to have commitment to excellence in research in one of these areas and the teaching of pharmacology to medical and graduate students. Appointment level dependent on previous research and teaching experience. Salary related to rank and step of appointment within established salary schedule of University of California. Send curriculum vitae, names of three references, and short description of research interests by 14 October 1983 to: **Dr. Palmer Taylor, Professor and Head, Division of Pharmacology M-013H, University of California, San Diego, La Jolla, Calif. 92093.** *The University of California is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR—BIOCHEMISTRY. The Department of Chemistry and Biochemistry, Southern Illinois University at Carbondale, has available a tenure-track position in the biochemistry division. Candidate selected will be jointly appointed in the Department of Medical Biochemistry. Preference will be given to candidates with research experience in contemporary molecular biology, especially recombinant DNA techniques. Minimum qualifications are a Ph.D. degree and postdoctoral training. Qualified candidates should send curriculum vitae, an outline of planned research program, names of three references, and an indication of date available before 1 December 1983 to: **Dr. James N. BeMiller, Department of Chemistry and Biochemistry, Southern Illinois University, Carbondale, Ill. 62901.** *Southern Illinois University is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR OF NEUROSCIENCE

A tenure-track position will be available in the Department of Neuroscience, University of Florida College of Medicine, fall 1984. Applicants should be able to establish a strong independent research program and will be expected to teach neuroscience to graduate and medical students. Preference will be given to individuals with two or more years of postdoctoral experience. Research expertise should be in the area of cellular and molecular neurobiology, with demonstrated facility in cell culturing procedures. Applicants should send curriculum vitae, a summary of research interests, and names of three references before 1 January 1984 to: **Dr. Marieta B. Heaton, Department of Neuroscience, University of Florida College of Medicine, Box J-244, J. Hillis Miller Health Center, Gainesville, Florida 32610.**

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

ASSISTANT/ASSOCIATE PROFESSOR OF PHYSIOLOGY

A tenure-track position is open in the Department of Physiology in the School of Medicine, University of Missouri-Columbia. The successful applicant is expected to establish an independent laboratory for cardiovascular research at the cellular, biophysical, or molecular level. The department currently has seven laboratories conducting cardiovascular research with ample opportunity for interaction. Other duties will include teaching in the medical physiology course and at the advanced graduate level. Send curriculum vitae and list of three references to:

Allan W. Jones
Chairman

Department of Physiology
M411 Medical Science Building
University of Missouri School of Medicine
Columbia, Mo. 65212

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

ASSISTANT PROFESSOR OF WILDLIFE BIOLOGY. Washington State University invites applications for a tenure-track **mammalian population ecologist** position available 6 February 1984. Ph.D. in wildlife biology or related discipline and strong quantitative interests. Teach mammalogy, animal population dynamics, and, in alternate years, a graduate course in area of specialty. Must develop a vigorous research program. Send letter of application, résumé, transcripts, and three letters of reference by 15 November 1983 to: **Dr. Charles T. Robbins, Selection Committee Chairman, Wildlife Biology Program, Department of Zoology, Washington State University, Pullman, Wash. 99164-4220.** *Washington State University is an Equal Opportunity/Affirmative Action Employer.*



Natural Sciences and Engineering
Research Council of Canada

Conseil de recherches en sciences
naturelles et en génie du Canada

RESEARCH FELLOWSHIPS 1984

The Natural Sciences and Engineering Research Council of Canada (NSERC) offers research fellowships to expand career opportunities for a select number of very promising researchers in the natural sciences and engineering. These awards are tenable in universities or industries in Canada for 1984-85.

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|--------------------------|--|
| Eligibility: | Canadian citizens or permanent residents of Canada holding a doctorate in science or engineering, preferably with postdoctoral research experience of 5 years or less. |
| Nature of Appointment: | Fellows will be employees of the university or industrial firm for the duration of the award and will be engaged in research, development or innovation activities. |
| Duration of Appointment: | a) University Research Fellowships: Up to five years based on satisfactory performance.
b) Industrial Research Fellowships: Up to three years based on satisfactory performance. |
| Remuneration: | a) University Research Fellowships: NSERC will contribute up to \$29,000 per annum towards the cost of each fellow's salary; fellows will also receive a three-year research grant.
b) Industrial Research Fellowships: NSERC will contribute up to \$24,700 per annum towards the fellow's salary. |
| Application Procedures | Contact the Canadian university or industrial firm of your choice to carry out the appropriate negotiations concerning research plans, terms of appointment, salary, etc. Nominations must be submitted to NSERC by universities or industrial firms, as the case may be. Applications submitted directly to NSERC by candidates cannot be accepted. |
| Deadlines: | a) 1 November 1983 for University Research Fellowships
b) no deadline for Industrial Research Fellowships |

For more information contact:

Natural Sciences and Engineering Council
Ottawa, CANADA K1A 0R6
Telephone: (613) 993-2454

Canada



BASIC RESEARCH ON FILARICIDES

The World Health Organization, through its Onchocerciasis Chemotherapy Project, which is under the technical direction of the Director of the UNDP/World Bank/WHO Special Programme for Research and Training in the Volta River Basin area, is desirous of developing a chemotherapeutic for safe use on a large-scale against human onchocerciasis ("river blindness") and with emphasis on macrofilaricidal action.

Proposals for basic research designed to find new filaricidal compounds are hereby solicited, especially on the following lines:

1. Development of *in vitro* systems for maintaining alive adult *Onchocerca* spp (especially *volvulus*); and systems for culture of their infective larvae up to the adult stage.
2. Studies on the biochemistry of adult worms of *Onchocerca* spp (especially *volvulus*) to exploit differences between their metabolic pathways and those of the human host.
3. Study of the mechanisms of drug action on adult worms of *Onchocerca* spp (especially *volvulus*).

Proposals should be submitted to the Secretary, Onchocerciasis Chemotherapy Project, c/o OCP, World Health Organization, 1211 Geneva 27, Switzerland (Tel. (022) 91.21.11). For further information contact Mr. J. D. M. Marr or Dr. B. O. L. Duke at the above address.

POSITIONS OPEN

ASSISTANT OR ASSOCIATE PROFESSOR OF PHYSIOLOGY. Tulane University School of Medicine, Department of Physiology, invites applications for tenure-track appointment at the assistant or associate professor level. Disciplines of specific interest are cellular or molecular physiology. Applicants must have Ph.D. degree with a record of productivity in research. Salary commensurate with experience and qualifications. Applicants should submit: (i) curriculum vitae, including at least three recent publications, (ii) statement of teaching and research goals, (iii) current and pending research support, and (iv) three reference letters to: **F. Edward Dudek, Ph.D., Chairman, Search Committee, Department of Physiology, Tulane University School of Medicine, 1430 Tulane Avenue, New Orleans, Louisiana 70112.** Application should be submitted no later than 15 November 1983. *Tulane University is an Equal Opportunity/Affirmative Action Employer.*

The Department of Veterinary Pathobiology, University of Illinois, College of Veterinary Medicine, invites applications for an **ASSISTANT PROFESSOR** position (tenure-track) in **veterinary parasitology.** The candidate should have a D.V.M./Ph.D. or Ph.D. degree with evidence of training or experience in veterinary parasitology. Duties include teaching parasitology to veterinary and graduate students and development of a strong research program. Special consideration will be given to applicants whose research interests complement existing programs. Research in the department is conducted in microbiology, immunology, pathology, preventive medicine, public health, epidemiology, and parasitology. Salary is negotiable. Inquiries, including a letter of application, curriculum vitae, and three references, should be sent to: **Dr. Kenneth S. Todd, Jr., Chair, Search Committee, Department of Veterinary Pathobiology, College of Veterinary Medicine, 2001 South Lincoln Avenue, University of Illinois, Urbana, Ill. 61801; telephone: 217-333-4689.** To ensure full consideration, applications must be received by 31 January 1984; starting date as soon as possible thereafter.

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

University of California, Los Angeles (UCLA) Biology Department ASSISTANT RESEARCH BIOLOGIST

Position available 1 November 1983 to study gene regulation during cerebellar development of normal and mutant mice. Applicants must have at least 3 years of postdoctoral experience with recombinant DNA techniques and be able to work closely with other members of a medium-sized laboratory. Minimum salary: \$22,900. Please send letter, curriculum vitae, and names and telephone numbers of three references to:

Dr. Allan Tobin
Department of Biology
University of California
Los Angeles, Calif. 90024

UCLA is an Equal Opportunity Employer

ASSISTANT STAFF INVESTIGATOR DERMATOLOGY RESEARCH

Henry Ford Hospital, a 1,000-bed teaching and research health-care facility located in the heart of Detroit, Michigan, is seeking a full-time assistant staff investigator for its Dermatology Research Laboratory. The ideal candidate will have a Ph.D. in immunology as well as two or more years of postdoctoral experience. Specifically should be an immunochemist with good biochemistry background. The purpose of the research is to identify and isolate cellular, especially nuclear antigens.

This is an excellent opportunity to become a member of an expanding medical complex that offers exposure to the latest in medical technology. Our emphasis is on quality patient care and educational opportunities.

We offer a salary commensurate with experience complemented by an excellent benefit package. If this position represents the challenge you seek, send your résumé today to: **Floyd Dean** at

**Henry Ford Hospital
Employment Center
2921 West Grand Boulevard
Detroit, Michigan 48202
Telephone: 313-876-1811**

Equal Opportunity Employer, M/F/H

POSITIONS OPEN

ASSISTANT PROFESSOR, Department of Nutrition, Rutgers University, tenure-track position. Required: Recent Ph.D. degree with background in nutrition and basic sciences (physiology and/or biochemistry), postdoctoral training, and preferably teaching experience. Candidate must be able to teach in general biology and nutrition courses and in his/her specialty, and develop a strong and independent research program in basic nutrition or a nutritionally related area of intermediary metabolism. Before applying, write for more detailed information, no later than 31 October 1983, to: **Search Committee, Department of Nutrition, Rutgers University, New Brunswick, New Jersey 08903.** *An Equal Opportunity Employer.*

BIOCHEMISTS—MOLECULAR BIOLOGISTS

Tenure-track faculty positions at assistant and associate professor levels. Candidates should be interested in developing strong and independent research with long-term growth potential on the mechanisms of gene expression at the molecular level in either prokaryotic or eukaryotic systems which may be interpreted broadly. Teaching includes medical, dental, and graduate students at sizable medical complex. Biochemistry department with excellent new facilities is undergoing substantial expansion. Salary commensurate with experience and competitive. Curriculum vitae, brief statement of present and future research interests, and three letters of recommendation should be sent to: **Dr. Robert D. Wells, Chairman, Department of Biochemistry, University of Alabama in Birmingham, Schools of Medicine and Dentistry, University Station, Birmingham, Alabama 35295.** *An Equal Opportunity/Affirmative Action Employer.*

BIOLOGY DEPARTMENT CHAIRPERSON: Tenure-track position to begin summer 1984. Seeking an active, experienced scientist with outstanding credentials. Rank and salary commensurate with experience. Provides leadership in curriculum development, budgeting, scheduling, personnel evaluation, and so forth for eight-member department, teaches, and conducts research. Teaches two courses per year (two semesters). Initiates active research program involving undergraduates. Ph.D., teaching/research/administrative experience, and commitment to undergraduate teaching required. Preference will be given to applicants with experience in molecular genetics or plant biology, but candidates with related specialties will be considered. Submit interest letter, curriculum vitae, transcripts, and names of three references by 14 October 1983, to: **Biology Chair Search, University of Puget Sound, P.O. Box 7297, Tacoma, Wash. 98407.** *An Equal Opportunity/Affirmative Action Educator/Employer.*

Ph.D. BIOLOGIST/IMMUNOLOGIST

New biotechnology firm, privately held, seeks scientist to direct production of monoclonal antibodies to a variety of antigens. Qualified candidates will have minimum of 1 year of postdoctoral experience in hybridoma/monoclonal antibody technology. Degree in biological sciences desired. Reply in confidence to: **President, Karyon Technology, Inc., 333 Providence Highway, Norwood, Mass. 02062.**

CHAIRPERSON AND PROFESSOR OF BIOLOGICAL SCIENCES NORTH TEXAS STATE UNIVERSITY SEARCH REOPENED

Applications and nominations are invited for **chairperson** of a 23-member Department of Biological Sciences which offers a strong doctoral level program in a growing university of 18,000 students adjacent to the Dallas-Fort Worth metroplex. The successful candidate must hold an earned doctorate in biological or biomedical sciences and must demonstrate an outstanding ongoing research record, qualities of energetic leadership, and a broad perspective on the biological and biomedical sciences that will aid the department in moving toward national distinction in research and education. Administrative experience is desirable. Salary is highly competitive. Applicants should send curriculum vitae and a statement of current research interests and career goals, and arrange for at least three supporting letters to be sent to:

Dr. Alan P. Marchand
Chairperson, Biological Sciences Search Center
College of Arts and Sciences, P.O. Box 5187
North Texas State University
Denton, Texas 76203

Deadline for receipt of completed applications is 28 October 1983. *North Texas State University is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

CANCER BIOLOGIST NORRIS CANCER CENTER UNIVERSITY OF SOUTHERN CALIFORNIA

The newly opened Norris Cancer Center at the University of Southern California is seeking a cancer cell biologist to develop a new program in the general area of urological cancer biology. Applicants should possess a Ph.D. or M.D. degree and have expertise in the area of tumor biology in one or more of the following areas: in vitro cultivation of human tumors, tumor cell heterogeneity, metastasis, invasion, angiogenesis, growth factors, chemotherapeutic assay systems, cell differentiation, and epithelial cell biology. The appointment will be made at the level of assistant or associate professor with the possibility of a joint appointment in a basic science department. The Division of Urology has a large patient base, and will commit substantial funding and resources for the development of this new program. The successful applicant will be expected to develop a strong, innovative, independent program and to integrate with other research currently under way at the Norris Cancer Center. Approximately 900 square feet of new space is available at this time and the possibilities for collaboration, and so forth, are outstanding.

Send curriculum vitae and the names of three references to:

Dr. Peter Jones
Chair, Search Committee
Department of Biochemistry
University of Southern California
School of Medicine
2025 Zonal Avenue
Los Angeles, Calif. 90033

GEORGETOWN UNIVERSITY DEPARTMENT OF PSYCHIATRY CHAIRMAN SEARCH

Search commenced 1 September 1983. Candidates should have the appropriate credentials and experience in research, administration, and teaching and be eligible for license to practice medicine in the District of Columbia. Applications and nominations, including letter and brief résumé, to:

John Collins Harvey, M.D.
Chairman, Search Committee
2201 Hospital
Georgetown University Medical Center
3800 Reservoir Road, NW
Washington, D.C. 20007

Deadline for applications: 30 November 1983. *Georgetown University is an Affirmative Action/Equal Opportunity Institution and Employer.*

HUMBOLDT STATE UNIVERSITY Dean, College of Science

Dean Raymond Barratt has retired from the position of dean of the College of Science at Humboldt State University. The University, which is the northernmost campus of the California State University, invites applications and nominations for the appointment of his successor. Departments of Biological Sciences, Chemistry, Environmental Resources Engineering, Geology, Home Economics, Industrial Arts and Technology, Mathematics, Nursing, and Physics and Physical Science comprise the College of Science.

The application deadline is 1 November 1983. The appointee should be available no later than 1 September 1984. Write or call:

Milton Dobkin
Vice President for Academic Affairs
Humboldt State University
Arcata, California 95521
Telephone: 707-826-3722

for a copy of the complete description announcement prior to forwarding application.

Humboldt State University is an Equal Opportunity Employer.

DEVELOPMENTAL BIOLOGIST—Tenure-track faculty position in a Ph.D.-granting department beginning August 1984 or sooner. The appointee is expected to establish an externally funded research program in areas such as basic developmental biology or developmental gene expression, direct graduate research, and teach developmental embryology and a graduate specialty course. Postdoctoral experience is preferred. Send current résumé, reprints, research plan, and three letters of recommendation to: **Chair, Department of Biological Sciences, Bowling Green State University, Bowling Green, Ohio 43403,** by 21 October 1983. *An Equal Opportunity/Affirmative Action Employer.*

Argonne National Laboratory, Environmental Research Division, has positions open for the following:

Fisheries Biologist:

Ph.D. or equivalent, with expertise and experience in anadromous fisheries management in the western United States and experience in the application of U.S. Fish and Wildlife Service instream flow assessment methodologies.

Wildlife Ecologist:

Ph.D. or equivalent, with knowledge of basic terrestrial ecology, particularly wildlife ecology, habitat changes affecting wildlife, and food chains in terrestrial ecosystems.

Soil Scientist:

Ph.D. or equivalent, with knowledge of soil geochemistry, physical geography, geomorphology, physical properties of soils, sources of soil and geologic data; knowledge of slope stability and erosion analyses is also necessary.

The above positions require knowledge of data collection and analysis techniques and experience in report preparation. Familiarity with federal and state regulations is desirable. Successful applicants will work with a multidisciplinary team of experts in preparation of assessments and environmental impact statements for hydroelectric facilities and other energy-related developments.

We offer comprehensive benefits and an excellent salary commensurate with your background. For prompt consideration, send your resume and qualifications to Rosalie L. Bottino, Box D-EED-55, Argonne National Laboratory, 9700 South Cass Avenue, Argonne, IL 60439.



An Affirmative Action/
Equal Opportunity Employer



BASIC GROUP ON FILARICIDE RESEARCH

The World Health Organization, through its Onchocerciasis Chemotherapy Project solicits proposals from scientists, either in the pharmaceutical industry or in academic institutions, for the establishment of a team or consortium to find and develop drugs, especially macro-filaricides, suitable for the large-scale treatment of human onchocerciasis ("river blindness"). One of the approaches will be to investigate the basic biochemistry of *Onchocerca volvulus* so as to define and exploit biochemical differences between it and the human host, but the team will be encouraged to explore other innovative approaches.

The team should consist of parasitologists, biochemists, biochemical pharmacologists and synthetic organic chemists.

The Onchocerciasis Chemotherapy Project is under the technical direction of the Director of the UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases and funded by the Onchocerciasis Control Programme in the Volta River Basin area. It is envisaged as a long-term effort. Funding is available for three years in the first instance. Liaison with other collaborative WHO-supported groups would be encouraged.

Proposals should be submitted to the Secretary, Onchocerciasis Chemotherapy Project, c/o OCP, World Health Organization, 1211 Geneva 27, Switzerland (Tel. (022) 91.21.11). For further information contact Mr. J. D. M. Marr or Dr B. O. L. Duke at the above address.

New England Nuclear, a leader in life sciences research and development is currently seeking to fill two positions at our Biotechnology Center in Newton (suburban Boston), MA.

Manager, Immunology Research

We are seeking candidates with a PhD in Immunology plus several years experience in Immunology R&D. Candidates with significant experience in directing a research lab and in demonstrating technical leadership will be given first consideration. The primary duty will be to direct and design the research programs, which are state-of-the-art Immunology, and will lead to proprietary technologies for the corporation.

Group Leader, Gene Expression

The ideal candidate for this position will have a PhD in Molecular Biology or Biochemistry with postdoctoral experience in recombinant DNA technology and gene expression. We are seeking an individual with significant experience directing a research lab who is also interested in making scientific contributions. Duties will include supervision of a group involved in the expression of proteins via recombinant DNA technology.

Interested candidates should submit a resume with salary history to Erin Moore, New England Nuclear Corporation, 85 Wells Avenue, Newton Centre, MA 02159.



New England Nuclear

a Du Pont company



An Equal Opportunity Employer M/F

POSITIONS OPEN

TWO FACULTY APPOINTMENTS IN CELLULAR AND MOLECULAR BIOLOGY. The University of Oregon intends to make two faculty appointments, to begin in fall 1984, as the initial stage in a major expansion of the multidisciplinary program in cell and molecular biology. The main focus of the program is the molecular basis of cellular regulation, including, but not limited to, the areas of immunology, gene expression, cellular recognition, and organelle biosynthesis. We expect to appoint new faculty primarily at the assistant professor level, although more senior candidates will also be considered. The appointments will be made in the chemistry or biology departments, jointly with the Cell Biology Program. Applications should be sent to: **Cell Biology Search, Institute of Molecular Biology, University of Oregon, Eugene, Oregon 97403.** They should include curriculum vitae, three letters of reference, a summary of research accomplishments and teaching experience, and a statement clearly describing research goals. The closing date is 15 November 1983. *The University of Oregon is an Equal Opportunity/Affirmative Action Employer.*

Ponce School of Medicine has **THREE FACULTY POSITIONS** open in **PHYSIOLOGY.** Requirements include M.D., Ph.D., or equivalent, with a sound background in general physiology. Preference will be given to applicants with ability to teach cardiovascular, CNS, or cellular physiology to first year medical students in an LCME accredited school. Teaching may be done in English and/or Spanish. The department also requires faculty to share responsibility for the medical physiology course and to develop their own research program. Submit curriculum vitae and names of three references to: **Chairman, Department of Physiology, Ponce School of Medicine, Box 7004, Ponce, P.R. 00732.**

FACULTY POSITION—Section Head, Geriatrics and Gerontology. The Department of Medicine of The Medical College of Wisconsin is recruiting an **internist** with training or interest in geriatrics and research related to aging. Responsibilities include enhancement of ongoing research programs and administration of the section, as well as the clinical and teaching programs of the section. Faculty appointment and salary will be commensurate with experience. Send curriculum vitae and references to: **Thad C. Hagen, M.D., Professor and Co-Chairman, Department of Medicine, The Medical College of Wisconsin, 8700 West Wisconsin Avenue, Milwaukee, Wis. 53226.**

IMMUNOLOGIST

Position available for Ph.D. immunologist to be responsible for preparing monoclonal antibodies for detection of developmental glycoproteins and for applying these to problems of embryonic regulation and development. Work to be performed in a recognized developmental biology laboratory at a major Harvard Medical School teaching hospital. Appointment level and salary commensurate with postdoctoral training. Send curriculum vitae and names of three references to: **Box 259, SCIENCE.**

INVERTEBRATE ZOOLOGIST

Bishop Museum invites applications for curatorial/research position. Appointment anticipated about 1 January 1984. Requires Ph.D., record of research achievement in systematics of marine organisms, and a strong commitment to the curation of major systematics collection. Museum has important collections of crustaceans, echinoderms, molluscs, coelenterates, and polychaetes. Salary based on qualifications and experience. Forward résumé and copies of three publications, and ask three references to write to: **Search Committee, c/o Dr. Frank J. Radovsky, An Equal Opportunity Employer.**

**Bernice P. Bishop Museum
P.O. Box 19000-A
Honolulu, Hawaii 96819**

NEUROBIOLOGIST—Assistant professor (tenure-track). The successful applicant will be expected to develop a vigorous research program and to teach at undergraduate and graduate levels. Requirements are a Ph.D. or equivalent, demonstrated research ability, and strong prospects for funding of the research program. Postdoctoral experience highly desirable. Applicants should submit detailed curriculum vitae, three letters of recommendation, and a letter describing their research interests to: **Dr. Charles Drewes, Chairman, Search Committee, Department of Zoology, Iowa State University, Ames, Iowa 50011.** Application deadline: 28 November 1983 or until filled. *Iowa State University is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

FACULTY POSITION AT ASSISTANT OR ASSOCIATE PROFESSOR rank available in the Department of Biochemistry and Biophysics and the Environmental Health Sciences (EHS) Center at Oregon State University. The 12-month, tenure-track appointment could start about 1 January 1984; salary is commensurate with experience. Position requires (i) research emphasis in cellular and/or molecular carcinogenesis, repair processes and cellular toxicology; (ii) expertise to develop and maintain a cell and tissue culture research support facility being established by the EHS Center; and (iii) Ph.D. in a biological science. Qualifications required for associate professor rank: minimum of 3 years as principal investigator in mammalian cell culture research, and significant publications. Application should include (i) letter stating interest in position, (ii) curriculum vitae, and (iii) two- to three-page statement summarizing research plans. Letters of recommendation from three people who can evaluate the applicant's professional qualifications, accomplishments, and potential must be submitted by application closing date of 1 November 1983. Send applications and letters of recommendation to:

**Dr. Donald J. Reed, Chairman of Search Committee
Department of Biochemistry and Biophysics
Oregon State University
Corvallis, Oregon 97331**

Oregon State University is an Equal Opportunity/Affirmative Action Employer and complies with Section 504 of the Rehabilitation Act of 1973.

FACULTY POSITION AT ASSISTANT OR ASSOCIATE PROFESSOR rank available in the Department of Agricultural Chemistry and the Environmental Health Sciences Center at Oregon State University. The 12-month, tenure-track appointment could start about 1 January 1984; salary is commensurate with experience. Position requires (i) Ph.D. degree in a physical or biological science; (ii) major research experience in high-resolution mass spectrometry with an emphasis in organic-biochemical research; and (iii) expertise to provide consultative assistance for the low and high resolution mass spectrometry research support facility. Qualifications required for associate professor rank: minimum of 3 years as principal investigator and significant publications from research involving mass spectrometry. Application should include (i) letter stating interest in position, (ii) curriculum vitae, and (iii) two- to three-page statement summarizing research plans. Letters of recommendation from three people who can evaluate the applicant's professional qualifications, accomplishments, and potential must be submitted by application closing date of 1 November 1983. Send applications and letters of recommendation to:

**Dr. Max Deinzer, Chairman of Search Committee
Department of Agricultural Chemistry
Oregon State University
Corvallis, Oregon 97331**

Oregon State University is an Equal Opportunity/Affirmative Action Employer and complies with Section 504 of the Rehabilitation Act of 1973.

FACULTY POSITION—ENVIRONMENTAL TOXICOLOGY. The Department of Environmental Health in the University of Alabama in Birmingham School of Public Health solicits applicants for one position. Qualifications include commitment to excellence in teaching graduate students, dedication to research, and doctoral degree. Compensation highly competitive, special consideration will be given to experience. **ASSISTANT OR ASSOCIATE PROFESSOR** (tenure-track). The major responsibilities involve a significant role in the expansion of graduate level programs in environmental and industrial hygiene with emphasis on developing graduate research advanced course work. Send curriculum vitae, reprints of major work, and three letters of recommendation by 15 November 1983 to: **Dr. Jimmy L. Perkins, Chairman, Search Committee, School of Public Health, University of Alabama in Birmingham, Birmingham, Ala. 35294.** *An Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION—CELL BIOLOGIST/TOXICOLOGIST. Full-time position for cell biologist with training in pharmacology/toxicology (research associate or assistant professor) starting July 1984. Ph.D. in cell biology, toxicology, or pharmacology (required) to participate in developing areas of research relating to lead and calcium metabolism in monolayer cultures. Studies to include subcellular fractionation, cell modeling, and defining cell compartments by desaturation techniques. Send curriculum vitae and names of three references to: **Dr. John F. Rosen, Albert Einstein College of Medicine, Bronx, N.Y. 10467.**

POSITIONS OPEN

FACULTY POSITION

The Biology Department at the University of California, San Diego, invites applications for a tenure-track faculty position, available September 1984, in the general area of molecular biology/molecular genetics. Candidates for the position must have the Ph.D. degree and are expected to conduct a vigorous research program alongside their instructional activities. A nontenured appointee must have had postdoctoral research training; a tenured appointee must already have made significant contributions to the field. Salary and rank will be commensurate with qualifications and experience. Applicants should send curriculum vitae with three names of references and a list of publications by 31 October to: **Carrie Garnett, Search Committee, University of California, San Diego, Biology B-022, La Jolla, Calif. 92093.**

The University of California, San Diego, is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION IN MEMBRANE RESEARCH. The Department of Pediatrics and the Atlantic Research Centre for Mental Retardation are seeking candidates for a tenure-track position in membrane research. The successful candidate would join an established group, and would have demonstrated or shown exceptional promise of ability to carry out independent research. Candidates with a wide range of backgrounds and expertise will be considered, but preference will be given to someone with complementary interests in (i) the metabolism and/or physical chemistry of lipids and membranes; (ii) membrane and/or receptor cycling and interaction with endocytosis and lysosomal metabolism; or (iii) the use of biotechnology to explore the structure and function of mammalian cell membranes. Academic rank and salary are dependent on qualifications and experience. Deadline for receipt of applications is 30 October 1983. Interested candidates please send curriculum vitae, a brief description of areas of interest and preferred career directions, salary expectations, and the names of referees to: **Dr. M. W. Spence, Atlantic Research Centre for Mental Retardation, Dalhousie University, Clinical Research Centre, 5849 University Avenue, Halifax, Nova Scotia, Canada B3H 4H7.** *In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents.*

University of Wisconsin—Madison. FACULTY POSITION IN PHYSICAL CHEMISTRY beginning August 1984. Appointment will probably be made at the assistant professor level but consideration will be given to especially highly qualified candidates at a more senior level. Primary requirement is excellence in research and teaching. Research may be in any area of experimental physical chemistry; preference will be given to candidates whose research is in macromolecular or biophysical chemistry. Teaching responsibilities are expected to include general chemistry and undergraduate and graduate physical chemistry. Send curriculum vitae and summary of research plans, and arrange to have three letters of recommendation sent to: **Professor C. D. Cornwell, Department of Chemistry, University of Wisconsin, 1101 University Avenue, Madison, Wisconsin 53706.** To be assured of full consideration, applications should be complete by 15 November 1983. *The University of Wisconsin is an Affirmative Action/Equal Opportunity Employer and welcomes applications from women and minority candidates.*

MOLECULAR BIOLOGIST

MEMORIAL UNIVERSITY OF NEWFOUNDLAND. Faculty of Medicine, Basic Sciences Division. Applications are being accepted for a tenure-track position in molecular biology at the assistant or associate professor level. Qualifications include a Ph.D. and postdoctoral experience in cell/molecular biology, preferably in the area of isolating, manipulating, and characterizing eukaryotic genes, but applicants from any area of cell/molecular biology will be given serious consideration. The successful candidate will be expected to establish a vigorous independent research program which could complement ongoing programs in gene regulation, nuclear organization, and oncogenesis as they relate to human disorders. *In accordance with Canadian immigration regulations, preference will be given to Canadian citizens or landed immigrants.* Interested applicants should forward curriculum vitae and names of three references by 1 January 1984 to: **Dr. B. Younghusband, Faculty of Medicine, Memorial University of Newfoundland, St. John's, Newfoundland, Canada A1B 3V6.**

RESEARCH ECONOMIC GEOLOGIST

The Department of Mineral Sciences at The American Museum of Natural History is seeking applicants for a curatorial research position in Economic Geology. Major responsibility is to carry out a vigorous research program involving field and laboratory studies on the origin and development of ore deposits anywhere in the world. Close working relationships with other researchers to broaden the scope of the work are encouraged. Involvement with graduate students, if desired, is also possible. Minor responsibilities include some collections development and public programs (symposium or exhibition). The position offers the freedom and support to carry out major research projects on a large scale, unfettered by major administrative or academic responsibilities.

The Department has excellent laboratory facilities including an automated electron microprobe, X-ray facilities, sample preparation laboratory, photographic and graphic support, and computers. A PhD in Economic Geology is required and the position is open to persons of any rank, with salary negotiable.

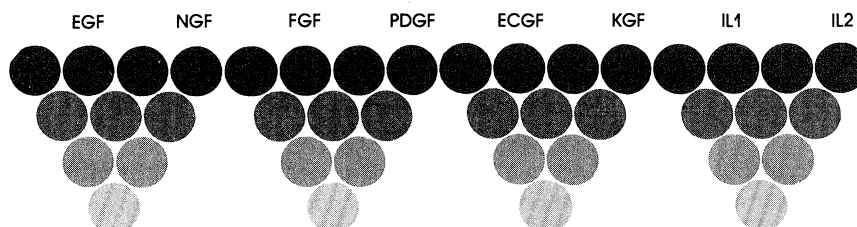
Candidates should submit a resume (including a statement of research interest), salary requirements, and the names of three references by October 15, 1983 to:

Dr. Martin Prinz
Search Committee

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DIRECTOR, DIVISION OF KIDNEY, UROLOGIC, AND HEMATOLOGIC DISEASES

and Associate Director for Kidney, Urologic, and Hematologic Diseases (dual positions)

The National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases invites nominations and applications for the position of Director, Division of Kidney, Urologic, and Hematologic Diseases (KUHD). The candidate must be internationally recognized within the scientific community as an authority in kidney diseases. In addition, the candidate should demonstrate an interest and a commitment to urologic and hematologic diseases. This Institute conducts, fosters, and supports research and research training in the prevention, management, and cure of arthritis, and related bone and skin diseases, diabetes and related endocrine and metabolic diseases; kidney, urologic and hematologic diseases, and digestive diseases. Programs encompass intramural laboratory research and extramural (grants and contracts) activities in fundamental arthritis, diabetes, digestive and kidney disorders.

The Director, serves as the primary official with responsibility for planning and executing the Institute's extramural programs in kidney, urologic, and hematologic diseases, including: basic and applied research, training fellowships and institutional training awards, multipurpose centers of research, clinical trials, technological development and application of research findings; and collection and dissemination of reliable data and information, budget development, and advising and participating with outside voluntary health organizations and the National Advisory

Council in identifying and assessing the needs and requirements for research and manpower development in categorical diseases. Additionally, the incumbent serves as principal advisor to the Institute Director on matters and policies pertaining to these areas. Also, the incumbent will conduct intramural research projects in the areas of kidney and related diseases.

This is a Civil Service position in the Senior Executive Service (SES), with a salary range from \$56,945 to \$63,800 per annum, depending on qualifications. Currently the payable salary is limited to \$63,800. Physicians may be eligible for an additional comparability allowance up to \$10,000 per year. (Alternatively, candidates may be eligible for appointment in the Commissioned Corps of the U.S. Public Health Service). Mandatory professional/technical qualifications are a medical degree, or Ph.D. degree in a health or health related science (or equivalent) and research program administration and/or clinical experience in kidney diseases. Further information on these qualifications are available by contacting Syd Carter, Personnel Management Specialist, National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases, Building 31, Room 9A34, Bethesda, Maryland 20205, (301) 496-4231.

Mandatory managerial/executive qualifications include evidence of management of a basic or clinical research program, demonstrating ability to assume leadership

responsibilities in developing program goals; representing the program to outside groups; directing program planning, execution, and evaluation; and conducting a fair and equitable employment program, including the attainment of EEO objectives.

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

APPLICATIONS (PERSONAL QUALIFICATIONS STATEMENT SF-171) should be sent to Mr. Clifford Moss, Executive Secretary, Search Committee for Director, KUHD, Building 31, Room 9A34, National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases, Bethesda, Maryland 20205, telephone (301) 496-4231. All applications must be postmarked before September 30, 1983.

A current curriculum vitae and bibliography must accompany all applications. Applications from women and/or minority group members are especially solicited. Department of Health and Human Services Public Health Service National Institutes of Health National Institute of Arthritis, Diabetes, Digestive and Kidney Diseases

AN EQUAL OPPORTUNITY EMPLOYER



THE WORLD HEALTH ORGANIZATION

invites applications for the post of

SCIENTIST (P5 grade)

(Secretary, Onchocerciasis Chemotherapy Steering Committee)
with the Onchocerciasis Control Programme (OCP) and the
Special Programme for Research and Training in
Tropical Diseases (TDR)

Attached to the OCP/HQ Support Unit, Geneva, and under the technical guidance of the Director, TDR, the selected candidate will be responsible for developing and coordinating a multidisciplinary international programme to find drugs for the treatment of onchocerciasis ("river blindness"). The programme includes biochemical studies, chemical synthesis, filaricide screening, toxicological assessment and clinical trials; execution of the recommendations of the Steering Committee; and active communication and cooperation with the pharmaceutical industry and academic research institutions.

PhD in pharmacology or MD with postgraduate training in pharmacology, drug development, etc. Experience of the drug development process obtained by having held a major position in the research-based drug industry for many years. High level of judgment of scientific quality and talent; expertise in management of complex drug development projects. Fluent in English or French with working knowledge of the other.

Applications, referring to TDR/OCP enclosing detailed *curriculum vitae* should be addressed to:

Personnel (MPR)
World Health Organization
CH - 1211 Geneva 27
Switzerland

Only candidates under serious consideration will be contacted.

POSITIONS OPEN

FACULTY POSITIONS IN MOLECULAR BIOLOGY

Applications are invited for tenure-track faculty positions at the assistant or associate professor level in the Department of Molecular Biology at the Northwestern University Medical and Dental Schools. Applicants should have a Ph.D. degree in molecular biology, biochemistry, genetics, or a related area or an M.D. or D.D.S. degree and also have several years of postdoctoral training. Candidates having research experience in the regulation of eukaryotic cell differentiation and development or prokaryotic or eukaryotic membrane structure and function are especially encouraged to apply. The successful applicants will be expected to establish a vigorous independent research program and to participate in the teaching of graduate, medical, and dental courses and in the training of graduate and postdoctoral students. Applicants should send complete curriculum vitae, a brief description of previous research and teaching interests (three to four pages), a bibliography and reprints of significant published work or preprints of manuscripts in press, and recommendations from at least three references by 15 November 1983 to:

Dr. Robert H. Rownd, Chairman
Department of Molecular Biology
Northwestern University Medical and Dental Schools
303 East Chicago Avenue
Chicago, Illinois 60611

Northwestern University is an Equal Opportunity/Affirmative Action Employer and invites applications from all qualified individuals.

FACULTY POSITIONS. The Department of Chemistry, University of Minnesota, Minneapolis, Minnesota, seeks to add two faculty members at the assistant professor level beginning September 1984. Applications at the tenured level will also be considered. One opening is for an **ORGANIC CHEMIST** and the other is for a person with research interests in **BIOLOGICAL CHEMISTRY**, especially biomaterials or bioorganic chemistry. Curriculum vitae (including a list of publications), a detailed description of research interests, three letters of recommendation, and copies of undergraduate and graduate transcripts should be sent to: **Professor Larry Miller, Chairman, Department of Chemistry, University of Minnesota, Minneapolis, Minnesota 55455.** Applications should be completed by 15 November 1983. *The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.*

FACULTY POSITIONS IN CELLULAR, DEVELOPMENTAL AND MOLECULAR BIOLOGY

The Department of Biology and Biotechnology at Worcester Polytechnic Institute (WPI) seeks to fill two tenure-track faculty positions (one at senior level). The successful candidates will actively participate in undergraduate and graduate teaching and will establish a funded research program. Preference will be given to candidates whose research interests fall within the areas of: (i) gene structure and function, and (ii) regulation of development of eukaryotes. Applicants should forward curriculum vitae, a concise statement of research, and three letters of recommendation to: **Search Committee, c/o Dr. J. C. Bagshaw, Department Head, Biology and Biotechnology Department, Worcester Polytechnic Institute, Worcester, Mass. 01609.** Applications will be accepted until 1 December 1983. *WPI is an Equal Opportunity/Affirmative Action Employer.*

THE DEPARTMENT OF BIOCHEMISTRY, UNIVERSITY OF WISCONSIN, invites applications for a position of assistant professor in the area of **PLANT MOLECULAR BIOLOGY.** Candidates should have a strong background in molecular biology, biochemistry, and plant sciences and will be expected to establish an independent research program. Other duties will include formal teaching and the supervision of graduate students. Salary will be on a 12-month basis at a level that is commensurate with qualifications and experience and compatible with the salary structure of the University of Wisconsin system. *Women and minority candidates are especially encouraged to apply.* Send a detailed curriculum vitae and a two-page statement of research interests to: **H. F. DeLuca, Chairman, Department of Biochemistry, University of Wisconsin-Madison, Madison, Wis. 53706,** before 15 November 1983. Have three letters of recommendation sent to the same address. *The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.*

PHARMACOLOGY OPPORTUNITIES

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seeks a Biochemist to supervise a group of junior scientists in the evaluation of biochemical action of cardiovascular agents. Applicants must have a Ph.D. in Biochemistry and at least two years of relevant postdoctoral research experience. The position requires a strong background in biochemical methodology for receptor binding, adenylate cyclase cascade, and subcellular isolation of membrane systems from muscle. Experience in the pathophysiology of myocardial ischemia or heart failure is preferred. Industrial experience is helpful.

CARDIAC PHARMACOLOGY SECTION

seeks a Pharmacologist/Physiologist to lead a group of scientists in the study of the hemodynamic actions of cardiovascular drugs. Applicants must have a Ph.D. with at least two years of research experience in the hemodynamic consequences of heart failure or myocardial ischemia. Applicants with experience in both in vivo and in vitro methodology are preferred. Rank and salary are commensurate with experience.

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BERLEX

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POSITIONS OPEN

MARINE ICHTHYOLOGIST/MINORITY SCIENCE COORDINATOR. Assistant professor to begin 1 September 1984. Ph.D. required. Must be qualified to teach beginning biology and marine ichthyology at undergraduate and graduate level. Active research program in ichthyology required. Incumbent will also direct recruitment and instructional program in science for minority students. Curriculum vitae listing publications and research interests and three references should be sent to: **Dr. Anthony Gaudin, Chairman, Biology Department, California State University, Northridge, Calif. 91130,** by 30 November 1983. *The University is an Equal Opportunity/Affirmative Action Employer.*

MOLECULAR BIOLOGIST—A postdoctoral position is available immediately for a person with experience in recombinant DNA research and an interest in parasite immunology. The project involves the cloning of schistosome genes for antigen analysis and practical applications. The appointment will be for 2 years at a salary of \$26,000 for the first year. Applicants should submit curriculum vitae and three letters of recommendation to:

**Dr. Michael Kemp
Department of Biology
Texas A & M University
College Station, Texas 77843
Telephone: 409-845-3353**

OBSERVATORY DIRECTOR, UNIVERSITY OF MASSACHUSETTS/AMHERST. The Department of Physics and Astronomy invites applications for the position of **professor of astronomy** with tenure to serve as **director** of the Five College Radio Astronomy Observatory. Responsibilities include the scientific guidance and administrative management of the observatory and its 14-meter, millimeter-wave telescope, located 10 miles from Amherst, as well as planning for future related activities both on site and elsewhere. Direct inquiries to: **Professor William M. Irvine, Astronomy, GRC Tower B, University of Massachusetts, Amherst, Mass. 01003.** Deadline for submission of application: 15 January 1984. *The University of Massachusetts is an Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL FELLOW POSITION

The University of Kentucky College of Medicine has a postdoctoral position available within the Department of Medical Microbiology and Immunology for an individual interested in the regulation of cellular interactions involved in antigen presentation, the study of antigen-specific cloned lymphocytes, or in the differentiation of human and mouse monocytes/macrophages. Salary is competitive and for a 2-year minimum; position available immediately. Send curriculum vitae and three letters of reference to: **Alan M. Kaplan, Ph.D., Chairman, Department of Medical Microbiology and Immunology, University of Kentucky College of Medicine, MS-409 Medical Center, Lexington, Kentucky 40536-0084.**

The University of Kentucky is an Equal Opportunity Employer, F/M.

PULMONARY IMMUNOLOGIST UNIVERSITY OF KENTUCKY

The Kentucky Tobacco Research Board has approved the establishment of a research program in the area of pulmonary immunology. Of particular interest is research in the area of smoke-related alterations in induction and maintenance of pulmonary immunity, pulmonary inflammation, pulmonary defense mechanisms, immune aspects of pulmonary resistance to tumorigenesis, pulmonary macrophage physiology and recruitment and function of lymphocytes following local immunization in the lung. The program will complement an ongoing immunology program in the College of Medicine.

The position will be filled by an established scientist with a Ph.D., M.D., or D.V.M. degree and qualifications for appointment at the level of associate or full professor in an appropriate academic department in the College of Medicine. The salary is negotiable and will be commensurate with the qualifications of the individual. The position will be funded by, and the program will receive substantial support from the Kentucky Tobacco Research Board through the Tobacco and Health Research Institute. Closing date for applications is 23 October 1983 or until position is filled. Interested individuals should send curriculum vitae, list of professional references, and outline of research interests to: **Dr. Alan M. Kaplan, Chairman, Pulmonary Immunology Search Committee, Department of Medical Microbiology and Immunology, University of Kentucky College of Medicine, Lexington, Kentucky 40536-0084.** *Affirmative Action/Equal Opportunity Employer.*

23 SEPTEMBER 1983

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- COMBUSTION RESEARCH
- FLUID MECHANICS
- MATERIALS SCIENCES
- NUCLEAR & RADIATION PHYSICS
- ORGANIC CHEMISTRY
- PHYSICAL CHEMISTRY
- SURFACE CHEMISTRY
- KINETICS
- COMPUTER SIMULATION
- ELASTIC—PLASTIC STRAIN & INTERNAL STRESS
- GUIDED WAVE TECHNOLOGY
- MECHANISMS OF HIGH STRENGTH ALLOYS
- ENZYMATIC DETERRENTS

DEADLINES:

Applications must be postmarked on or before **January 15, 1984**. Supporting documents must be received by **February 1, 1984**. Awards will be announced in early **March 1984**.

FOR INFORMATION, WRITE TO:

ASSOCIATESHIP PROGRAMS (JR610—E1)

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

POSITIONS OPEN

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**University of California
Systemwide Administration
Personnel Services, 8
2200 University Avenue
Room 261
Berkeley, Calif. 94720**

Affirmative Action/Equal Opportunity Employer

POSTDOCTORAL—JUNIOR STAFF. Ph.D. to investigate mechanisms of hyperthermia and x-ray killing, heat radiosensitization, and heat chemosensitization in mammalian cells in vitro. Research involves cell-culturing techniques, with emphasis on synchronous cells and biochemical techniques for studying: DNA damage and its repair, repair enzymes, intracellular ion concentrations, and membrane transport and functions. Level and salary depend on experience, accomplishments, research ideas, and goals. Contact or call: **Dr. William C. Dewey, Radiation Oncology Research Laboratory, University of California CED-200, San Francisco, Calif. 94143. Telephone: 415-666-2461.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL ASSOCIATE—Biochemist is sought, preferably with interest in enzymology and chemical modification of proteins. The 2-year position, with possibility for renewal, is available immediately at an annual salary of \$18,500. A complete application requires résumé, transcripts, and three letters of reference sent to: **Dr. Fred C. Hartman, University of Tennessee—Oak Ridge Graduate School of Biomedical Sciences, P.O. Box Y, Oak Ridge, Tennessee 37830.**

An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL POSITIONS available immediately to study structure, function, and biosynthesis of yeast glycoproteins and the molecular biology of deoxynucleotide metabolizing enzymes in eukaryotic and prokaryotic organisms. The processing and functional role of oligosaccharides in enzyme action, clarification of substrate binding sites, regulation of gene expression, and effect of mutagenesis on enzyme function are some of the projects to be undertaken in a well-equipped core facility. Cloning and sequencing experience desirable but not essential. Initial stipend about \$17,000 for a 1-year appointment; renewable. Send résumé and three references to: **Dr. Frank Maley, Center for Laboratories and Research, New York State Department of Health, Empire State Plaza, Albany, New York 12201.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITIONS—Drugs of Abuse. The University of Colorado has available postdoctoral positions in the study of drug abuse. This multidisciplinary program includes faculty from the Departments of Pharmacology, Psychiatry, Pediatrics, Psychology, Biochemistry, and Pharmacy, and from the Institute for Behavioral Genetics. Individuals in pharmacology, physiology, biochemistry, medicine, psychiatry, psychology, clinical psychology, genetics, or chemistry, who possess a Ph.D., M.D., or an equivalent degree are encouraged to apply. The stipends conform to NIH levels and trainees must be U.S. citizens or permanent residents. **Dr. R. A. Deitrich, Department of Pharmacology, Box C236, University of Colorado School of Medicine, 4200 East Ninth Avenue, Denver, Colorado 80262.** *An Affirmative Action/Equal Opportunity Employer/Institution.*

POSITIONS OPEN

THE AUSTRALIAN NATIONAL UNIVERSITY invites applications for **POSTDOCTORAL FELLOW/RESEARCH FELLOW/SENIOR RESEARCH FELLOW** in **PHYSIOLOGY, JOHN CURTIN SCHOOL OF MEDICAL RESEARCH.** An appointment will be made at one of the above levels to work in the Department of Physiology (head: Professor (Elect) P. W. Gage) from April 1984 on synaptic transmission at peripheral and central synapses; calcium ionic and gating currents; charge movement in nerve and muscle; contractile activation in mammalian muscle. Further information is available from the head of department. Salary in accordance with qualifications and experience within the ranges: senior research fellow \$31,332 to \$37,373 per annum; research fellow \$22,430 to \$29,467 per annum; postdoctoral fellow grade 1 \$19,333 to \$22,148 per annum. Current exchange rates: A\$1 = U.S.\$88 = U.K.£58P. Appointment will be: senior research fellow/research fellow initially for 3 years with the possibility of extension to maximum of 5 years; postdoctoral fellow for 2 years with the possibility of extension to 3 years. Grants are provided towards travel and removal; superannuation; assistance with housing. The University reserves the right not to make an appointment or to make an appointment by invitation at any time. Applicants may obtain further particulars from: **The Registrar, The Australian National University, G.P.O. Box 4, Canberra, Australia,** with whom applications close on 14 October 1983.

POSTDOCTORAL POSITION available immediately for recent Ph.D. Studies will focus on biochemistry and metabolism of extracellular matrix components (collagen, proteoglycans, glycoproteins). Background in protein purification, immunoelectrophoresis, organ culture, and connective tissue biochemistry desirable. Send curriculum vitae and names of three references to: **Dr. Margo P. Cohen, University of Medicine and Dentistry of New Jersey (UMDNJ), Division of Endocrinology and Metabolism, Medical Science Building 1-588, 100 Bergen Street, Newark, N.J. 07103.** *UMDNJ is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION available for research related to binding of fluoride by bacteria. Background in handling radioisotopes, bacteria, and binding kinetics desirable. Salary: \$16,000 per year. Send curriculum vitae and two letters of recommendation immediately to: **Dr. William W. Yotis, Loyola University Medical Center, 2160 South First Avenue, Maywood, Illinois 60153.** *Equal Opportunity Employer and Educator.*

POSTDOCTORAL POSITION. Conformational studies of peptides and proteins by high-field high-resolution NMR spectroscopy. Send résumé and three letters of recommendation to: **Dr. N. R. Krishna, Comprehensive Cancer Center, University of Alabama in Birmingham, University Station, Birmingham, Ala. 35294.** *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITIONS available immediately for (i) immunologist and (ii) molecular biologist to study immunochemistry of monoclonal antibodies, in vitro antibody response, isolation and immortalization of variant cells by DNA transformation. Experience in immunobiology/DNA cloning and transfection required. Send curriculum vitae and names of three references to: (i) **Dr. M. B. Rittenberg** or (ii) **Dr. L. M. Hallick, Department of Microbiology and Immunology, Oregon Health Sciences University, Portland, Ore. 97201.** *Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION

Immunochemical studies of bovine immunoglobulins and ELISA assays; strong protein chemical background preferred. Send inquiries to:

**J. E. Butler
Department of Microbiology
University of Iowa
Iowa City, Iowa 52242**

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

RESEARCH ASSOCIATE in plant chemistry to work on isolation, characterization, and synthesis of xenobiotically active substances. Require Ph.D. (chemistry) with experience in multinuclear FTNMR, synthetic chemistry, spectroscopy, and chromatography (including HPLC and DCC). Experience with SEM and x-ray fluorescence is preferable. Experience with *Striga* and *Globodera* an asset. Full-time; salary: \$15,000 per year. Apply to: **J. Riopel, Associate Professor, Gilmer Hall, University of Virginia, Charlottesville, Va. 22901.**

POSITIONS OPEN

POSTDOCTORAL POSITIONS (TWO)

Available immediately. To study the biosynthesis of salivary proteins. Experience in protein isolation and sequence determination or gene-cloning terminology is preferred. Send résumé, statement of research interests, and three letters of reference to: **Dr. Frank Oppenheim, Departments of Oral Biology and Biochemistry, Boston University Medical Center, 100 East Newton Street, Boston, Mass. 02118.** *An Equal Opportunity Employer, M/F.*

POSTDOCTORAL POSITION available now to study the effects of radiation on hematopoiesis and tumor cell systems. Suitable candidates should have experience in cell culture, immunology, and/or cell biology with a desire to learn tumor and radiation biology. Salary: current NIH guidelines. Interested candidates should send their curriculum vitae, three letters of reference, and a letter describing their research interests to: **Dr. Vincent S. Gallicchio, Department of Therapeutic Radiology, Yale University School of Medicine, 333 Cedar Street, New Haven, Conn. 06510.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITIONS available immediately for studies on the role of metallothionein in heavy metal toxicity. Prior experience in one or more of the following areas desirable: monoclonal antibodies, RIA, ELISA, primary cell culture, steroid hormone receptors and function, and metal metabolism and toxicity. Send curriculum vitae and names, addresses, and telephone numbers of three references to: **Dr. Z. A. Shaikh, Department of Pharmacology and Toxicology, University of Rhode Island, Kingston, R.I. 02881.**

POSTDOCTORAL POSITIONS IN NEUROSCIENCE, DEVELOPMENTAL BIOLOGY, AND CELL BIOLOGY

Fellowships are available for training with **J. F. ASH** (cell membranes), **F. D. COLLINS** (neurite growth), **K. A. CRUTCHER** (neuronal plasticity), **M. JACOBSON** (clonal analysis), **A. G. LEVENTHAL** (visual system), **R. J. MULLEN** (mammalian neurogenetics), **T. N. PARKS** (auditory system), and **G. C. SCHOENWOLF** (neurulation). Send curriculum vitae to one of the above or, for additional information, write to: **Dr. R. J. Mullen, Department of Anatomy, University of Utah School of Medicine, Salt Lake City, Utah 84132.**

POSTDOCTORAL POSITION available immediately for 2 to 3 years. Studies on: (i) the identification and characterization of retinal neurons in vivo and in tissue culture, and (ii) structure and function of retinal photoreceptor membrane proteins using monoclonal antibodies in conjunction with biochemical immunological and microscopic techniques. Salary range: \$18,000 to \$21,000. Send curriculum vitae and three references to: **Dr. Robert S. Molday, Department of Biochemistry, University of British Columbia, Vancouver, British Columbia, Canada V6T 1W5.**

POSTDOCTORAL POSITION available 1 October 1983. Research aimed at regeneration of a drought-tolerant, economically important crop. Individual should have experience in plant tissue culture, protoplast isolation, and/or regeneration. Ph.D. required. The position is for 1 year with the possibility of renewal. Starting salary: \$15,000. Send curriculum vitae and three letters of reference to: **Dr. Tom Brady, Department of Biological Sciences, Texas Tech University, Lubbock, Texas 79409.** *An Equal Opportunity/Affirmative Action Employer.*

Imperial College, Department of Biology, Silwood Park, Ascot, Berkshire, SL5 7PY, England. Applications are invited for **TWO POSTDOCTORAL RESEARCH ASSISTANTS** tenable at Silwood Park laboratories of Imperial College, University of London, for 3-year projects using monoclonal antibodies to study antigens of the cattle blood parasite *Babesia divergens* and of the sexual stages of *Plasmodium falciparum* malaria. The successful applicant will join an active research group but practical experience with monoclonal antibodies is essential. Salary: £8080 to £8975 per annum. Curriculum vitae and names of two referees by 13 October to: **Professor E. U. Canning.**

POSTDOCTORAL AND RESEARCH ASSOCIATE POSITIONS available in enzyme structure and function and affinity labeling of active and regulatory sites in enzymes. Ph.D. in biochemistry required. Send résumé and three references to: **Dr. Roberta F. Colman, Chemistry Department, University of Delaware, Newark, Delaware 19711.** *An Equal Opportunity/Affirmative Action Employer.*

VETERINARY PATHOLOGIST

The Upjohn Company, a research oriented pharmaceutical company has a position open in its Pathology and Toxicology Research Unit for a Veterinary Pathologist. The position is responsible for designing, conducting and reporting a variety of toxicology studies including clinical and anatomic evaluation of animals used in such studies. The incumbent will also conduct research in toxicologic pathology, comparative pathology, mechanisms of disease or topic of personal interest.

The successful candidate will be a DVM (or equivalent) with advanced training in pathology, and with demonstrated research ability. Applicants should be ACVP board certified or board eligible.

For confidential consideration, please call from outside of Michigan toll free 1/800-253-8600; or call from Michigan collect 616/323-6767 to request a specialized employment application be sent to you immediately. Please refer to ad number 15344-D when calling.

Upjohn

An Equal Employment Opportunity Employer M/F

DIRECTOR, INTRAMURAL RESEARCH PROGRAM

The National Institute on Alcohol Abuse and Alcoholism (NIAAA), Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA), Bethesda, Maryland, is seeking to fill this key Federal position. The NIAAA is responsible for the conduct and support of research and training relating to the causes, prevention, diagnosis, and treatment of alcoholism and other alcohol-related disorders. The Director, Division of Intramural Clinical and Biological Research exercises primary responsibility for planning, organizing, evaluating and directing all aspects of the intramural programs for the Institute, including a clinical research ward in the National Institutes of Health Clinical Center and basic laboratories on and off campus. The Division has a FY 83 budget of \$7.4 million with a staff of 83. For medical officers, minimum requirements include a degree of Doctor of Medicine or Doctor of Osteopathy. For other candidates, a Ph.D. degree in an academic field related to the health sciences pertinent to the work of the position is desirable, but a bachelor's degree is acceptable with additional qualifying experience. All candidates must also demonstrate progressively responsible experience in scientific research administration and have proven professional competence in the areas related to the intramural research function. Salary to \$67,200 (selectee may be eligible for up to \$10,000 per annum-Physicians Comparability Allowance). For additional information regarding the position and/or qualification requirements, including requesting an application form SF-171, contact: Ms. Margaret Skinner. Applications must be sent to: Division of Personnel Management, NIAAA Bldg. 10/ACRF Rm. 3C103, 9000 Rockville Pike, Bethesda, Maryland 20205. (301) 496-6748 by September 30, 1983. Late applications will be accepted until one day before the qualifications review board meets.

AN EQUAL OPPORTUNITY EMPLOYER

NATIONAL CANCER INSTITUTE DIVISION OF CANCER TREATMENT RADIATION ONCOLOGY PROGRAM

Staff Fellow (Ph.D.)

Salary Range—\$17,000 to \$34,269
(Having less than 3 years professional
Research Experience)

Senior Staff Fellow (Ph.D.)

Salary Range—\$20,688 to \$38,422
(3-7 years Research Experience)

Staff Fellow or Senior Staff Fellow with credentials in chemical synthesis (organic, organometallic, or inorganic chemistry). Candidate must have or will soon complete the Ph.D. degree. Previous experience in synthesis and/or work with radionuclides is helpful. Position involves synthesis of ligands to bind radionuclides to monoclonal antibodies at the National Cancer Institute, National Institutes of Health.

Position information and qualifications requirements may be obtained by contacting:

**Dr. Otto Gansow, Radiation Oncology Branch
Inorganic and Radioimmune Chemistry Section
National Cancer Institute, Building 10, Room B3B69
Bethesda, MD 20205, 301-496-2642**

Please send resume, CV, and bibliography
to above address.

An Equal Opportunity Employer

National Synchrotron Light Source

Brookhaven National Laboratory

STAFF SCIENTIST. A position is open at the National Synchrotron Light Source for a Ph.D. scientist with interests in X-ray and VUV instrumentation, facility operations, and research. The successful candidate will be expected to collaborate with Laboratory scientists using the facility, and outside university and industrial users. Postdoctoral experience is desirable. The level of the appointment will depend upon the individual's experience and qualifications.

SCIENTIFIC SUPPORT STAFF. A position is also open for an individual with a bachelor's or master's degree to work on experimental beam line development and operation. The successful candidate will be expected to interact with Laboratory and outside users of the facility. Candidates should have a strong background in the physical sciences. Previous experience is not required.

Apply with resume which contains the names of three references to: **Dr. William C. Thomlinson, N.S.L.S. Department, Building 510E, Brookhaven National Laboratory, Associated Universities, Inc., Upton, L.I., NY 11973. Telephone (516) 282-3937.**

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**Brookhaven National Laboratory
Associated Universities Inc.**

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE with Ph.D. in microbiology. Research position involving construction of gene probe specifying pesticide degradation. Experience with gene-cloning techniques. Possibly 2-year position beginning 20 October 1983 with \$15,000 starting salary. Send letter of application, résumé, and three letters of reference before 15 October 1983 to: **Dr. R. J. Seidler, Microbiology Department, Oregon State University (OSU), Corvallis, Ore. 97331-3804.** *OSU is an Affirmative Action/Equal Opportunity Employer and complies with Section 504 of the Rehabilitation Act of 1973.*

Opening for **POSTDOCTORAL RESEARCH ASSOCIATE IN BIOPHYSICS**. Position involves structural studies and characterization of interactions between exogenous molecules of environmental significance and model membrane preparations. Applicants should have experience in low-angle x-ray diffraction methods and lipid biochemical and biophysical techniques. Position begins 1 December 1983 and will continue for 1 year. Please send résumé and three letters of recommendation to:

H. H. Wickman
Department of Chemistry
Oregon State University
Corvallis, Ore. 97331

Oregon State University is an Affirmative Action/Equal Opportunity Employer and complies with Section 504 of the Rehabilitation Act of 1973.

POSTDOCTORAL RESEARCH BIOCHEMIST

Research collaborator sought with knowledge of halobacteria and cynaobacteria energy conversion mechanisms having experience in the biology of these organisms and laser flash photolysis, EPR techniques, and chemical modification methodology. A Ph.D. degree in biochemistry is required and the applicant should have published evidence of research productivity. The annual salary range is \$16,620 to \$17,388 for 1 year with possible extension for a second year if funds are available. Applicant should send, by 7 October 1983, a résumé and names of three references to: **Dr. Lester Packer, Department of Physiology-Anatomy, Life Sciences Building, Room 2544, University of California, Berkeley, California 94720.** *The University of California is an Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL SCIENTIST wanted immediately to work with interdisciplinary team on the chemistry, biochemistry, and pharmacology of labeled compounds intended for positron tomographic applications. Experience with isotopic synthesis, HPLC, or isolated perfused organs desirable. Minimum: \$15,000. Apply to: **Dr. S. J. Gatley, Department of Medical Physics, University of Wisconsin-Madison, 1530 MSC, 1300 University Avenue, Madison, Wis. 53706.** *An Affirmative Action/Equal Opportunity Employer.*

Department of Surgery, Division of Orthopaedics and Rehabilitation, University of California, San Diego (UCSD), is recruiting for a **POSTGRADUATE RESEARCH PHYSIOLOGIST**. Demonstrated experience in research career in health sciences. Background is required in computer interfacing. Strong background in muscle research using laser technology and computer analysis preferred. Study of physiology of single muscle fiber contraction and the study of pathophysiology of neuromuscular disorders as well as ability to obtain extramural support and conduct independent research programs. Please send letter, curriculum vitae, and three references to: **Wayne H. Akeson, M.D., Professor and Head, Division of Orthopaedics and Rehabilitation, University of California Medical Center, 225 Dickinson Street, San Diego, Calif. 92103.** Position starts January 1984. All applications received by the closing date of 30 October 1983 will receive thorough consideration. Salary range related to the academic rank and step of appointment within the established salary schedule of the UCSD Department's Compensation and Incentive Plan.

THE JACKSON LABORATORY

RESEARCH STAFF POSITIONS at senior and junior levels now available at the Jackson Laboratory. Of particular interest are persons specializing in mammalian genetics, molecular biology, immunology, neurobiology, and experimental hematology. Rank and salary commensurate with experience. All candidates must be capable of carrying on an independent research program. Send curriculum vitae and description of research interests to: **Chairperson, Search Committee, Jackson Laboratory, Bar Harbor, Maine 04609.** *Equal Opportunity Employer.*

POSITIONS OPEN

POSTDOCTORAL/RESEARCH ASSOCIATE position available immediately to investigate self-control of peripheral vascular functions in humans. Candidate should have Ph.D. or M.D. and experience in cardiovascular psychophysiology. Please send curriculum vitae, three letters of recommendation, and any publications to: **Robert Freedman, Ph.D., Director, Behavioral Medicine Laboratory, Lafayette Clinic, Wayne State University, 951 East Lafayette Avenue, Detroit, Mich. 48207.**

YALE UNIVERSITY SCHOOL OF MEDICINE POSTDOCTORAL TRAINEE

Position available immediately to investigate the hormonal regulation of melanoma growth and pigmentation. Research employs a variety of genetic and biochemical techniques with cultured melanoma cells. Emphasis placed on structure and function of receptors for MSH in mutant and wild-type cell lines.

Position is for 1 to 4 years, funded by the NIH. Send curriculum vitae and three letters of reference to: **Dr. John Pawelek, Department of Dermatology, Yale University School of Medicine, New Haven, Connecticut 06510.** *An Equal Opportunity/Affirmative Action Employer.*

PRESIDENT MEDICAL COLLEGE OF WISCONSIN

The Medical College of Wisconsin (MCW) is one of the nation's 13 private, free-standing medical schools. It conducts educational programs leading to the B.S.N., M.S., Ph.D., and M.D. degrees. Currently, 800 medical students, 60 graduate students, and 250 nursing degree completion and graduate students are taught by a full-time faculty of 550 in the institutions constituting the Milwaukee Regional Medical Center. There are presently 31 separately accredited residency programs, and additional fellowship programs, conducted jointly by MCW and its affiliates which prepare 589 residents and fellows for certification by the appropriate specialty board. In the most current fiscal year, faculty of the Medical College of Wisconsin were awarded \$11 million in extramural support for research.

The president is the principal executive officer of the College governed by a 21-member Board of Directors, which will name a new president to take office by 1 July 1984. Persons trained at the doctoral level with demonstrated leadership and executive experience, and a background in academic health science administration, are preferred.

The Medical College of Wisconsin is an Affirmative Action/Equal Opportunity Employer. Applications and nominations should be sent by 1 November 1983 to:

John H. Kelly, Chairman
Search Committee
c/o J. Robert Koewing
Special Assistant
Medical College of Wisconsin
8701 Watertown Plank Road
Milwaukee, Wisconsin 53226

RESEARCH ASSOCIATE OR POSTDOCTORAL FELLOW

Position available immediately for Ph.D. to participate in ongoing studies on the biosynthesis and processing of CCK (cholecystokinin) in the brain. The ideal candidate will have expertise in biochemistry, in particular enzymology, protein chemistry, and protein synthesis. Other experience may be acceptable. Salary competitive.

Send curriculum vitae and names of three references to: **Margery C. Beinfeld, Department of Pharmacology, St. Louis University Medical School, 1402 South Grand Boulevard, St. Louis, Mo. 63104.** *An Equal Opportunity/Affirmative Action Employer, M/F/H.*

RESEARCH ASSOCIATE: Synthesize high-energy compounds as synthetic fuels. Make compounds having near zero hydrogen content. Investigate the nitrolysis of carbon nitrogen bonds. Mononitramines and nitrosoamines from tertiary amines, and other alicyclic amines. Investigate lithiation reactions of nitrosoamines. Requires Ph.D. degree in organic chemistry. Must have education to include training in synthesizing nitroamines and nitroesters, academic or practical. Hours: 9 a.m. to 5 p.m.; 40 hours per week at \$21,000 per year salary. Please send résumé to:

ILLINOIS JOB SERVICE
910 South Michigan Avenue, Room 400
Chicago, Illinois 60605
Reference Number 090227-S
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POSITIONS OPEN

DISTINGUISHED PROFESSOR IN BIOLOGICAL SCIENCE

The University of Wisconsin-Milwaukee is seeking nominations for a newly established **Distinguished Professorship in Biological Sciences**. Recognizing that a deeper fundamental understanding of aquatic ecosystems is likely to come from research at the interface between ecological and cellular or subcellular processes, this will be a joint position between the Departments of Biological Sciences and the Center for Great Lakes Studies.

Preference will be given to candidates who have an outstanding record of research indicating a strong commitment to aquatic science—freshwater or marine—and who are applying innovative cellular or molecular techniques to the study of the fundamental functioning of ecosystems.

The appointee is expected to maintain an active research program and to participate in graduate student instruction as part of an interdisciplinary program of pre- and post-doctoral training in aquatic science.

Qualified persons interested in this position are invited to submit detailed curriculum vitae to:

Dr. David N. Edgington, Director
Center for Great Lakes Studies
600 East Greenfield Avenue
Milwaukee, Wis. 53204

An Equal Opportunity/Affirmative Action Employer

RESEARCH ASSOCIATE for clinical studies regarding blood cell proliferation, renal failure, and anemia in a Maryland-based firm. M.D. or Ph.D. with experience in cell cycle analysis, autoradiography, and cell culture desired. Salary up to \$20,000, depending on experience. Send curriculum vitae and references to: **Box 261, SCIENCE.**

An Equal Opportunity/Affirmative Action Employer

RESEARCH ASSOCIATE IN LASER PHYSICS. Mount Sinai Medical Center, Miami Beach, Florida, is seeking applications from individuals with expertise in laser physics who are interested in the application of laser technology to the medical profession. Individuals should have a Ph.D. in physics or engineering and will be expected to work closely with qualified physicians to develop new surgical techniques using laser systems. Responsibilities include coordination of the laser research program and participation in teaching seminars. Interested candidates should submit curriculum vitae (including a summary of research interests) and three letters of reference to: **Dr. David Russin, Chairman, Laser Research Recruitment Committee, Department of Research, Mount Sinai Medical Center, Miami Beach, Florida 33140.** *An Equal Opportunity/Affirmative Action Employer.*

RESEARCH INSTRUCTOR. Position available for a qualified applicant to conduct laboratory research pertaining to the physical biochemistry of the terminal complement proteins (C5b-9). Prior training and experience in physical biochemistry, membrane biochemistry, and membrane physiology are required. All applicants should have extensive experience with the isolation and reconstitution of membrane proteins and with physical biochemical studies of model membrane systems. Salary: \$16,000 to \$20,000, based on experience. Send résumés to: **Peter Jay Sims, M.D., Ph.D., Department of Pathology, Box 214, University of Virginia Medical Center, Charlottesville, Virginia 22908.** *An Equal Opportunity/Affirmative Action Employer.*

The Department of Ophthalmology at the University of Illinois is seeking a distinguished **SENIOR RESEARCHER** in the visual sciences for a tenured full professorship/associate professorship. The successful candidate must have a proven record of high-quality basic or clinical research. The position will be staffed in the new Lions of Illinois Eye Research Institute which is a facility providing over 20,000 square feet of space devoted to eye research.

Please send curriculum vitae and salary history to:

Morton F. Goldberg, M.D.
Department of Ophthalmology
University of Illinois
1855 West Taylor
Chicago, Ill. 60612

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The MX Missile and the Strategic Balance of Power

A collection of recent articles from SCIENCE on contemporary strategic ideology is now available for use by professionals, teachers, and researchers interested in the nuclear arms race.

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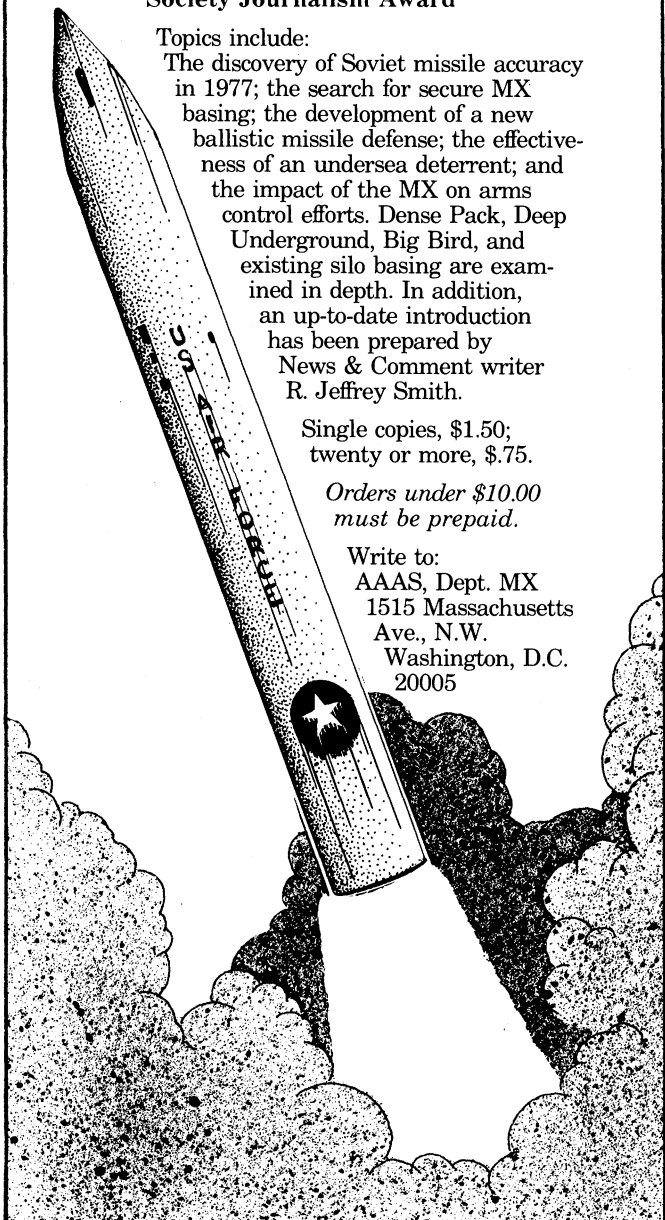
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POSITIONS OPEN

RESEARCH ASSOCIATE. M.Sc. with expertise in direct and indirect immunofluorescence, radioimmunoassay techniques, ability to perform quantitative assays for hematopoietic stem cells, and familiarity with usage of fluorescence activated cell sorter. Minimum of 2 years of experience; 40-hour work week. Salary: \$23,000 per annum. Send résumés with Social Security numbers to: **The Indiana State Employment Service, 10 North Senate Avenue, Indianapolis, Ind. 46204, attention: W. F. Shepherd, I.D. Number 2016838. An Equal Opportunity/Affirmative Action Employer.**

SENIOR EDITOR—APPLIED BIOLOGY

Major publisher needs Ph.D. with broad knowledge of biological research for industrial processes. Evaluate research manuscripts for new journal, work with world class scientists in microbiology, chemical engineering, and other disciplines. Industrial and academic contacts, editorial experience helpful. Send résumé and letter to: **Box 260, SCIENCE.**

TOXICOLOGIST OR BIOCHEMIST—The National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control, is seeking a toxicologist or biochemist to serve on the Science Advisory Staff in the Office of the Director. The successful candidate will be involved in assisting in evaluating NIOSH positions in occupational safety and health relevant to the NIOSH mission; reviewing NIOSH research priorities; performing continual evaluation and review of NIOSH research projects; recommending priorities for criteria documents; formulating and evaluating emerging and current problems in occupational health and safety. Candidate must be a toxicologist or biochemist with experience in the development and direction of scientific research programs and with a commensurate record of scientific accomplishment. This position is in the Career Civil Service GS-14 or -15, or the Public Health Service Commissioned Corps. Salary range: \$41,227 to \$57,500, depending on qualifications, experience, and personnel systems. Interested candidates should send applications to: **Jenny Garner, Centers for Disease Control, Personnel Office, Building 1, Room 1050, Atlanta, Georgia 30033. An Equal Opportunity Employer**

WHOLE PLANT PHYSIOLOGIST. Dow Chemical has an immediate opening for a Ph.D. in crop science, plant physiology, or agronomy and research interests in general area of photosynthesis. Proficiency in biochemistry and organic chemistry, and experience in analyzing leaf gas exchange characteristics are desirable. Position is located in Boston, Massachusetts, area and offers a competitive salary/benefits package. Send detailed résumé, transcripts, and names of three references to: **Nancy Boardway, Ph.D., Central Research, New England Laboratory, Dow Chemical U.S.A., P.O. Box 400, Wayland, Mass. 01778. Dow Chemical is an Equal Opportunity Employer.**

DEPARTMENT OF ZOOLOGY UNIVERSITY OF WASHINGTON

Applications are invited for a faculty position effective September 1984. Preference will be given to applicants in the area of developmental biology. Candidates must present evidence of strong research activity and potential for obtaining research funding. Although higher rank is not precluded, it is anticipated that appointment will be made at the assistant professor level. Send curriculum vitae, copies of three publications, brief outline of previous and proposed research directions, and names and addresses of three references to: **A. O. D. Willows, Chairman, Department of Zoology NJ-15, University of Washington, Seattle, Wash. 98195, by 15 November 1983. Equal Opportunity/Affirmative Action Employer.**

REQUEST FOR PROPOSALS

CANCER RESEARCH INSTITUTE seeks applications for GRANTS AND FELLOWSHIPS in the field of CANCER IMMUNOLOGY

The next deadline for receipt of applications is 1 February 1984. For information, contact:

**Grant and Fellowship Coordinator
Cancer Research Institute, Inc.
133 East 58 Street
New York, N.Y. 10022
Telephone: 212-688-7515**

Lloyd J. Old, M.D., Medical Director

GRADUATE STUDY

NEUROSCIENCES AT BAYLOR COLLEGE OF MEDICINE

Baylor College of Medicine offers an interdepartmental Neuroscience Program for students interested in advanced study leading to the Ph.D. in neuroscience. Applications must be completed by 1 April 1984, and applicants will be notified regarding admission and financial support by 15 May 1984. Information regarding the program curriculum, faculty, research opportunities, and application procedures may be obtained from:

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

TRAINEESHIPS

POSTDOCTORAL AND GRADUATE TRAINEESHIPS IN BIOCHEMISTRY AND GENETICS OF PLANT-PATHOGEN INTERACTIONS

Applications are being accepted for postdoctoral scholar and graduate research traineeship positions funded by a grant from the McKnight Foundation to study the biochemical, molecular, and genetic basis of plant-pathogen interactions. Areas of emphasis include, but are not limited to: recognition phenomena in plant-pathogen interactions; mechanisms of virulence in plant pathogenic fungi and bacteria; biochemical basis for host response to pathogen ingress; molecular basis for host resistance and susceptibility and molecular biology of pathogen reproduction. The interdisciplinary program involves faculty members from the Departments of Bacteriology, Biochemistry and Biophysics, Biological Chemistry, Plant Pathology, Vegetable Crops, and Viticulture and Enology on the University of California, Davis campus. Graduate students admitted to the program may major in biochemistry, genetics, microbiology, plant pathology, or plant physiology.

Annual stipends are approximately \$19,000 for McKnight postdoctoral scholars and \$7,900 for McKnight graduate trainees in the first year of graduate study. Review of applications will begin 31 October 1983. Application forms and information about the program may be obtained by writing to: **Dr. T. Koseg, Program Coordinator, Department of Plant Pathology, University of California, Davis, Calif. 95616. The University of California is an Affirmative Action/Equal Opportunity Employer.**

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP IN NEUROPATHOLOGY—A position exists on an NRSA training grant on experimental neuropathology for a postdoctoral fellow to work on the neuroimmunology of dementias and/or demyelination at a leading medical school in the New York City area. Candidate must hold an M.D. or Ph.D. and have 2 to 3 years of postdoctoral laboratory experience. Send curriculum vitae to: **Box 258, SCIENCE. An Equal Opportunity Employer.**

POSTDOCTORAL FELLOWSHIP AT THE MEDICAL COLLEGE OF OHIO

Three positions are available:

- 1) **Clinical Pharmacology or Pharmacology:** Projects include development of assay methods and study of kinetics for new cardiovascular drugs as well as drug evaluation in clinical trials. Completion of residency in medicine is required for clinical fellowship.
- 2) **Membrane Transport:** Projects involve electrophysiological studies of hormonal and drug influences on sodium transport across various epithelia.
- 3) **Vascular and Renal Pathology in Genetically Hypertensive Rats:** Projects involve electron microscopic and immunopathologic techniques.

Applicants must have Ph.D., M.D., D.V.M., or equivalent degrees, and be citizens or permanent residents of the United States. Send curriculum vitae to:

**Dr. John P. Rapp
Department of Medicine
Medical College of Ohio
C.S. Number 10008
Toledo, Ohio 43699**

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FELLOWSHIPS

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- 2) Clinical training leading to specialty/subspecialty board eligibility.
- 3) Research experience in the laboratories of established investigators to develop a foundation for independent research.

Applications may be obtained from:

**Mayo Graduate School of
Medicine
200 First Street, SW
Rochester, Minnesota 55905**



POSTDOCTORAL RESEARCH FELLOWSHIP available immediately to pursue biochemical investigations into the regulation of energy distribution in photosynthesis. Applicants should have a Ph.D. with a solid background in photosynthesis and experience in protein chemistry and membrane biochemistry. Candidates should forward a résumé of professional experience and the names and addresses of three references to: **Dr. John Biggins, Division of Biology and Medicine, Brown University, Providence, Rhode Island 02912.**

POSTDOCTORAL FELLOWSHIP position available immediately for Ph.D. in biochemistry or related field to study lipoprotein metabolism. Research involves the hormonal regulation of lipoprotein receptors and intracellular cholesterol homeostasis. Stipend as per NIH criteria. Send curriculum vitae and the names of three references to:

**Frederic B. Kraemer, M.D.
Division of Endocrinology, S-005
Stanford University Medical Center
Stanford, Calif. 94305**

POSTDOCTORAL FELLOWSHIPS IN MOLECULAR GENETICS, ENDOCRINOLOGY, IMMUNOLOGY AND TUMOR BIOLOGY

The University of Rochester Cancer Center invites applications for postdoctoral positions for 2 years to begin in 1984. Projects involve studies of eukaryotic gene expression using molecular cloning, expression of oncogenes in radiation induced tumors, tumor immunology using T cell hybridomas and monoclonal antibodies, hormonal and nutritional regulation of cell growth, and application of drug and radiation therapies on tumor models. Send résumé and three letters of recommendation to: **Dr. Edgar Henshaw, University of Rochester Cancer Center, Box 704, Rochester, N.Y. 14642.**

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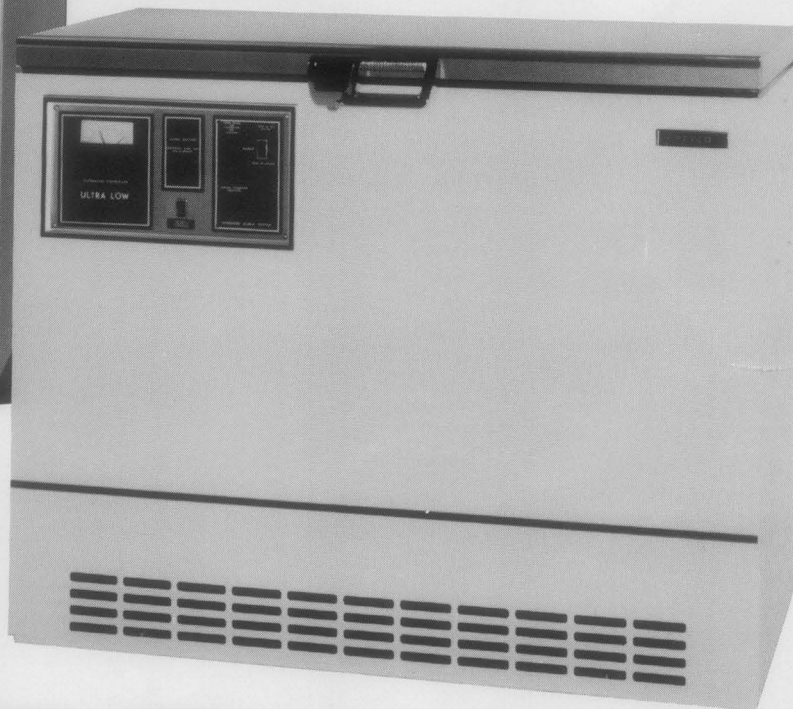
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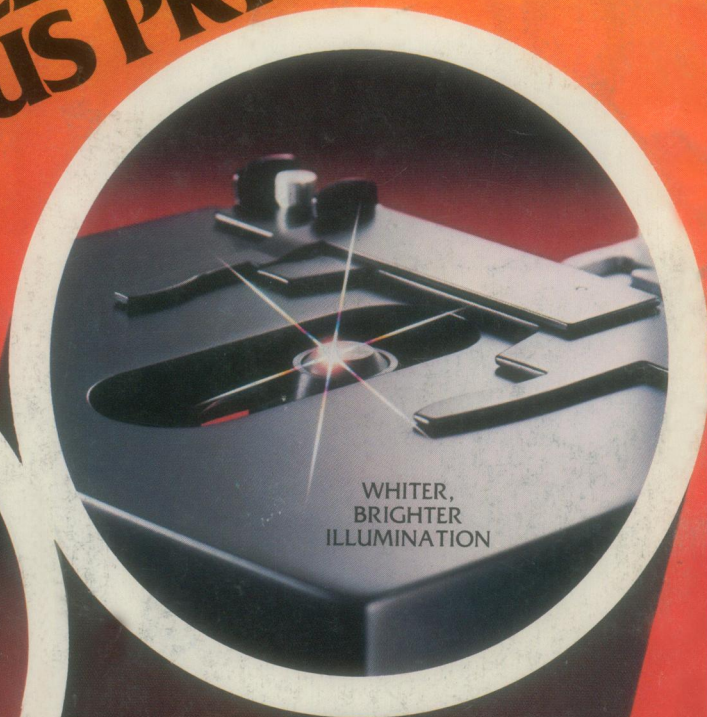
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