

lution, nonequilibrium views of community structure, and succession). Contributing to these problems, the text is not particularly well written: it is sometimes ungrammatical, and the presentation of a number of the arguments is convoluted or vague. The author uses technical terms (for example, "clastic," "lithified," "adaptive radiation," "reproductive value," "amphi-Atlantic," "endemism," "state variable") that are defined neither in the text nor in the glossary. The same is true of key terms that appear in some of the figures reproduced without revision from the original sources (for example "appetitive behavior" in fig. 8-8).

Much of the discussion of major topics in ecology (for example, Lotka-Volterra competition equations, life history strategies, particularly r and K selection, succession, niche differentiation, and character displacement) seems naïve and uncritical. Important critical reviews of these subjects that had been published at the time the text was being written are neither cited nor discussed. Students sorely need to learn critical skills, especially when reading the results of original research. This book does little to develop them. Philosophically, Levinton seems to favor equilibrium explanations of community structure, particularly those involving competition for limiting resources.

The discussions of evolutionary processes are often unclear. For example, the presentation of theories concerning long-distance dispersal in marine invertebrates and supporting examples are likely to leave the reader confused about the level at which Levinton believes selection to be operating. Modes of selection above the level of the individual (about which there is an abundance of recent theory) are not discussed explicitly, though their operation is implicit in many of Levinton's arguments.

It is commendable that Levinton has drawn his information from original sources. The list of references is impressive, numbering about 900. However, the citations in some areas are much more up-to-date than in others. Papers dealing with soft-sediment habitats published as recently as 1981 are included, whereas important contributions from the 1970's on the ecology of assemblages on hard substrata are not. The most blatant omissions occur in the accounts of island biogeography, predatory behavior, the role of disturbance in community structure, and succession.

In summary, *Marine Ecology* contains more than enough of the raw material needed for a first-rate textbook. In fact,

most workers in applied and basic marine ecology will find it to be a valuable reference book and will want to own copies. However, for classroom use it is too detailed and provides little synthesis. One comes away from the book with little sense of what the author feels to be important directions for future research. A rigorous revision could correct these problems. In the meantime, my own students will continue to be held responsible only for the half-truths I tell in lecture.

WAYNE P. SOUSA

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Books Received

Animal Mind—Human Mind. Papers from a workshop, Berlin, Mar. 1981. D. R. Griffin, Ed. Springer-Verlag, New York, 1982. x, 428 pp., illus. \$25. Dahlem Workshop Reports. Life Sciences Research Report 21.

Annual Review of Neuroscience. Vol. 5. W. Maxwell Cowan, Zach W. Hall, and Eric R. Kandel, Eds. Annual Reviews, Palo Alto, Calif., 1982. x, 392 pp. \$22.

Annual Review of Pharmacology and Toxicology. Vol. 22. Robert George, Ronald Okun, and Arthur K. Cho, Eds. Annual Reviews, Palo Alto, Calif., 1982. x, 740 pp. \$22.

Annual Review of Physiology. Vol. 44. I. S. Edelman and Robert M. Berne, Eds. Annual Reviews, Palo Alto, Calif., 1982. xii, 744 pp., illus. \$22.

Apelak and Whalespeak. The Quest for Interspecies Communication. Ted Crail. Tarcher, Los Angeles, 1982 (distributor, Houghton Mifflin, Boston). xiv, 298 pp., illus. \$14.95.

Applicable Mathematics of Non-Physical Phenomena. F. Oliveira-Pinto and B. W. Conolly, Horwood, Chichester, England, and Halsted (Wiley), New York, 1982. 270 pp., illus. \$59.95. Ellis Horwood Series in Mathematics and Its Applications.

Bulking of Activated Sludge. Preventative and Remedial Methods. Papers from a conference, Cambridge, England, Apr. 1981. B. Chambers and E. J. Tomlinson, Eds. Published for the Water Research Centre by Horwood, Chichester, England, 1982 (U.S. distributor, Halsted [Wiley], New York). 280 pp., illus. \$69.95.

Carbocationic Polymerization. Joseph P. Kennedy and Ernest Marchal. Wiley-Interscience, New York, 1982. xxii, 510 pp., illus. \$75.

Cardiovascular Pharmacology of the Prostaglandins. Papers from a meeting, Antwerp, Dec. 1980. Arnold G. Herman, Paul M. Vanhoutte, Henri Denolin, and Albert Goossens, Eds. Raven, New York, 1982. xvi, 456 pp., illus. \$55.

Causes and Effects of Stratospheric Ozone Reduction. An Update. A Report prepared by the Committee on Chemistry and Physics of Ozone Depletion and the Committee on Biological Effects of Increased Solar Ultraviolet Radiation. National Academy Press, Washington, D.C., 1982. xii, 340 pp. Paper, \$13.95.

Digital Computers in Analytical Chemistry, Part II, 1970-1978. J. B. Justice, Jr., and T. L. Isenhour, Eds. Hutchinson Ross, Stroudsburg, Pa., 1981 (distributor, Academic Press, New York). xiv, 396 pp., illus. \$56. Benchmark Papers in Analytical Chemistry, vol. 3.

Drinking Water and Health. Vol. 4. National Academy Press, Washington, D.C., 1982. xii, 300 pp. Paper, \$15.95.

Drugs and Appetite. T. Silverstone, Ed. Academic Press, New York, 1982. xiv, 188 pp., illus. \$29.50.

Earth-Covered Buildings. An Exploratory Analysis for Hazard and Energy Performance. Prepared for the Federal Emergency Management Agency by Moreland Associates, Fort Worth, Tex., 1981. viii, 306 pp., illus. Paper, \$20.

Frontiers in Neuroendocrinology. Vol. 7. William F. Ganong and Luciano Martini, Eds. Raven, New York, 1982. x, 390 pp., illus. \$45.

Frozen Storage of Laboratory Animals. Proceedings of a workshop, Harwell, U.K., May 1980. Gerard H. Zeilmaker, Ed. Gustav Fischer, Stuttgart, 1981. xii, 194 pp., illus. Paper, DM 49.

Gene Amplification. Papers from a conference, Cold Spring Harbor, N.Y., Oct. 1981. Robert T. Schimke, Ed. Cold Spring Harbor Laboratory, Cold Spring Harbor, N.Y., 1982. xx, 340 pp., illus. \$35.

Genetic Exchange. A Celebration and a New Generation. Papers from a conference. Uldis N. Streips, Sol H. Goodgal, Walter R. Guild, and Gary A. Wilson, Eds. Dekker, New York, 1982. xvi, 370 pp., illus. \$69.50. Genetic and Cellular Technology, vol. 1.

Issues in International Bilingual Education. The Role of the Vernacular. Papers from a conference, Racine, Wis., Nov. 1980. Beverly Hartford, Albert Valdman, and Charles R. Foster, Eds. Plenum, New York, 1982. xiv, 348 pp. \$42.50.

The Laboratory Cockroach. Experiments in Cockroach Anatomy, Physiology and Behavior. William J. Bell. Chapman and Hall, London, 1982 (U.S. distributor, Methuen, New York). x, 162 pp., illus. Spiral, bound, \$13.95.

Literature Guide to the GLC of Body Fluids. Austin V. Signeur. IFI/Plenum, New York, 1982. x, 386 pp., illus. \$85. IFI Data Base Library.

Making It Happen. A Positive Guide to the Future. John M. Richardson, Jr., Ed. U.S. Association for The Club of Rome, Washington, D.C., 1982. 232 pp., illus. Paper, \$9.95.

Mammalian Sexual Behavior. Foundations for Contemporary Research. Donald A. Dewsbury, Ed. Hutchinson Ross, Stroudsburg, Pa., 1981. (distributor, Academic Press, New York). xvi, 384 pp., illus. \$48. Benchmark Papers in Behavior, vol. 15.

New Coal Chemistry. Papers from a meeting, May 1980. The Royal Society, London, 1981. vi, 216 pp., illus., + plates. £26.85. First published in *Philosophical Transactions of the Royal Society of London*, series A, vol. 300, No. 1453.

Nitrogen Fixation. Vol. 1. Ecology. W. J. Broughton, Ed. Clarendon (Oxford University Press), New York, 1981. xii, 306 pp., illus. \$54.

Nuclear Waste Management Abstracts. Richard A. Heckman and Camille Minichino. IFI/Plenum, New York, 1982. viii, 104 pp. \$45. IFI Data Base Library.

Numerical Analysis. A Practical Approach. Melvin J. Maron. Macmillan, New York, and Collier Macmillan, London, 1982. xx, 472 pp., illus. \$26.95.

Nursing and the American Health Care Delivery System. Joellen Beck Watson Hawkins and Loretta Pierfedeci Higgins. Tiresias Press, New York, 1982. 192 pp., illus. Paper, \$8.95.

The Paracellular Pathway. Papers from a conference. Stanley E. Bradley and Elizabeth F. Purcell, Eds. Josiah Macy, Jr. Foundation, New York, 1982 (distributor, Independent Publishers Group, Port Washington, N.Y.). viii, 382 pp., illus. Paper, \$15.

Parapsychology and Contemporary Science. A. P. Dubrov and V. N. Pushkin. Translated from the Russian. Consultants Bureau (Plenum), New York, 1982. vi, 222 pp., illus. \$39.50.

Population and Evolutionary Genetics. A Primer. Francisco J. Ayala. Benjamin/Cummings, Menlo Park, Calif., 1982. vi, 268 pp., illus. Paper, \$13.95. The Benjamin/Cummings Series in the Life Sciences.

The Possible and the Actual. François Jacob. University of Washington Press, Seattle, 1992. viii, 72 pp. \$8.95. The Jessie and John Danz Lectures.

Presentation of Data in Science. Publications, Slides, Posters, Overhead Projections, Tape-Slides, Television. Principles and Practices for Authors and Teachers. Linda Reynolds and Doig Simmonds. Nijhoff, The Hague, 1981 (U.S. distributor, Kluwer Boston, Hingham, Mass.). xxii, 210 pp., illus. \$39.

Primate Evolutionary Biology. Papers from a congress. Florence, July 1980. A. B. Chiarelli and R. S. Corruccini, Eds. Springer-Verlag, New York, 1981. x, 120 pp., illus. \$26. Proceedings in Life Sciences.

The Primates of Madagascar. Ian Tattersall. Columbia University Press, New York, 1982. xvi, 382 pp., illus. \$40.

Principles of Biochemistry. Albert L. Lehninger. Worth, New York, 1982. xxvi, 1012 pp., illus. \$31.95.

Quantum Fields in Curved Space. N. D. Birrell and P. C. W. Davies. Cambridge University Press, New York, 1982. x, 340 pp. \$49.50. Cambridge Monographs on Mathematical Physics.

Resistance. Psychodynamic and Behavioral Approaches. Paul L. Wachtel, Ed. Plenum, New York, 1982. xx, 268 pp. \$22.50.

Science for Non-Specialists. The College Years. National Academy Press, Washington, D.C., 1982. xxii, 130 pp. Paper, \$9.95.

Self-Organization and Dissipative Structures. Applications in the Physical and Social Sciences. Papers from a workshop, Austin, Sept. 1978. William C. Schieve and Peter M. Allen, Eds. University of Texas Press, Austin, 1982. xii, 362 pp., illus. \$50.

Typical and Atypical Antidepressants. Clinical Practice. Papers from a symposium. E. Costa and Giorgio Racagni, Eds. Raven, New York, 1982. xxii, 400 pp., illus. \$39.50. Advances in Biochemical Psychopharmacology, vol. 32.

Personnel Placement

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Quality **editing, writing, translating** (many languages), and **consulting** by long-experienced editorial and scientific pair: all biomedical, behavioral, and social sciences. Minerva, 36 Cedar Avenue, Highland Park, N.J. 08904. Telephone: 201-828-6732. X

Ichthyologist/Marine Biologist. Ph.D. 1982. Seeks postdoctoral/research position in fisheries. Strong background in biotelemetry with 3 years of experience developing ultrasonic tracking methods for shallow-water marine sport fishes. Box 176, SCIENCE. X

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Neurochemistry. M.S. 1980. Seeks challenging position at industry, government, or university level. Experience in wide range of receptor, enzyme, small molecule, and electrophysiological studies of biogenic amines in CNS. Box 178, SCIENCE. 7/2, 9, 16

Experienced academic **Neurologist-Neuroscientist**; trained at prominent university; strong clinical, research, and teaching credentials in behavioral neurology; M.D., Ph.D., B.E. in neurology. Expertise: computer application in diagnostic decision-making, including special application. Seeking corresponding position in neurology-clinical neuroscience. Reply to: Box 177, SCIENCE. X

Technician, experienced in EM, microscopy, darkroom, and graphic work, seeks position mainly as graphic artist/designer in biological or geological research, preferably in a European country. Box 179, SCIENCE. X

POSITIONS OPEN

ANATOMIST

The Department of Anatomy, Texas Tech University Health Sciences Center, invites applications for a tenure-track position beginning 1 September 1982. Selection will be based on research accomplishments or commitments and the potential for contributing to the medical student anatomy teaching program. Special consideration may be given to candidates with the background in reproductive or developmental biology, cell biology, or endocrinology. Faculty rank is based on experience. Submit, by 1 August 1982, curriculum vitae, statement of research objectives, and names of three references to: **Dr. Harry M. Weitlauf or Dr. Roger R. Markwald, Department of Anatomy, Texas Tech University Health Sciences Center, Lubbock, Texas 79430. An Equal Opportunity/Affirmative Action Employer.**

ANATOMY: Assistant professor (tenure track) to participate in neuroanatomy teaching for 64 medical and 40 allied health students. Active research interest in endocrines and/or interrelationships of nervous system and endocrines preferred. Ph.D. with 2 years of postdoctoral experience required. If interested, send curriculum vitae, including list of publications and the names of three references, to:

Carl R. Morgan, Ph.D., Professor and Chairman, Department of Anatomy, School of Medicine, East Carolina University, Greenville, N.C. 27834

Applications should be received by 31 August 1982. *An Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR YALE UNIVERSITY Department of Molecular Biophysics and Biochemistry

A faculty position is available at the rank of **ASSISTANT PROFESSOR**, with a 5-year initial appointment beginning January 1983 or July 1983. Candidates must be able to teach biochemistry to both undergraduate and graduate students, as well as to conduct an active research program. *Yale is an Equal Opportunity Employer and applications from women and minority groups are encouraged.* The application deadline is 15 November 1982. Send curriculum vitae, list of publications, names and addresses of three references, and a summary of research interests to: **Professor Joseph E. Coleman, Chairman, Department of Molecular Biophysics and Biochemistry, Yale University, Box 1937 Yale Station, New Haven, Conn. 06520.**

ASSISTANT PROFESSOR, tenure-track position in the Department of Anatomy, open October 1982. Must have demonstrated research ability in developmental biology/experimental embryology/teratology. Send curriculum vitae and names and addresses of three references to: **Dr. W. K. Metcalf, Chairman, Department of Anatomy, University of Nebraska Medical Center, 42nd and Dewey, Omaha, Nebraska 68105. Equal Opportunity/Affirmative Action Employer.**

UNIVERSITY OF BRITISH COLUMBIA DEPARTMENT OF OCEANOGRAPHY

Applications are invited for a 12-month position, available 1 January 1983, at the beginning **assistant professor** level in the Department of Oceanography. Of primary interest is a person having training in one of the following areas: (i) marine microbiology (heterotrophic production, microbial ecology), (ii) benthic processes (chemical, physical, and biological interactions in the benthic boundary layer), or (iii) marine sedimentology/geochemistry (sedimentary processes, isotopes). However, applications submitted by qualified persons in any oceanographic specialty will also be considered. Candidates should have a Ph.D. qualification and relevant postdoctoral experience and will be expected to help establish and to teach in a new combined undergraduate programme in oceanography.

In accordance with Canadian immigration requirements, the advertisement is directed to Canadian citizens and permanent residents. Closing date for applications is 30 September 1982. Submit curriculum vitae and the names and addresses of three referees to:

Dr. S. E. Calvert, Head, Department of Oceanography, University of British Columbia, 6270 University Boulevard, Vancouver, British Columbia, Canada V6T 1W5

POSITIONS OPEN

ASSISTANT PROFESSOR

Applications are invited for the position of assistant professor in the Department of Dermatology at the University of Pittsburgh, School of Medicine. A background in collagen biochemistry and connective tissue-epithelium interactions is preferred. Of particular interest are cell-to-cell and cell-to-substrate interactions/wound healing. Send curriculum vitae to: **William H. Eaglstein, M.D., Professor and Chairman, Department of Dermatology, University of Pittsburgh, Falk Clinic, 3601 Fifth Avenue, Pittsburgh, Pa. 15213.**

An Equal Opportunity/Affirmative Action Employer

ASSISTANT PROFESSOR OF PEDIATRICS AND MICROBIOLOGY/IMMUNOLOGY to begin on 1 September 1982. Ph.D. with training and expertise in surface immunofluorescence and natural resistance in tumor immunology. Tenure-track position. Salary: \$28,500. Initial seed money for research provided.

Applicants should send current curriculum vitae or résumé to: **Thomas D. Miale, M.D., Head, Division of Hematology/Oncology, c/o Dharmapuri Vidyasagar, M.D., Head, Department of Pediatrics, University of Illinois, 840 South Wood Street, Chicago, Illinois 60612.**

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

ASSISTANT PROFESSOR OF PHARMACOLOGY

The Department of Pharmacology at Columbia University, College of Physicians and Surgeons, is seeking applicants for an assistant professorship. Applicants must have the M.D. and/or Ph.D. degree and must have expertise in the area of nuclear magnetic resonance. A strong background in cardiac biochemistry is required and—because the position requires collaboration with electrophysiologists—some expertise in cardiac electrophysiology would be useful as well. Skills as a teacher and potential to be an independent scientist also are important to this position and will be included in the evaluation.

Salary will be commensurate with experience. Candidates should submit curriculum vitae and the names of three references to: **Dr. Brian F. Hoffman, Department of Pharmacology, College of Physicians and Surgeons, 630 West 168 Street, New York, N.Y. 10032. Columbia University is an Affirmative Action/Equal Opportunity Employer.**

University of Michigan Medical School, Department of Surgery, has one opening for **ASSISTANT PROFESSOR OF SURGERY** in the section of Pediatric Surgery; fully trained pediatric surgeon who has completed 2 years of formal residency in pediatric surgery. Must be Board-certified in surgery and Board-eligible or -certified in pediatric surgery. Adequate academic background for appointment as assistant professor in surgery. Capable of clinical and laboratory research and clinical teaching. Direct inquiries to: **Arnold G. Coran, M.D., Professor and Section Head, Pediatric Surgery, University of Michigan Medical School, M5240 Medical Science I Building, Box 045, 1335 East Catherine Street, Ann Arbor, Mich. 48109. A nondiscriminatory, Affirmative Action Employer. Code 20p.**

BIOLOGIST

One-year appointment (1982–1983) to teach general botany, microbiology, advanced botany, and one lower-division course for nonmajors. Ph.D. preferred. Position will be open to national search as tenure track during 1982–1983 academic year. Successful applicant for 1-year position will be eligible to compete. Preference will be given to applicants whose résumés are received prior to 16 July 1982. Send curriculum vitae and three letters of reference to: **Personnel Coordinator, St. Ambrose College, 518 West Locust Street, Davenport, Iowa 52803.**

Affirmative Action/Equal Opportunity Employer

The Department of Microbiology at The University of Chicago seeks a **CARCINOGENESIS/MUTAGENESIS POSTDOCTORAL RESEARCH ASSOCIATE** for vitro/in vivo studies on DNA repair mechanisms with mammalian cells and bacteria. Starting date: about November 1982. Please send inquiries and applications accompanied by curriculum vitae to: **Dr. B. S. Strauss, Department of Microbiology, 920 East 58 Street, Chicago, Ill. 60637. The University is an Affirmative Action Employer.**

POSITIONS OPEN

ASSISTANT PROFESSOR Department of Pharmacy University of California San Francisco, California

The Department of Pharmacy, in order to increase its strength and diversity, invites application for a tenure-track, assistant professor position from Ph.D. (or equivalent degree) scientists with research experience in one of the two general areas:

- 1) Mechanism and time course of drug action in humans or whole animals, including consideration of drug receptor interactions at the molecular level; pharmacokinetic/pharmacodynamic modeling. Drug classes of particular interest include (but are not limited to) those that affect the immune system, and cardiovascular and CNS-active drugs.
- 2) Drug delivery systems—This area involves physicochemical and physiological aspects of drug delivery and targeting.

Teaching responsibilities may include portions of appropriate course sequence for professional students and elective and graduate courses in specialty areas.

Send curriculum vitae, a summary of current research, a concise outline of future research, and three letters of reference by 1 September 1982 to:

Wolfgang Sadee, Ph.D.
Professor of Pharmacy and
Pharmaceutical Chemistry
Department of Pharmacy, 926-S
University of California, San Francisco (UCSF)
San Francisco, Calif. 94143

UCSF is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

ASSISTANT RESEARCH CHEMIST—The University of California, San Diego, Cancer Center seeks a Ph.D. to conduct independent laboratory research in the research program of the Cancer Center's Laboratory of Pharmacology and Cytokinetics, and to operate the Laboratory's high-pressure liquid chromatographic equipment. Appointee must have demonstrated research productivity and expertise in high-pressure liquid chromatography. Preference will be given to applicants with a background in medicinal chemistry, biochemistry, and biochemical pharmacology. Salary related to rank and step of appointment within the established salary schedule of the University of California, San Diego. Please send curriculum vitae and names of references to:

Stephen B. Howell, M.D.
Department of Medicine T-006
University of California, San Diego
La Jolla, California 92093

Applicants are encouraged to apply by 2 August 1982. The University of California, San Diego, is an Equal Opportunity/Affirmative Action Employer.

CELL BIOLOGY OF PHOTORECEPTORS AND PIGMENT EPITHELIAL CELLS. A postdoctoral position is available in August or September 1982 for research on the cell biology and cell surface properties of retinal photoreceptors and pigment epithelium. Applicants with a strong background in cell and/or developmental biology are preferred. Qualified applicants must have experience with electron microscopic techniques and/or biochemical techniques for the study of membrane proteins. Salary negotiable, depending on experience. Interested individuals should send curriculum vitae, reprints, and names of three references to: Dr. Joseph C. Besharse, Department of Anatomy, Emory University School of Medicine, Atlanta, Georgia 30322. Emory University is an Affirmative Action/Equal Opportunity Employer.

DEVELOPMENTAL BIOLOGY INDIANA UNIVERSITY-BLOOMINGTON

The Department of Biology will appoint one or two faculty at an appropriate academic rank during the 1982-1983 academic year. Applicants will be expected to have or develop a strong program in the areas of developmental genetics and/or the molecular analysis of development to supplement existing strengths in the areas of genetics, molecular biology, and developmental biology. Undergraduate teaching responsibilities will be in the area of developmental biology or genetics. Send a résumé, representative publications, and three letters of reference to: Dr. Rollin C. Richmond, Chairman, Department of Biology, Indiana University, Bloomington, Ind. 47405, by 30 August 1982. Indiana University is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

CHAIRPERSON, UNIVERSITY DEPARTMENT OF PSYCHOLOGY

Medical Center department with clinical doctoral program in the scientist/practitioner model. Training tracts include neuropsychology, pediatric/adult behavioral medicine, and behavior modification. Candidate must possess Ph.D.; clinical, administrative, and teaching skills; and an established research record, integrating clinical issues with neurobiological mechanisms. Send curriculum vitae to: M. A. Taylor, M.D., Search Committee for Chairperson, Department of Psychology, Department of Psychiatry, University of Health Sciences/The Chicago Medical School, 3333 Green Bay Road, North Chicago, Illinois 60064. An Equal Opportunity/Affirmative Action Employer.

WASHINGTON UNIVERSITY SCHOOL OF MEDICINE ST. LOUIS, MISSOURI

DEPARTMENT OF PHYSIOLOGY AND BIOPHYSICS CHAIRPERSON

Applications and nominations are invited for the position of chairperson of the Department of Physiology and Biophysics. Candidates should be distinguished as scholars and scientists with demonstrated commitment to medical and graduate education.

Curriculum vitae and bibliography may be submitted to:

M. M. King, M.D.
Dean

Washington University School of Medicine
660 South Euclid Avenue
St. Louis, Missouri 63110

An Equal Opportunity/Affirmative Action Employer

ECOTOXICOLOGIST

Cornell University seeks an outstanding scientist to establish and provide leadership for a new interdisciplinary research and training program in ecotoxicology. The program, which will integrate knowledge in both ecology and toxicology, will focus on assessing the impact of toxic chemicals on natural populations and communities and on the structure and function of ecosystems. The successful candidate must have established research and teaching credentials. The individual will participate in teaching in ecotoxicology and in directing research of graduate students and postdoctorals in this new program. This tenure-track appointment is in the Department of Natural Resources, New York State College of Agriculture and Life Sciences, and will be at the rank of assistant, associate, or full professor, depending on experience and qualifications. The position is associated with the Institute for Comparative and Environmental Toxicology and the Ecosystems Research Center. Applicants should submit a résumé with selected reprints and the names of three references to: Professor R. T. Oglesby, 8 Fernow Hall, Department of Natural Resources, Cornell University, Ithaca, N.Y. 14853, by 15 August 1982.

Cornell University and the State University of New York are committed to an Affirmative Action program to seek applications from women and members of minority groups.

IMMUNOGENETICIST. Nontenure-track position for person with 4 to 5 years of postdoctoral experience, for research in immunology of Type 1 diabetes. Experience in islet isolation and transplantation preferred. Should have a strong background in pharmacology/pharmacogenetics. Immediate opening. Applicants should send curriculum vitae, selected reprints, and three letters of reference to: Joseph Larner, M.D., Ph.D., Chairman, Department of Pharmacology, University of Virginia School of Medicine, Charlottesville, Virginia 22908. An Equal Opportunity/Affirmative Action Employer.

Ph.D. IN MOLECULAR OR CELLULAR BIOLOGY available immediately for candidate with a demonstrated interest and technological expertise in developmental and molecular biology. Experience in hematopoietic stem cell growth in vitro desirable. Excellent research opportunity in the area of the regulation of hemoglobin synthesis in man and baboon. Salary competitive and dependent on qualifications. Candidate must have qualifications for an academic appointment at the University of Illinois. Career possibilities. Send curriculum vitae and names of three references to: Dr. Joseph DeSimone, Hematology Research Laboratory, VA West Side Medical Center, 820 South Damen Avenue, Chicago, Ill. 60612. An Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

ELECTRON MICROSCOPE TECHNICIAN for Department of Anatomy. Candidate must know how to thin-section and operate TEM. Knowledge of SEM procedures desirable. Candidates also will be taught freeze-fracture techniques if not trained in that area. Salary: \$17,076. Send curriculum vitae and names of two references before 23 July 1982 to:

Gary E. Wise, Ph.D.
Professor and Chairman
Department of Anatomy
Texas College of Osteopathic Medicine
Camp Bowie at Montgomery
Fort Worth, Texas 76107

An Equal Opportunity/Affirmative Action Employer

EPIDEMIOLOGIST. American Red Cross, Research Laboratory, Bethesda, Md., seeks experienced scientists to design, conduct, and direct investigations of transfusion-related transmissible diseases. Ph.D. in the biomedical sciences or D.P.H. preferred. Qualifications in virology, immunology, or clinical chemistry. Salary: \$28,000 and up, commensurate with experience. Excellent benefits, including free parking. Send curriculum vitae and bibliography to: Ruth Straub, Office of Personnel, 18th and E Streets, NW, Washington, D.C. 20006. Equal Opportunity Employer, M/F.

FACULTY POSITION UNIVERSITY OF ALASKA

Assistant professor of forest management. Responsibilities: to build a forestry management research program and develop procedures for the multiple-use management of forestlands in Alaska. Duties involve research directly related to forest industries and associated business enterprises on both public and private lands. Qualifications: A Ph.D. in forest management; a strong silvicultural background; knowledge of the forest industry; and skills in quantitative analysis are desirable. Salary range is \$38,272 to \$40,622 annually, commensurate with experience. Please include statement supporting your ability to carry out responsibilities of the position. Send résumé, transcripts, and five letters of recommendation to: Dr. James V. Drew, Director, Agricultural Experiment Station, 309 O'Neill Resources Building, University of Alaska, Fairbanks, Alaska 99701. Deadline for applications is 1 September 1982. University of Alaska is an Equal Opportunity/Affirmative Action Employer and Educational Institution. Your application for employment with the University of Alaska may be subject to public disclosure if you are selected as a finalist.

NEUROBIOLOGIST

Opening for neuroscientist, at the assistant professor level, with active research program. Must be able to teach in Medical School Programs in gross anatomy, neuroanatomy, or developmental anatomy. Starting date and salary negotiable. Send curriculum vitae and names of three references to:

Search Committee
Department of Neurobiology and Anatomy
The University of Texas
Medical School at Houston
P.O. Box 20708
Houston, Texas 77025

Deadline for applications: 16 July 1982. An Equal Opportunity/Affirmative Action Employer.

EXPERIMENTAL PATHOLOGIST: Postdoctoral associate with background in biochemistry, cell biology, and carcinogenesis to study the mechanism of hypolipidemic drug-induced hepatocarcinogenesis and peroxisome proliferation. Candidates with postdoctoral experience should send their curriculum vitae to: J. K. Reddy, M.D., Department of Pathology, Northwestern University Medical School, 303 East Chicago Avenue, Chicago, Ill. 60611.

PHYSIOLOGIST

A tenure-track position at the assistant/associate professor rank is available. Duties include the teaching of basic physiology to professional and graduate students. A candidate should have the D.V.M. or Ph.D. degree, should be firmly committed to a career of teaching, and have a strong or potentially strong research program. Preferred research interests include endocrine or reproductive physiology with experience in radioimmunoassay. Applicants should submit curriculum vitae and representative publications and have three letters of recommendation sent by 1 October 1982 to: Dr. Franklin A. Ahrens, Chairman, Department of Veterinary Physiology and Pharmacology, College of Veterinary Medicine, Iowa State University, Ames, Iowa 50011. An Equal Opportunity/Affirmative Action Employer.

LABORATORY CHIEF

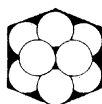
Animal Virologist -

Ph.D./M.D./D.V.M.

(Boston Area Location)

We are a new biotechnology firm whose focus will be veterinary and human vaccines and related diagnostics products. We seek a scientist with a minimum of three years of post-doctoral experience in either an academic or commercial laboratory environment to fill the position as laboratory chief. The candidate selected will have demonstrated both scientific and leadership skills and be capable of planning and starting a new laboratory for the development of vaccine products. We offer an excellent compensation package including competitive salary, stock options and full fringe benefits.

Send C.V. and current compensation to:



President
Cambridge BioScience
Corporation
225 Longwood Avenue
Boston, MA 02115

Viral Immunologist

Becton Dickinson Research Center, a growing part of a billion dollar, multinational health care company, has an excellent expansion-created career opportunity at their Corporate Research Center in Research Triangle Park, NC. Responsibilities will include developing characterization methodologies to apply monoclonal antibodies to the biochemical elucidation of organism specific determinants. You will also establish parameters for and assist in the growth of viral and bacterial organisms.

We seek a person with an in-depth knowledge of viral propagation and purification obtained during work on the biochemical characterization of viral antigens using monoclonal antibody technology. Work on human viruses a plus.

PhD in Virology or Microbiology with 2 or more years experience in immunocharacterization of viral surface components required.

We offer excellent salary, comprehensive benefits and the opportunity to join a dynamic organization. Please send your resume and salary history in confidence to: **Mr. F. Richard Wilson, Human Resources Department, Becton Dickinson Research Center, P.O. Box 12016, Research Triangle Park, North Carolina 27709.** An equal opportunity/affirmative action employer.

Caring for people is our business

**BECTON
DICKINSON**

Head of Pharmacology

Amsterdam

c. 60 staff

Within the next year, the present Head of Pharmacology at the 350-strong Duphar Human Health Research Centre at Weesp, near Amsterdam, will be retiring. In planning for his succession, the company intends to consider both internal and external applicants, and has retained our services as Specialist Recruitment Consultants for this appointment.

Duphar is a successful and growing part of the large European chemicals group, Solvay, with particular interests in the gastro-intestinal, obstetrics, cardiovascular and psychotropics fields.

The new Head of Pharmacology will assume responsibility for a research staff of about 60, and the running of new and well-equipped laboratories into which the department has recently moved. In addition to his/her research management role, the new Head will also be

expected to make a major contribution to overall research strategy as a member of the Research Policy Group.

Ideally, the successful candidate will have extensive post-doctoral experience within the pharmaceutical industry, and a specialist interest in the CNS, cardiovascular or gastro-intestinal fields. However, applications from suitably experienced pharmacologists currently in senior academic appointments would be welcomed. In either case, existing man-management and project coordination expertise are essential, as is the willingness to make a career in Holland.

A highly attractive remuneration package and associated benefits will be negotiable individually.

Interested candidates are invited to telephone for a confidential discussion before applying, and/or to send a comprehensive curriculum vitae in confidence.

Talentmark
Leaders in Health Care Recruitment



James A Edwards, Talentmark Ltd,
King House, 5-11 Westbourne Grove,
London W2 4UA. Tel: 01-229 2266.

POSITIONS OPEN

University of Michigan Medical School, Department of Radiology, has on occasion open **FACULTY POSITIONS** within the department and at its affiliated hospitals. Physicians filling these positions will take part in the programs of patient care, teaching, and research of the Departments of Radiology. They will supervise the activities of house officers and aid in the teaching of house officers and medical students. Qualified applicants must be American Board of Radiology-certified or Board-eligible. Previous training or work experience in an academic institution, as well as demonstration of previous academic research and teaching experience, are desirable. Academic rank will depend on qualifications and experience.

Interested applicants should contact: **William Martel, M.D., Acting Chairman, Department of Radiology, University of Michigan Medical School, Ann Arbor, Michigan 48109.** A nondiscriminatory, Affirmative Action Employer. Codes 45HO and 41HO.

POSTDOCTORAL POSITION DEPARTMENT OF ANATOMY UNIVERSITY OF MINNESOTA

A postdoctoral position is available for advanced training in diabetes-related research in the Department of Anatomy, University of Minnesota. Opportunities include islet hormone secretion, electron microscopy, immunohistochemistry-cytochemistry, protein synthesis, experimental diabetes, male reproductive system, cell-cell communication, islet cell and organ culture, and neural regulation of islet function. The position will be available starting 1 September 1982, and the deadline for receipt of applications is 2 August 1982. Please contact:

Dr. Robert L. Sorenson
Department of Anatomy
4-157 Jackson Hall
University of Minnesota
321 Church Street, SE
Minneapolis, Minnesota 55455

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

POSITIONS OPEN

FACULTY POSITION—BIOCHEMISTRY/REPRODUCTIVE ENDOCRINOLOGY—UNIVERSITY OF MIAMI. The Department of Biochemistry is seeking a successor to the late John M. Marsh, professor of biochemistry and director of the Endocrine Laboratory. This tenure-track appointment may be made at the associate or full professor level. Candidates should have demonstrated ability to perform independent, funded research in the area of biochemical endocrinology as it relates to reproductive processes in mammals. The appointee would also be the director of the Endocrine Laboratory (an interdepartmental research unit) and might assume the directorship of the NIH training program in reproductive biology. This position is available immediately. Interested candidates should submit their credentials and the names of three referees to: **Dr. J. F. Woessner, Chairman-Search Committee, Department of Biochemistry R-127, University of Miami School of Medicine, P.O. Box 016960, Miami, Florida 33101.** An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION available immediately in biophysical chemistry of membranes. Washington, D.C., area. Please write to: **Box 175, Science, Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITIONS IN DEPARTMENT OF PHARMACOLOGY/TOXICOLOGY, Medical College of Virginia. Research in the areas of (i) molecular immunotoxicology, studies involving the use of phorbol diester tumor promoters in immune cell activity; (ii) in vitro fertilization, involving sperm-ovum interactions and embryo development. Positions available this summer and fall. Send curriculum vitae to: **Dr. Richard A. Carchman, Department of Pharmacology/Toxicology, Medical College of Virginia, Box 613, MCV Station, Richmond, Va. 23298.** The Medical College of Virginia, Virginia Commonwealth University, is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

PHARMACOLOGIST

Northeastern University, College of Pharmacy and Allied Health Professions, is seeking applicants for a full-time tenure-track position at the level of assistant professor of pharmacology. Candidates will be expected to establish a research program in their area of interest as well as teach pharmacology to graduate and undergraduate pharmacy students. Interest in neuropharmacology, biochemical pharmacology, or cardiovascular pharmacology is desirable but not essential. Applicants should send curriculum vitae, including relevant reprints and names of three references, to the following address by 30 August 1982: **Dr. Robert A. Schatz, Search Committee Chairman, Section of Pharmacology, Mugar Hall, Northeastern University, 360 Huntington Avenue, Boston, Mass. 02115.**

Northeastern University is an Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION

In stem cell biology to study the regulation of clonogenic human melanoma cell growth. Background in cell culture required and experience in biochemical, genetics, DNA cloning, immunochemical, or biochemical pharmacology techniques preferred. Salary: \$14,500. Send résumé and names of three references to:

Frank L. Meyskens, Jr., M.D.
University of Arizona Cancer Center
Arizona Health Sciences Center
1501 North Campbell Avenue
Tucson, Arizona 85724

An Equal Opportunity/Affirmative Action Employer

TWO POSTDOCTORAL POSITIONS for studies on molecular basis of maternofetal transfer of IgG: isolation and characterization of membrane Fc receptor and of receptor recognition unit of IgG. Background in protein chemistry, cell membrane chemistry, enzymology, or immunochemistry. Salary: \$17,000. Send curriculum vitae, description of research experience, and names of three references to: **Dr. Max Schlamowitz, Department of Biochemistry, University of Texas System Cancer Center, Houston, Texas 77030.**

NRL

NAVAL RESEARCH LABORATORY DIRECTOR OF RESEARCH

\$56,936 to \$62,950 (Current pay limitation is \$58,500 pa)
This is a Senior Executive Service Position, ES-3 to ES-5.

The Director of Research provides executive direction and technical leadership to the scientific and support divisions of the Naval Research Laboratory, which is one of the Nation's principal laboratories conducting basic and applied research in the physical sciences. The Laboratory consists of over 3100 employees of whom 1400 are scientists and engineers in a wide variety of disciplines including electronics and electronic warfare, radar, optical sciences, plasma physics, acoustics, communications and information sciences, chemistry, material sciences, space sciences and others.

The Director of Research directs the planning of a long range research program, formulates operating policies for the Laboratory and represents the Laboratory in contacts with other Government organizations and industrial and university laboratories.

TO APPLY: Interested applicants should contact Mrs. Betty Duffield at: (202) 767-3030 (call collect) to obtain application forms and information on procedures for applying. All applications must be postmarked by 1 August 1982:

NAVAL RESEARCH LABORATORY
Civilian Personnel Division
Code: 1813.1 10-005-82 (S)
4555 Overlook Avenue, S.W.
Washington, D.C. 20375

An Equal Opportunity Employer

U.S. Citizenship Required

RESEARCH SCIENTIST

Your PhD in organic or medicinal chemistry could qualify you for our entry level position in designing and synthesizing novel organic compound for biological testing as potential new drug entities.

We are an ethical pharmaceutical manufacturer with an aggressive research program. You will be involved in bench level synthetic organic work to prepare novel compounds for biological testing.

We are located in an attractive midwest community and offer a comprehensive salary and benefits package.

Please reply, in confidence, to:

NAS Confidential Reply Service
Box 102A
50 West Broad St., Suite 1817
Columbus, Ohio 43215

An Equal Opportunity Employer

U.S. PUBLIC HEALTH SERVICE EPIDEMIOLOGY TRAINING PROGRAM—1983

The U.S. Public Health Service (USPHS) invites applications for a proposed extension of a training program in medical epidemiology. Up to twelve (12) persons per year, who already have an M.D., a doctorate in an allied health profession, or Ph.D. in a biomedical or behavioral science (e.g., biochemistry, psychology, etc.), or equivalent, may be accepted as staff fellows of the USPHS (a non-tenured, junior professional classification under Civil Service) for up to a three-year period of duty. Applications received by *SEPTEMBER 10, 1982* may be considered for service to begin between July 1, and September 1, 1983. During the first year, each successful applicant will attend a university at government expense to study epidemiology, biostatistics, and related subjects. This course work should be creditable toward, but will not necessarily complete requirements for, a degree in Public Health. During the subsequent two years, individuals will work in association with senior epidemiologists in the participating USPHS agencies (Alcohol, Drug Abuse, and Mental Health Administration; Centers for Disease Control; Food and Drug Administration; and the National Institutes of Health), primarily in research studies. A matching procedure akin to the national internship matching will be employed to assure that each individual is assigned to a preceptor whose area of expertise is of interest to the trainee, and consistent with his/her career plans.

Salaries will be provided according to the scale in effect for staff fellows in intramural research at the NIH. At this time (1982), remuneration for a physician is \$30,000/for a non-physician, \$21,000, per annum for the first year, with a \$2,000 increase annually for the second and third years. Educational costs for the first year and relocation expenses are provided in addition.

Basic requirements for application to the program are: 1) M.D., doctorate in an allied health profession, or Ph.D. in a biomedical or behavioral science, or equivalent, *AND* one year of post-doctoral training or experience (by July 1, 1983). 2) *U.S. Citizenship* at time of application. 3) Acceptability to an accredited university offering an M.P.H., equivalent, or more advanced public health degree.

Further details of the program, and application forms, may be obtained by sending a *POSTCARD ONLY*, with your *printed* name and address to:

Robert S. Gordon, Jr., M.D., M.H.S.

Chairman, Steering Committee

National Institutes of Health

Building 1, Room 238, Bethesda, Maryland 20205

PLEASE DO NOT SEND letters, curriculum vitae, resumes, transcripts, reprints, etc. until you have reviewed the application packet and instructions for submission.

(THE USPHS IS AN EQUAL OPPORTUNITY EMPLOYER)

VACANCY ANNOUNCEMENT

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

The National Institutes of Health invites nominations and applications for the position of ASSOCIATE DIRECTOR FOR EXTRAMURAL PROGRAMS, NATIONAL INSTITUTE OF DENTAL RESEARCH (NIDR). This is a Civil Service position in the Senior Executive Service with a salary range of \$54,755 to \$58,500 per annum. The person selected may be eligible for Physician's Comparability pay up to \$10,000 per year. A one-year probationary period must be served if the individual selected is not currently in the Senior Executive Service.

The Associate Director for Extramural Programs, NIDR, provides leadership and direction for a comprehensive scientific program which supports research and research training designed to increase knowledge of the

causes, prevention, diagnosis, and treatment of oral disorders and diseases.

Further information about the position and qualification requirements may be obtained by contacting Mrs. Bonnie R. Kalberer at 301-496-6971. Applications (SF-171, Personal Qualifications Statement) accompanied by a current curriculum vitae and bibliography should be submitted to Mrs. Kalberer at: NIDR Personnel, Building 31, Room 2C-23, National Institutes of Health, 9000 Rockville Pike, Bethesda, Maryland 20205.

Applications must be postmarked not later than July 31, 1982. (The SF-171 form is available at all Federal Personnel Offices and Job Information Centers.) Applications from women and minority group candidates are solicited.

AN EQUAL OPPORTUNITY EMPLOYER

POSITIONS OPEN

POLLUTION BOTANIST

The Botany and Environmental Studies Departments of the University of Montana invite applications for a tenure-track faculty position in the Botany Department at the rank of assistant professor, available 1 January 1983, for an environmental botanist with experience and expertise in some area of botany such as grassland ecology, ecological modeling, stress physiology, or other fields. Candidates should have a demonstrated commitment to study and bring to public attention broad botanical aspects of pollution, especially air pollution. Minimal qualifications include the Ph.D. in a botanical discipline, excellence in teaching, experience in grantsmanship and publication, and effective involvement in environmental problems. Duties include teaching at both the undergraduate and graduate levels, development of an active research program, and acting as research adviser to graduate students in both botany and environmental studies. Eventually, the candidate would be expected to direct the Environmental Studies Research Laboratory. Salary is dependent upon qualifications.

Application materials must include a letter which corresponds to the job description and includes a detailed statement of interests and expertise, a complete personal résumé, and three letters of professional reference. The postmark deadline for all application materials is 15 September 1982. Send to:

Dr. Sherman Preece
Botany Department
University of Montana
Missoula, Montana 59812

The University of Montana is an Equal Opportunity Employer. Women, minorities, and handicapped persons are encouraged to apply.

POSTDOCTORAL POSITION available immediately for a neurophysiologist interested in studying the regulation of the cerebral circulation using pH, PO₂, and H₂ microelectrodes. Experience with physiological instrumentation and in the techniques of microelectrode fabrication preferred, but not essential. Send curriculum vitae and three letters of reference to: **Dr. Edwin M. Nemoto, Anesthesia and CCM Research Laboratories, 1081 Scaife Hall, University of Pittsburgh School of Medicine, Pittsburgh, Pa. 15261.**

POSTDOCTORAL POSITION available immediately to analyze the role of cell interactions in modulating growth of mammary epithelium of different ages. An innovative cell-culture approach is being employed. Familiarity with microscopy methods, growth analyses, and biochemistry preferred. Funding for at least 3 years. Send résumé and names of three references to: **H. L. Hosick, Department of Zoology, Washington State University, Pullman, Wash. 99164-4220.**

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

POSTDOCTORAL RESEARCH ASSOCIATE position available in fall 1982 for studies of membrane interaction in both model and biological membrane systems. Background in biochemistry, biophysics, and chemistry preferred, but other areas are also welcome. Send curriculum vitae and three letters of reference to: **Dr. Shinpei Ohki, Department of Biophysical Sciences, State University of New York at Buffalo, 224 Cary Hall, Buffalo, New York 14214.**

POSTDOCTORAL RESEARCH ASSOCIATE. Study aspects of the biochemistry and self-assembly of tubulin. Ph.D. in biochemistry or related field required; prefer experience in protein chemistry. Anticipated starting date: 1 September 1982; grant-funded salary: \$15,000 per year initially. Application deadline: 31 July 1982. Inquires to: **Dr. Richard Himes, Department of Biochemistry, University of Kansas, Lawrence, Kans. 66045.** *Affirmative Action/Equal Opportunity Employer.*

Research Associate

\$1755 to \$2115 per month

University of California, San Francisco, has immediate, full-time position for cell biologist and/or pharmacologist experienced in corneal endothelial cell transplantation studies. Prefer Ph.D., Pharm. D., or equivalent. Send curriculum vitae to: **Ms. Ritchie, Room U-12, Third Avenue and Parnassus, San Francisco, Calif. 94143.** *Affirmative Action/Equal Opportunity Employer, M/F/H/V.*

**UNIVERSITY OF CALIFORNIA
SAN FRANCISCO**

POSITIONS OPEN

POSTDOCTORAL POSITION available from July 1983 for basic research in the field of vessel wall biochemistry. Emphasis is on the interaction between hormones, growth factors, proteolytic enzymes, and attachment factors in the control of human endothelial cell growth and differentiation in vitro. A basic background in biochemistry/cell biology is required with some experience in biochemical separation. Salary per NIH guidelines. Send statement of prior and future research interests, curriculum vitae, and names, addresses, and telephone numbers of three references to: **Dr. T. Maciag, Department of Pathology, Beth Israel Hospital, Harvard Medical School, 330 Brookline Avenue, Boston, Mass. 02215.** *An Equal Opportunity/Affirmative Action Employer.*

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

POSTDOCTORAL POSITIONS—Molecular aspects of toxinogenesis and toxin-host cell interaction. Research programs in the laboratories of Dr. Randall Holmes, Dr. Alison O'Brien, and Dr. Henry Wu emphasize genetics, biochemistry, and physiology of diphtheria toxin, the cholera/coli family of enterotoxins, *Escherichia coli* Shiga-like toxin, *Pseudomonas* exotoxin A, and plant cytotoxins. Ph.D. or equivalent degree in microbiology, biochemistry, molecular biology, or related disciplines required. Possible starting dates: 1 August 1982 or later. Submit applications with curriculum vitae, bibliography, and names of three references to: **Dr. Randall K. Holmes, Professor and Chairman, Department of Microbiology, c/o Personnel/Manpower Division, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, Md. 20814.** Curriculum vitae will not be returned. *Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL RESEARCH ASSOCIATE: Phytochemist to isolate and characterize specific enzyme inhibitor(s) from gymnosperms, carried out in association with Dr. Morris A. Johnson. One-year appointment at \$17,000, beginning in October 1982. Send complete résumé to: **Director of Personnel, The Institute of Paper Chemistry, P.O. Box 1039, Appleton, Wisconsin 54912.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL OR RESEARCH ASSOCIATE POSITION available immediately in mammalian cytogenetics and somatic cell genetics. Ongoing projects include analysis of chromosome structure and function (including use of monoclonal antibodies), gene amplification, somatic cell hybridization, and gene regulation by DNA methylation. Send curriculum vitae to:

Professor Orlando J. Miller
Department of Human Genetics
and Development, HHSC 1424
College of Physicians & Surgeons
Columbia University
701 West 168 Street
New York, New York 10032

An Affirmative Action/Equal Opportunity Employer

HARVARD MEDICAL SCHOOL
McLean Hospital
Protein Chemist

The Department of Neurology/Neuropathology is seeking an experienced investigator at the assistant professor level for a position involving protein chemistry of the nervous system as it relates to aging and neuronal degeneration. The appointee will assist in examining micromolecular changes that underlie age related neuronal degeneration, particularly changes in neurofilaments and other cytoskeletal elements in human senile dementia and related models. Two or more years of postdoctoral experience in protein chemistry required, including studies of structural proteins. Familiarity with methods of study of high molecular weight polymers and cross-linked proteins is desirable. Applicants should forward their qualifications, curriculum vitae, and bibliography to: **Dr. Dennis J. Selkoe, Ralph Lowell Laboratories, Mailman Research Center, McLean Hospital, Belmont, Mass. 02178.** *An Equal Opportunity Employer, M/F.*

POSITIONS OPEN

POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE

Applications are being accepted in cellular and/or tumor immunology for the above position. Ph.D. in immunology is required. Some experience in clinical immunology and monoclonal technology helpful. Available immediately. Send curriculum vitae, graduate transcript, and three letters of recommendation to: **Dr. Zacharie Brahmi, Department of Medicine/Microbiology, Indiana University School of Medicine, 1100 West Michigan Street, Indianapolis, Indiana 46223.**

Indiana University is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL RESEARCH ASSOCIATE with training and interest in connective tissue biochemistry, particularly gel electrophoresis of collagen subunits and autoradiography. Collaboration with several leading connective tissue laboratories, independence, clinical important work relating to sports injuries; 2 years; \$15,000. **Dr. John P. Fulkerson, Division of Orthopedic Surgery, University of Connecticut School of Medicine, Farmington, Conn. 06032.** Telephone: 203-674-3367. *An Affirmative Action/Equal Opportunity Employer, M/F/H.*

POSTDOCTORAL TRAINING IN DEVELOPMENT AND GENETICS OF NEURAL SYSTEMS. Two positions are immediately available in the Anatomy Department, University of Utah School of Medicine. Apply to: **Dr. Marcus Jacobson, telephone: 801-581-6728.**

PROJECT DIRECTOR

Technical support agency, U.S. Congress, for multidisciplinary team addressing advanced materials technologies and policies to reduce U.S. vulnerability to imports of strategic materials. The development of design, manufacturing, substitution, new materials, processing, and recovery technologies over the next 25 years will be considered. The project director should have a technical background and an advanced degree (Ph.D. preferred) and several years of experience in engineering, a physical science, or political science. Broad knowledge of science and technology essential. Industrial experience desirable. Excellent writing and verbal communication skills needed; proven ability to organize complex project and produce results within schedule and budget is required. Ability to examine technology in a context of public policy essential. Employment may be on a contract basis or permanent staff basis. Salary is negotiable, based on previous experience. Location is Washington, D.C. Send résumé, salary history, and names of three references to:

Box 174, SCIENCE

An Equal Opportunity Employer

ILLINOIS GEOLOGICAL SURVEY ILLINOIS NATURAL HISTORY SURVEY ILLINOIS WATER SURVEY

Four positions in the Scientific Surveys of Illinois, all located in Champaign-Urbana on the campus of the University of Illinois. To write land reports and conduct basic research for Lands Unsuitable Program of the Surface Mine Reclamation Act. Closing date: 16 July.

Program Manager, in Illinois Natural History Survey. Supervise staff of 11, write land reports, manage data base. Advanced degree in a field-oriented science or engineering; experience with computer data bases; proven managerial ability. Salary up to \$36,000.

Biologist, in Illinois Natural History Survey. Ph.D. in field-oriented biology; experience in interpretation of natural resource information, computerized data bases. Employment at advanced rank of associate biologist. Salary: about \$25,000.

Geologist, in Illinois State Geological Survey. Ph.D. degree in geology; expertise in geology of coal and/or environmental geology. Employment at advanced rank of associate geologist. Salary: about \$25,000.

Soil Scientist, in either Illinois Natural History Survey or Illinois State Geological Survey. M.S. degree, expertise in soil mapping, soil capability, and reclamation. Salary: about \$23,000.

For all positions, send résumé, statement of interest, and four references to: **Dr. Paul G. Risser, Chief, Illinois Natural History Survey, 607 East Peabody Drive, Champaign, Illinois 61820.** *An Equal Opportunity/Affirmative Action Employer.*

BIOLOGY ASSISTANT

The Upjohn Company, Kalamazoo, Michigan, has an opening for a Biology Assistant in Diabetes and Atherosclerosis Research. The successful candidate will participate in basic and applied research in thrombosis and vascular disease under general direction of a Ph.D. scientist. Position responsibilities include assisting in electron microscopic analyses of blood vessels and blood formed elements and assisting in biochemical analyses of tissues and experimental surgery.

Applicants must have a BS degree in a biological science and at least 4-5 years of experience in whole animal physiological recording, experimental surgery, and animal phlebotomy, or an MS in a biological science and either academic training or work experience in the above areas. Additionally, electron microscopy experience is highly desirable.

Kalamazoo is a medium-sized Southwestern Michigan community with immediate access to a mix of excellent cultural, educational, and recreational pursuits, including numerous lakes and a four-season climate. Upjohn offers an excellent salary, commensurate with experience, and an outstanding benefits program.

Qualified candidates should send a resume, appropriate transcripts, and references to:

Lance D. Williams—14129
Professional and Supervisory Employment

Upjohn

The Upjohn Company

7000 Portage Road
Kalamazoo, Michigan 49001

An Equal Opportunity Employer M/F

RESEARCH OPPORTUNITIES AT ABBOTT LABORATORIES

Continued growth and a substantial commitment to advanced research & development have created two key positions in our Diagnostics Division.

MEMBRANE BIOCHEMIST

We are currently looking for an individual with a Ph.D. in Biochemistry and 1-2 years postdoctoral experience. Background should include experience with extracellular protein interactions, lipid biochemistry, preferably with direct liposome experience.

BIOCHEMIST/ENZYMOLOGIST

We are currently looking for a Ph.D. in Biochemistry with 1-2 years postdoctoral experience. Background should include work with plasma proteins, purification of plasma enzymes as well as the enzymology of complement proteins.

Abbott Park, Abbott's headquarters, is located in an attractive suburban area on the Lake Michigan shoreline, 30 miles north of Chicago. We provide an outstanding salary and benefits package that includes profit sharing and relocation assistance. For consideration, send a resume including salary history to: **Chris Gude / Corporate Placement.**

ABBOTT
ABBOTT PARK ILL. 60064
Abbott is an Affirmative Action Employer

CSIRO

PHYSICAL OCEANOGRAPHER (THREE POSITIONS)

A\$21,810 to A\$32,070 per annum
CSIRO MARINE LABORATORIES
DIVISION OF OCEANOGRAPHY
SYDNEY, N.S.W.

GENERAL: The CSIRO Division of Fisheries Research and Division of Oceanography collectively form the CSIRO Marine Laboratories, and are Australia's principal marine laboratories, employing about 200 scientists and support staff. The main laboratory is in Sydney and there are smaller laboratories in Brisbane and Perth.

The Sydney activities will be transferred to new laboratories to be constructed on a deep waterfront site in Hobart, Tasmania. Appointees must be prepared to transfer to Hobart at any time after December 1982. The Australian Government has also agreed to the acquisition by CSIRO of a modern oceanographic ship to replace the presently chartered *Sprightly*.

The interests of the Division of Oceanography in physical oceanography include continental shelf dynamics, mixed layer and upwelling dynamics, air-sea interaction, ocean circulation and boundary currents, the interpretation and application of satellite data, numerical modeling, and geophysical fluid dynamics.

DUTIES: The appointees will initiate and conduct research within these fields and in relation to existing or future programs. On occasions, they may be expected to participate in or to lead research vessel cruises.

QUALIFICATIONS: A Ph.D. or equivalent in physical oceanography, geophysical fluid dynamics, or some other relevant discipline, and should be able to demonstrate substantial research aptitude and achievement commensurate with their experience.

TENURE: Of the three positions, two (A1576/A1644) are available on a term basis (3 to 5 years), the other (A2417) is available on an indefinite basis. Australian Government contributory pension fund benefits available.

APPLICATIONS: In writing, quoting reference A1576/A1644 or A2417 giving full personal particulars, including details of qualifications and experience, copy of academic transcript, and the names of at least two professional referees, should reach:

The Chief
Division of Oceanography
CSIRO
P.O. Box 21
Cronulla, N.S.W. 2230
Australia

by 30 July 1982.

CHAIRPERSON, DEPARTMENT OF COMMUNITY HEALTH/SOCIAL MEDICINE

The Departments of Community Health and Social Medicine at the Albert Einstein College of Medicine of Yeshiva University and the Montefiore Medical Center are being unified under a single Chairperson. The position will encompass all of the activities at both institutions. The Department is active in several teaching hospitals and the work it is doing includes teaching, research, community health services, international health, bioethics and legal issues in health care, occupation health, health policy, biostatistics, epidemiology, health psychology and health care evaluation. A Search Committee has been appointed to recommend a candidate for this position.

Applications and nominations for the position of Chairperson of this Department are invited. The candidate must have a broad experience in research and teaching, and a demonstrated proficiency in administration and leadership. The candidate must be able to qualify for senior academic rank on the faculty of the College of Medicine. Salary commensurate with experience and qualifications.

Please mail correspondence to Donald Sadowsky, D.D.S., Ph.D., Chairman, Search Committee for Professor and Chairperson of Unified Department of Community Health/Social Medicine.

ALBERT EINSTEIN COLLEGE OF MEDICINE
1300 Morris Park Avenue, Bronx, NY 10461

an equal opportunity employer

POSITIONS OPEN

RESEARCH ASSOCIATE/POSTDOCTORAL FELLOW—A position is available January 1983 to participate in ultrastructural and physiological studies of the anterior segment of the eye in primates. Experience in electron microscopy, cell biology, or perfusion physiology is desirable. Send curriculum vitae and names of three references to: **Dr. G. Raviola, M.D., Department of Anatomy, Boston University Medical School, 80 East Concord Street, Boston, Mass. 02118.** An Equal Opportunity Employer, M/F.

RESEARCH ASSOCIATE position available immediately for cardiovascular physiologist with strong electronic instrumentation background. Long-term position in established research program in area of coronary arteriography, myocardial ischemia, coronary blood flow regulation, and fluid dynamics using animal models. Facilities include complete angiographic laboratory for animal research and on-site computer. Surgical experience in transducer implantation desirable. M.S. degree with laboratory experience or Ph.D. or equivalent experience preferred. Send curriculum vitae and two letters of reference to:

K. Lance Gould, M.D.
Professor and Director
Division of Cardiology
University of Texas Health Science Center at Houston
P.O. Box 20708
Houston, Texas 77025

RESEARCH ASSOCIATE

Research associate wanted to direct multidisciplinary research project in area of prostaglandins and cancer. Minimum requirements: Ph.D. in area of cell biology, biochemistry, physiology, pharmacology, or radiation biology; 2 years of postdoctoral. Familiarity with following methodologies desirable: spectrophotometric or fluorescent enzyme assays, RIA, HPLC, tissue culture, animal tumor models, protein purification. Salary range: \$19,000 to \$24,000 plus fringe benefits, commensurate with qualifications. Position available immediately. Address inquiries to: **Dr. Kenneth V. Honn, Department of Radiation Oncology, 210 Science Hall, Wayne State University, Detroit, Michigan 48202.** An Equal Opportunity/Affirmative Action Employer.

RESEARCH ASSOCIATES—MARINE BIOLOGY

Huntsman Marine Laboratory invites applications from individuals wishing to be sponsored for the 1983-1984 NSERC University Research Fellow program. Canadian citizens and landed immigrants to Canada who have at least 1 year of postdoctoral experience and a strong research record in any aspect of marine sciences will be considered. Send curriculum vitae and three letters of reference by 1 September 1982 to: **Dr. T. Moon, Director, Huntsman Marine Laboratory, St. Andrews, New Brunswick, Canada E0G 2X0.**

TOXICOLOGIST. The Department of Veterinary Biosciences, College of Veterinary Medicine, University of Illinois, is seeking applicants for a tenure-track position at the rank of assistant professor in toxicology. The individual would share responsibility for course offerings in toxicology and xenobiotic disposition in the professional and graduate curricula. The department has an active program in diagnostic veterinary toxicology including operation of an Animal Poison Control Center Telephone Service. Strong effort is also devoted to research on toxic plants, mycotoxins, heavy metals, and environmental pollutants. Collaborative efforts with the Institute for Environmental Studies are encouraged. The successful applicant will be expected to participate in the diagnostic toxicology program as well as develop research and teaching activities. Applicant should hold D.V.M. degree or equivalent and/or the Ph.D. degree. Starting date: 21 August 1982 or as negotiated. Closing date of search: 30 July 1982, or until position is filled. Please send letter of application and names of four referees to: **W. C. Wagner, Department of Veterinary Biosciences, University of Illinois, 1101 West Peabody Drive, Urbana, Ill. 61801; telephone: 217-333-2506.**

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

TRANSPLANTATION IMMUNOLOGIST to supervise research efforts of a 5-year NIH grant involving the immunologic monitoring of renal transplantation patients. Position as a research assistant professor in a nontenured track. Will eventually be expected to develop independent funded research. Candidate should provide curriculum vitae and names of references to: **Charles B. Anderson, M.D., Department of Surgery, Washington University School of Medicine, 4960 Audubon Avenue, St. Louis, Missouri 63110.**

POSITIONS OPEN

RESEARCH ASSOCIATE 1—PHYSICAL, Chemistry; master's degree in chemistry, knowledge of heterocyclic compounds, preparative and mechanistic organic chemistry, chromatography and spectroscopy or an equivalent combination of education and experience. Synthesizes fluoropolymer aromatic hydrocarbons; studies chemical behaviors; plans, designs, and conducts experiments using chromatography, UV, IR mass and NMR spectroscopy; assists with analyzing results and preparing reports for publication. Salary: \$14,880 to \$16,440. Please contact: **Betty Williams, The Ohio Bureau of Employment Services, 3434 Cleveland Avenue, Columbus, Ohio 43224.**

RESEARCH INSTRUMENTATION

We are looking for an individual who will be responsible for running and coordinating procedures on modern instruments in a facility composed of gas chromatography/mass spectrometer, gas chromatographs, and amino acid analyzer. Duties will include running the instruments and keeping records of maintenance and analyses run on instruments. Minimum requirement: B.S. in chemistry or biochemistry, in-depth understanding and interest in instrumentation, and ability to work independently. Participation in research projects is a possibility. Please send résumé with salary requirements to: **Paul Platzman, Biochemistry Department, Brandeis University, Waltham, Mass. 02254.**

Equal Opportunity/Affirmative Action Employer

SMITHSONIAN TROPICAL RESEARCH INSTITUTE PANAMA

RESEARCH POSITIONS

Applications are invited for two positions. Scientists interested in evolutionary aspects of behavior, ecology, or physiology of tropical organisms may apply. At least one of these positions will be filled by a scientist with interests in marine organisms.

The Institute is located on the Isthmus of Panama with facilities for terrestrial research on the Barro Colorado Nature Monument and for marine investigation on both the Atlantic and Pacific coasts of the Isthmus. The positions are permanent in the Smithsonian Tropical Research Institute Excepted Service. *Appointments will be made without regard to sex, nationality, race, religion, or other concerns irrelevant to scientific accomplishments.*

Applications with curriculum vitae, copies of publications and papers in press, statement of research interests, and names, addresses, and telephone numbers of three professional references should be sent to: **Director, Smithsonian Tropical Research Institute, Box 2072, Balboa, Republic of Panama; telephone 52-4254.**

SENIOR SCIENTIST POSITION IN MARINE BIOLOGY, available immediately. Applicant expected to provide scientific leadership, develop research programs for a combined marine biology/chemistry laboratory, coordinate research efforts, and initiate grant proposals in such areas as marine biology, aquatic toxicology, environmental monitoring, pollution assessment, animal behavior and physiology, ecology, and aquaculture. Laboratory presently staffed by biologists (two Ph.D.'s, one M.S.'s, two research assistants, two technicians), analytical chemists (two Ph.D.'s, two M.S.'s, two technicians), and administrative support. Salary commensurate with experience and availability of external funding. Send letter of application, curriculum vitae, and three letters of reference to: **A. J. Barker, Research Department, New England Aquarium, Central Wharf, Boston, Mass. 02110.**

The New England Aquarium is an Affirmative Action/Equal Opportunity Employer.

VIROLOGIST. Applications are invited for a position as **ASSISTANT PROFESSOR OF MICROBIOLOGY** for a 2-year term, with a possibility for renewal, beginning no later than January 1983. Applicants should have a doctorate with postdoctoral research training, and an active research program, with preference for human viruses. The position involves teaching medical and graduate students. Applicants should submit curriculum vitae, bibliography, a summary of research accomplishments, and the names of three references by 1 September 1982 to: **Dr. T. Hashimoto, Virology Search Chairman, Department of Microbiology, Loyola University of Chicago, Stritch School of Medicine, 2160 South First Avenue, Maywood, Ill. 60153.** An Equal Opportunity Employer.

POSITIONS OPEN

POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE, Ph.D. or M.D. with research experience to work cloning cDNA and genomic DNA. Project concerns gene structure, evolution, and regulation, and analysis of mutations causing endocrine disease. Send curriculum vitae and references to: **Dr. Walter Miller, Endocrine Research Division, 671 HSE, University of California, San Francisco, Calif. 94143.**

REQUEST FOR PROPOSALS

PROPOSAL SOLICITATION

The EPA/NCSU Acid Precipitation Program [a cooperative research program between the U.S. Environmental Protection Agency (EPA) and North Carolina State University (NCSU)] is now requesting preproposals for research on the effects of acid deposition on aquatic and terrestrial ecosystems and their components. Awards will be made contingent upon the availability of funds and receipt of proposals in the priority research areas. For submission details, send a self-addressed envelope to: **EPA/NCSU Acid Precipitation Program, NCSU, Department of Botany, P.O. Box 5186, Raleigh, N.C. 27650.** Deadline for requesting information is 20 July 1982.

COURSE

UNIVERSITY OF MINNESOTA THE THIRD ANNUAL M13 LABORATORY COURSE

13 to 17 September 1982

Organized by **Tomas Kempe (MGI, Minnetonka)** and **Joachim Messing (University of Minnesota).**

The course will cover the following experiments:
1) SYNTHESIS OF AN OLIGONUCLEOTIDE.
2) OLIGONUCLEOTIDE DIRECTED MUTAGENESIS, and
3) DNA SEQUENCING OF M13 CLONES.

Lectures will focus on structure and design of genes: **Hans Weiher (Berkeley), Bruce Wallace (City of Hope), Mark Zoller (Vancouver), Peter Seeburg (San Francisco), and Richard Gelin (Seattle).** Laboratory space will be available for 20 participants. The course fee will be \$295, exclusive of meals and lodging. Inexpensive accommodations close to the campus will be reserved. Address your application with a short résumé of your research interest not later than 1 August 1982 to:

Dr. Joachim Messing
Department of Biochemistry
University of Minnesota
St. Paul, Minn. 55108

TRAINEESHIPS

POSTDOCTORAL TRAINEESHIP

Postdoctoral traineeship available in biological nuclear magnetic resonance. Applicants must have the Ph.D. degree and, preferably, a strong background in biochemistry and/or physiology. Applicants should contact: **Dr. Pamela Garlick, Department of Pharmacology, Columbia University College of Physicians & Surgeons, 630 West 168 Street, New York, N.Y. 10032.** Columbia University is an Affirmative Action/Equal Opportunity Employer.

FELLOWSHIPS

POSTDOCTORAL RESEARCH FELLOWSHIPS IN DIABETES-METABOLISM. Applications for 1983 are being considered for NIH-sponsored postdoctoral research fellowships in the following areas: hormonal control of glucose, ketone body and amino acid metabolism; insulin, glucagon and somatostatin secretion; insulin receptors and insulin action. For information, write: **John Gerich, M.D., Director, Endocrine Research Unit, Mayo Medical School/Mayo Clinic, Rochester, Minnesota 55905.** An Equal Opportunity/Affirmative Action Institution.

POSTDOCTORAL FELLOWSHIPS IN BIOCHEMISTRY. Two positions; 2 to 3 years; Ph.D. or M.D.; immediate openings. Research involves ongoing programs on structure, properties, and function of ACTH- and catecholamine-specific receptors and protein kinases in normal and the malignant adrenal cortex. Stipend: \$12,000 to \$13,500 per year. Send complete curriculum vitae, including a statement of research interests, with three letters of references to: **Rameshwar K. Sharma, Department of Biochemistry, University of Tennessee Center for Health Sciences, 894 Union Avenue, Memphis, Tennessee 38163.**

The National Cancer Institute (NCI), is accepting applications for six key positions in the Division of Resources, Centers, and Community Activities (DRCCA).

The NCI develops the overall national strategy against cancer, coordinates Federal government and non-Federal government career programs, and support international programs of cancer research. DRCCA assures the rapid and effective application of cancer research findings in the prevention, detection, diagnosis, and treatment of cancer patients; and the research and development of cancer control programs designed to facilitate the transfer of findings from cancer research to the public and to the professional community.

The qualifications for the following five positions require that candidates meet the minimum experience and education requirements for Medical Officer, GS-602, as defined by the U.S. Office of Personnel Management (OPM) Handbook X-118 (Qualifications for Positions under the General Schedule) which is available in Federal personnel offices. These are Civil Service positions established at the GS-15 level with a salary range from \$51,353 to \$65,357 (currently limited to \$57,500 per annum). Candidates may be eligible for Physicians Comparability Pay up to \$10,000 per year.

THE ASSOCIATE DIRECTOR FOR THE PREVENTION, DETECTION AND DIAGNOSIS PROGRAM will direct a multi-million dollar program which has been empowered by congressional mandate to (1) identify research findings of importance for prevention, early detection or diagnosis; (2) to plan and conduct research to develop and ensure validity of measures and to evaluate programs when applied to the general population; (3) to plan and conduct research to analyze, evaluate and refine prevention, detection and diagnosis strategies to assure maximum benefits with the least risk and cost; and (4) to demonstrate prevention, detection and diagnosis activities in cancer centers and communities and selected populations. Candidates for this position should have experience which has demonstrated outstanding leadership in preventive medicine, occupational cancer or epidemiology.

THE CHIEF, CHEMOPREVENTION BRANCH will have full responsibility for (1) planning, developing, and directing a program on chemoprevention which can be defined as the use of natural or synthetic agents administered to prevent, inhibit, or reverse one or more stages of carcinogenesis; (2) identifying needs for and initiating human chemoprevention trials; (3) developing a process for the oversight, coordination, and systematic investigation of new chemoprevention agents, including new drug development and evaluation of safety and efficacy; and (4)

assessing needs for further research and programs relating to diet and the etiology of cancer. Candidates must have extensive experience in nutritional science, pharmacology, epidemiology or clinical trials.

THE CHIEF, DIET AND NUTRITION BRANCH will have full responsibility for the following critical activities: (1) planning, developing, directing, and coordinating a research program in the Diet and Nutrition Branch as it relates to cancer prevention; (2) overseeing cancer, diet and nutrition activities; (3) developing, refining, and testing hypothesis of diet in the etiology and prevention of cancer; (4) developing quantitative methods to monitor nutritional intake in large populations and to convert diet into nutrient content; (5) studying baseline dietary data on populations in chemoprevention trials; (6) studying and testing hypotheses related to macronutrients (e.g., fats, fiber, vegetables) and cancer; and (7) assessing strategies for altering diet in relation to cancer risks, weighing scientific knowledge and the impact of such strategies.

THE CHIEF, OCCUPATIONAL CANCER BRANCH (OCB) will have a major role in the DRCCA effort to bring applied cancer prevention to the occupational setting. Specifically, OCB: (1) plans and conducts research on new methods of prevention and early detection of cancers in individuals at unusually high risk of occupational cancers; (2) develops, implements, and evaluates cancer control methods applicable to occupational cancers which may include a) methods of reducing exposure, b) appropriate medical surveillance methods, c) developing effective means of providing information to workers and management, and d) investigating potential methods for reducing incidence or for early detection after exposure has occurred; and (3) collaborates with other government agencies, labor and industry organizations, and the national professional and voluntary health organizations involved in occupational cancer.

THE CHIEF, COMMUNITY OUTREACH AND REHABILITATION BRANCH (CORB) will have responsibility for (1) developing programs to improve clinical oncology in community settings and fostering integration of community oncology with the National Cancer Program; (2) developing programs to facilitate interactions between community oncologists and regional or national clinical cooperative groups; (3) developing cancer rehabilitation research; (4) helping to establish national cancer control priorities that can be implemented through this program; and (5) coordinating and monitoring the progress of CORB programs in order to assure measurable public benefit. Candidates must have experience which has demonstrated outstanding leadership in clinical oncology and program management, and cancer control or clinical trials.

The qualifications for the following position require that candidates have extensive experience in biostatistics, operations research, computer science, cancer epidemiology or cancer control research. This is a Civil Service position established at the GS-15 level with a salary range from \$46,685 to \$60,689 (limited to \$57,500 per annum).

THE CHIEF, BIOMETRICS AND OPERATIONS RESEARCH BRANCH (BORB) will: (1) plan, direct, coordinate, and evaluate a program of statistical, epidemiological, and operations research activities and automatic data processing services for DRCCA; (2) provide research, development, and implementation of quantitative methods for monitoring progress toward cancer control in the United States; (3) provide comprehensive biometric and computer science support and guidance to DRCCA; (4) develop data and provide scientific interpretation for the Director, DRCCA in order to establish program priorities, allocate resources and integrate projects of the DRCCA and its interrelation with other NCI divisions; (5) conduct intramural research in biometry, epidemiology, and operations research related to cancer prevention and control; and (6) advise the Director, DRCCA, and support the activities of the National Cancer Advisory Board and other scientific advisory committees on cancer prevention and control related biometric, epidemiological and operations research activities.

DRCCA is also seeking candidates with interest in chemoprevention and with M.D. degrees of Ph.D. degrees in Epidemiology, Nutritional Science, or Pharmacology or clinical trials experience. Candidates with experience in cancer epidemiology, biostatistics, operations research, and computer science are encouraged to apply for staff positions in support of the Biometrics and Operations Research Branch.

Additional information may be obtained from Ms. Alice Becton, Personnel Management Specialist, NCI, (301) 496-6864.

Applications (Personal Qualifications Statement, SF-171) are to be sent to the above individual at this address: National Cancer Institute, Building 31, Room 3A27, 9000 Rockville Pike, Bethesda, Maryland 20205. A current curriculum vitae and bibliography must accompany all applications. Applications of women and/or minority group members are especially solicited.



Tick, tock.

Practically everything associated with tracer methodology is dependent on that most precious of quantities — time.

Half-lives, specific activity, purity, and the dynamics of the biological system under investigation all present windows of opportunity that may be lost to careless timing.

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These things we hope will save you minutes of time and hours of vexation.

The NEN extras are the biggest bargain in labeled chemicals