

ments is reviewed, compactly and necessarily superficially, by Robert Vrijenhoek for animals and by Kevin Rice and Subodh Jain for plants.

In brief, this is a patchy collection of individually very good papers, with an entry into a huge and fascinating empirical literature and a scattering of excellent small insights into a field that is still searching for its conceptual organizing principles. It will be of most use to specialists and advanced students. Unfortunately there are still vestiges of an artificial dichotomy between equilibrium and dynamic schools of ecology. The very title of this book predisposes it toward the dynamic school. The importance of the spatial and temporal scale of patch dynamics is made explicit, but equilibrium processes may be important at other scales. Perhaps readers of this book will absorb both its explicit and its implicit lessons and take a role in developing a still broader conceptual view of patchy environments.

HENRY S. HORN

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A Success of Medical Science

Penicillin. Meeting the Challenge. GLADYS L. HOBBY. Yale University Press, New Haven, Conn., 1985. xxii, 319 pp., illus. \$32.50.

The history of penicillin is one of the most dramatic tales of the success of modern medical science. Much written about, it has been used as a demonstration of everything from the serendipitous nature of laboratory investigation (as witness Fleming's initial discovery of the moldy petri dish in 1928) to the benefits of wartime intensive project organization. Many participants in the events have published their accounts and numerous biographies have been produced. Most of these works have championed one or another interpretation, giving more or less credit to Alexander Fleming, or to Howard Florey, or to one or another of the institutions or corporations involved. Some historians have tried to make sense of parts of the picture, but few have fought through the extensive literature and interviewed on all sides of the still raging disputes. Hobby's general history has elements of all the earlier approaches but extends beyond a narrow focus or too partisan an approach. Herself a central participant in two major early experimental phases of the development, at Columbia Universi-

ty and at the Pfizer Corporation's successful large-scale production laboratory, Hobby has achieved a remarkably broad perspective.

Its collaborative nature may be the aspect of the story that is most difficult to appreciate. The agility with which scientists leapt to collaborate, complaining when hampered from sharing their research, might almost call in question the individualistic character of research. The excitement of transatlantic flights limited to VIP's and blacked out to hide from view the D-Day troops massing near the southern coast of England, the calculations with millions of dollars as large corporations together assessed the risks of involvement, the miraculous victories over bacterial endocarditis—these are the stuff of high drama. But collaboration had its seamy side, too. Questions about the appropriateness of sharing everything among the British and American scientists still plague those who will see penicillin as a British discovery unfairly commercialized in the United States. Disputes among the pioneers and their champions emerged repeatedly, most noticeably when knighthoods, Nobel prizes, and other awards were meted out. The chagrin of British manufacturers at having to pay royalties to American companies for mass production techniques long soured memories.

In no other single source are all these elements explained more fully, though considering the broadminded coverage of events a more dispassionate analysis might have been expected. In contrast to some British versions, this is an American perspective: "It was American ingenuity, U.S. dollars, and U.S. production acumen that led to penicillin's availability as an effective chemotherapeutic drug" (p. 281, note 1). Gratuitous as that may seem, Hobby supports the point well, and not without sympathy for British participants, despite her claim that there was a "strong conviction on the part of British investigators in the 1920s and 1930s that chemotherapy of bacterial infections was absurd and should not be contemplated" (p. 125). Similarly, Hobby believes that, simply because there was a clear need for effective antibiotics, penicillin would certainly have emerged some time around the years it did. This is a peculiar view to hold, especially given that the main point of this history is that special circumstances combined to create an international collaborative effort.

Even so, this is a valuable contribution to a most interesting story. Hobby has assured its utility by the numerous tables and graphs, the clear exposition of necessary technicalities, and the appendixes

of economic and corporate data. This will not be the final word on the history of penicillin, but it presents more information more clearly than any predecessor.

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Calcium and Contractility. Smooth Muscle. A. K. Grover and E. E. Daniel, Eds. Humana, Clifton, N.J., 1985. xx, 487 pp., illus. \$64.50. Contemporary Biomedicine.

Catecholamines as Hormone Regulators. Nira Ben-Jonathan, Janice M. Bahr, and Richard I. Weiner, Eds. Raven, New York, 1985. xiv, 382 pp., illus. \$39.50. Sero Symposium Publications from Raven Press, vol. 18.

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Cell Culture in the Neurosciences. Jane E. Bottenstein and Gordon Sato, Eds. Plenum, New York, 1985. xx, 383 pp., illus. \$49.50. Current Topics in Neurobiology.

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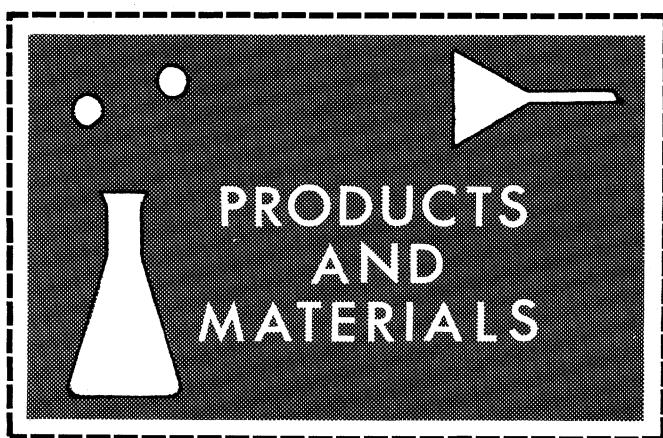
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(Continued on page 466)



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Insights. The author is Dr. A. H. Shapiro. Each tape is approximately 55 minutes long and is available in any of the ¾- or ½-inch videocassette formats. Tapes may be ordered individually. MIT Center for Advanced Engineering Study. Circle 571.

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Literature

Techniques for Monoclonal Antibodies outlines research methods and equipment. Bio-Rad Laboratories. Circle 582.

Clinical and Biomedical Research focuses on test kits, equipment, and materials for the laboratory. Isolab. Circle 583.

Water and Wastewater Analysis is a compendium on the use of pH and ion-selective electrodes. Methods and equipment are specified. Orion Research. Circle 584.

Biodyne ImmunoAffinity Membrane describes a solid support for immobilization of antibodies and antigens. Biotechnology Div., Pall Ultrafine Filtration. Circle 585.

Analytical Standards offers test kits, solutions, and methods manuals for a wide variety of chemical testing. PolyScience. Circle 586.

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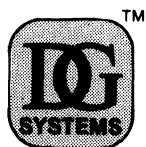
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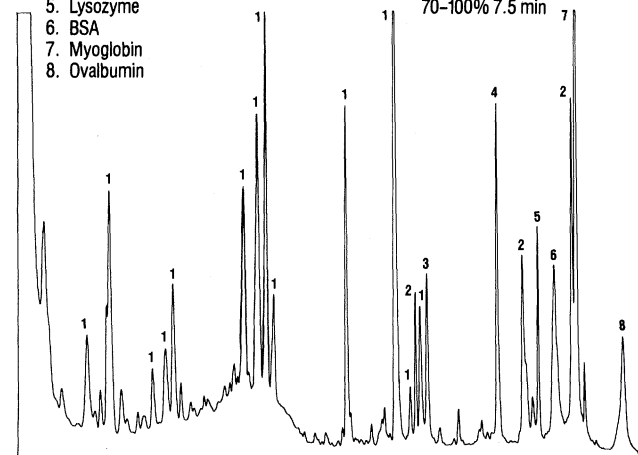
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(Continued from page 435)

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Elements of Structural Optimization. Raphael T. Haftka and Manohar P. Kamat, Eds. Nijhoff, The Hague, 1985 (U.S. distributor, Kluwer, Hingham, Mass.). xiv, 266 pp., illus. \$68.50. Mechanics of Structural Systems.

The Encyclopedia of Birds. Christopher M. Perrins and Alex L. A. Middleton, Eds. Facts On File, New York, 1985. xvi, 447 pp., illus., + appendix. \$35.

Endocytosis. Ira Pastan and Mark C. Willingham, Eds. xviii, 326 pp., illus. \$42.50.

Engineering Education and Practice in the United States. Foundations of Our Techno-Economic Future. National Academy Press, Washington, D.C., 1985. xii, 138 pp., illus. Paper, \$13.95.

Environmental Regulation of Microbial Metabolism. I. S. Kulaev, E. A. Dawes, and D. W. Tempest, Eds. Academic Press, Orlando, Fla., 1985. xxii, 515 pp., illus. \$49. From a symposium, Pushchino, USSR, June 1983.

Epilepsy and the Corpus Callosum. Alexander G. Reeves, Ed. Plenum, New York, 1985. xviii, 534 pp., illus. \$69.50. From a conference, Hanover, N.H., July 1982.

The Equilibrium of Cognitive Structures. The Central Problem of Intellectual Development. Jean Piaget. University of Chicago Press, Chicago, 1985. xviii, 160 pp. \$25. Translated from the French edition (1975) by Terrance Brown and Kishore Julian Thampy.

Estuarine Management and Quality Assessment. J. G. Wilson and W. Halcrow, Eds. Plenum, New York, 1985. viii, 225 pp., illus. \$45. From a symposium, Dublin, Sept. 1982.

Evaluation of Cyclamate for Carcinogenicity. National Academy Press, Washington, D.C., 1985. xii, 196 pp. Paper, \$13.50.

An Evaluation of the Role of Microbiological Criteria for Foods and Food Ingredients. National Academy Press, Washington, D.C., 1985. xvi, 436 pp. \$32.50.

Evolution. Process and Product. Edward O. Dodson and Peter Dodson. 3rd ed. Prindle, Weber, and Schmidt, Boston, 1985. x, 596 pp., illus. \$30.

The Field Guide to Prehistoric Life. David Lambert and the Diagram Group. Facts On File, New York, 1985. 256 pp., illus. \$17.95.

Filters Against Folly. How to Survive Despite Economists, Ecologists, and the Merely Eloquent. Garret Hardin. Viking, New York, 1985. x, 240 pp. \$15.95.

A First Course in General Relativity. Bernard F. Schutz. Cambridge University Press, New York, 1985. xiv, 376 pp., illus. \$54.50.

Fluidization. J. F. Davidson, R. Clift, and D. Harrison, Eds. 2nd ed. Academic Press, Orlando, Fla., 1985. xiv, 733 pp., illus. \$96.50.

Forecasting U.S. Electricity Demand. Trends and Methodologies. Adela Maria Bolet, Ed. Westview, Boulder, 1985. xviii, 273 pp., illus. Paper, \$23.50. CSIS Energy Policy Series.

Forest Products. Advanced Technologies and Economic Analyses. David A. Tillman. Academic Press, Orlando, Fla., 1985. xii, 283 pp., illus. \$36.

Fotoperiodicheski i Temperaturnyi Kontrol' Razvitiya Nasekomykh. V. A. Zaslavskii. Nauka, Leningrad, 1984. 184 pp., illus. 2 Ruble 30 Kopek. Akademiya Nauk SSSR Zoologicheskii Institut Trudy, Tom 120.

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Gas Flows and Chemical Lasers. Michele Onorato, Ed. Plenum, New York, 1984. xviii, 773 pp., illus. \$115. From a symposium, Stresa, Italy, Sept. 1982.

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Global Tropospheric Chemistry. A Plan for Action. National Academy Press, Washington, D.C., 1984. xiv, 194 pp., illus. Paper, \$20.95.

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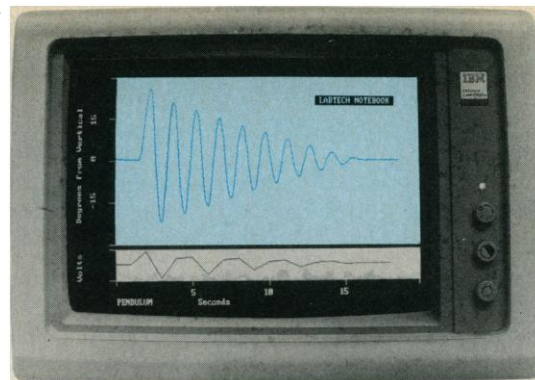
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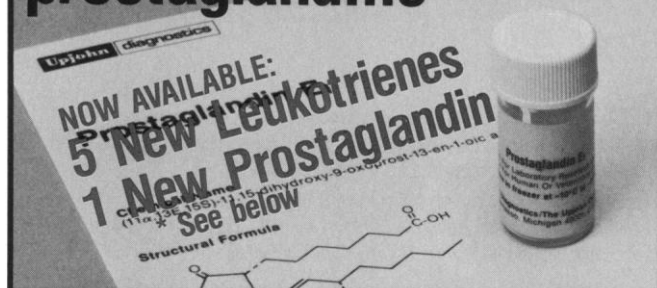
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13, 14-diH-15-keto-PGF ₂	200
9, 11-dideoxy-9 α, 11 α-epoxymethane-PGF ₂	200
9, 11-dideoxy-11 α, 9 α-epoxymethane-PGF ₂	400
16, 16-dimethyl-PGE ₂	200
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Environmental Biologist. Ph.D. Five years of research experience in freshwater and marine biology, toxicology, physiology, behavior, and hazard assessment. Experienced in laboratory and field evaluation of chemicals, industrial effluents, and storm runoff. Experienced with AA, IC, and wet methods. Seeking responsible position in applied research. Box 227, SCIENCE. 10/25; 11/1

Geologist. Bachelor of Science, Colorado State, August 1984. Seeking entry-level position: geologist assistant or geohydrologist assistant (attended Ohio University Groundwater and Hydrology Course). Knowledge of USGS equipment (ground water, geophysical, survey). Active AAAS member since 1982. Will relocate/travel. Please inquire: Kevin Sheedy, 39 Barter, Hicksville, N.Y. 11801. X

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POSITIONS WANTED

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Technician, Biochemistry, 8 years of research experience; presently employed; residing in New York City; seeks stimulating position; university setting preferred, would consider other. Box 221, SCIENCE. 10/25; 11/1, 8

POSITIONS OPEN

ANATOMY-CELL BIOLOGY. University of California, San Francisco (UCSF), School of Dentistry, seeks applicants for a position in the Division of Periodontology at the level of assistant or associate professor in residence commencing 1 July 1986. Applicants must have a Ph.D. in anatomy, cell biology, or a related basic science. An individual is sought with an active research program dealing with the mechanisms of eukaryotic adhesion. Must be proficient in electron microscopic and monoclonal antibody techniques. Applicants should have the demonstrated ability to successfully compete for research funds. Responsibilities include teaching cell biology and anatomy at the undergraduate and graduate levels. Salary commensurate with experience. Deadline for applications is 31 December 1985. *UCSF is an Equal Opportunity/Affirmative Action Employer.* Send curriculum vitae to: **Dr. Gary C. Armitage, Division of Periodontology, Room D-4014, University of California, San Francisco, School of Dentistry, San Francisco, Calif. 94143.**

ASSISTANT PROFESSOR. The Department of Environmental, Population and Organismic (EPO) Biology anticipates a tenure-track faculty opening to be filled in fall 1986. The person filling this slot will be expected to develop an active research program in microbiology and to have the general undergraduate microbiology course as a main teaching responsibility. Research specialty should be consistent with the broad themes of research in the department as implied by its name. Persons with research interests in one of the following areas are especially desired: (i) microbial ecology to include soil, aquatic, or terrestrial microbiology, (ii) mycorrhizal biology, (iii) biogeochemical microbiology especially in the context of microbial contributions to tropospheric phenomena, or (iv) plant physiology with special interest in plant-microbe interactions. Applicants should submit only a letter of application stating research and teaching interests, curriculum vitae, plus names and addresses of four persons who may be contacted for letters of reference to: **Jeff Mitton, Chair, Microbiology Search Committee, Department of EPO Biology, University of Colorado, Boulder, Colorado 80309.** *An Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

ANATOMIST—TENURE-TRACK POSITION

Ph.D., M.D., or equivalent doctoral training with at least 2 years of postdoctoral experience in research and teaching. Appointees should have independent research interests and will be expected to qualify for research support from extra-departmental sources. Salary is from a university-based departmental budget and is dependent on qualifications and experience. Applicants should be qualified to assist in the teaching of any of the branches of anatomy to medical and dental students. An involvement in graduate teaching is also expected in the appointee's field of academic interest. Apply before 31 December 1985 to the following:

Dr. Charles E. Slonecker
Department of Anatomy
2177 Westbrook Mall

The University of British Columbia
Vancouver, British Columbia, Canada V6T 1W5

Applications should be accompanied by curriculum vitae and the names of three academic references.

AQUATIC ECOLOGIST. Applications are invited for a tenure-track position available August 1986. The successful candidate will be expected to: (i) initiate and maintain, through extramural funding, an active, independent research program in aquatic ecology utilizing the University's Crooked Lake Biological Station; (ii) demonstrate excellence in teaching in the area of ecology at the undergraduate and graduate level and supervise M.S. thesis research; and (iii) serve as program director for the Biological Station, a 4800 square foot facility located on a 208 acre lake and adjacent to a 117 acre forest preserve. This position is at the **ASSISTANT PROFESSOR** rank and candidates with postdoctoral experience are preferred. Appointment can be considered at the **ASSOCIATE PROFESSOR** rank for a candidate with a strong record of publication and extramural support. Curriculum vitae with a list of graduate courses taken, a statement of research and teaching interests, and three letters of recommendation must be received by 10 December 1985. Send applications to: **Dr. D. Wartzk, Chair, Department of Biological Sciences, Indiana University—Purdue University at Fort Wayne, Fort Wayne, Ind. 46805.** *An Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSORS (three)—Tenure-track. The Chemistry Department at The University of Texas (UT) at Arlington plans expansions in its doctoral programs and invites applications from outstanding individuals for three assistant professor positions to be selected from the following areas of specialty: **inorganic** (transition metal, organometallic, solid state); **organic** (synthetic); **polymer** (synthetic, bio-); **analytical** (spectroscopy); and **biochemistry** (molecular genetics). Excellence in research and teaching, and the ability to attract external funding are expected. UT-Arlington is located in the center of the Dallas-Fort Worth metropolitan area, with an enrollment of 23,000 students. The doctoral programs of the Chemistry Department include a unique program in applied chemistry. Applicants should submit curriculum vitae, list of publications, and succinct outline of research plans, and arrange for three letters of recommendation to be sent to: **Professor R. B. Timmons, Chairman, Department of Chemistry, The University of Texas at Arlington, Arlington, Texas 76019-0065.** Deadline: 1 December 1985. *An Equal Opportunity/Affirmative Action Employer.*

INVERTEBRATE PHYSIOLOGIST. The Department of Environmental, Population and Organismic (EPO) Biology, University of Colorado, Boulder, anticipates an opening for a tenure-track faculty position at the assistant professor level beginning fall 1986. The department seeks an individual who will develop and maintain a vigorous research and teaching program. Candidates with research interests in one or more of the following areas of invertebrate physiology will be preferred: (i) energetics and metabolism, (ii) water-ion balance, (iii) endocrinology or neuroendocrinology, (iv) physiology of animal-plant interactions, and (v) physiological ecology. Teaching responsibilities are flexible but applicants should be broadly trained and capable of offering advanced courses in invertebrate biology. Applicants should provide by 2 December 1985 only a statement of research and teaching interests, curriculum vitae, and the names of four persons from whom recommendations can be requested to: **David Norris, Chair, Invertebrate Physiologist Search Committee, Department of EPO Biology, Campus Box 334, University of Colorado, Boulder, Colo. 80309.** *The University of Colorado is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

Applications are invited for a tenure-stream position at the **ASSISTANT PROFESSOR** level in the area of molecular genetics.

Candidates should have a Ph.D. degree and, preferably, additional research experience in recombinant DNA techniques. Capability in the field of control of gene expression and gene transfer is essential. Preference may be given to candidates with a strong background in plant molecular biology.

The post will take effect on 1 July 1986, or earlier if a suitable candidate is found. The salary range at the assistant professor level, for the period 1 April to 30 June 1986, will be \$29,501 to \$38,009.

Send curriculum vitae and the names of at least three referees to: **Dr. John King, Department of Biology, University of Saskatchewan, Saskatoon, Saskatchewan, Canada S7N 0W0**, by 31 December 1985.

ASSISTANT PROFESSOR. The Radiobiology Laboratory seeks an individual with an M.D., Ph.D., or D.Sc. degree to work with a multidisciplinary group in the Oncology Center. An excellent academic record is expected. Expertise in radiobiology or radioimmunology with strong molecular skills is required. Send curriculum vitae and summary of research interests to: **Dr. Jerry R. Williams, Director of Radiobiology Laboratory, The Johns Hopkins Oncology Center, Room 2-121, 600 North Wolfe Street, Baltimore, Maryland 21205**.

LAFAYETTE COLLEGE—Two tenure-track **ASSISTANT PROFESSOR POSITIONS** available August 1986. **BIOCHEMIST** with strong chemistry background to teach lecture courses in introductory and advanced biochemistry, a biochemistry laboratory course, laboratories in other areas such as organic chemistry, and supervise undergraduate research. Ph.D. in biochemistry and undergraduate degree in chemistry required. We also seek a recent Ph.D. at the beginning of his or her teaching career to be designated as a **DANA FACULTY FELLOW**, a position made available through a grant from the Dana Foundation. Applicants should be interested in chemical education and laboratory teaching. Areas of teaching may include general chemistry, environmental chemistry, chemistry for nonscience majors, or others, depending upon the successful candidate's qualifications. An important criterion will be the applicant's interest and suitability for working jointly with faculty from other areas of the college in developing and teaching experimental interdisciplinary senior seminars utilizing the perspectives of science, social science, engineering, and the humanities to explore current problems. *Women and minorities are encouraged to apply.* Send curriculum vitae, undergraduate and graduate transcripts, and three letters of recommendation by 1 December 1985 to: **Dr. Joseph Sherma, Chemistry Department, Lafayette College, Easton, Pa. 18042**. An Equal Opportunity Employer.

ASSISTANT PROFESSOR, NORTHWESTERN UNIVERSITY, DEPARTMENT OF MICROBIOLOGY—IMMUNOLOGY. Applications are invited for a tenure-track position in the basic science faculty of the medical and dental schools at the level of assistant professor. Candidates should have interests in the molecular biology of bacterial disease and preference will be given to individuals with research experience in molecular genetic approaches to the study of bacterial pathogens. The successful candidate will be expected to develop an independent, fundable research program and participate in teaching at the postgraduate level. Please send curriculum vitae, an outline of research plans, and names of three referees to: **Dr. Carl Waltenbaugh, Faculty Search Committee, Department of Microbiology—Immunology, Northwestern University Medical School, 303 East Chicago Avenue, Chicago, Illinois 60611**. Northwestern University is an Affirmative Action/Equal Opportunity Employer.

Salem College, Department of Health Sciences, invites applications for an **ASSISTANT PROFESSOR, ANATOMIST/PHYSIOLOGIST**, beginning January 1986. A master's degree is required. Applicants should send curriculum vitae and three letters of recommendation by 15 November 1985 to: **Gary McAllister, Academic Dean, Salem College, Salem, W.Va. 26426**.

Salem College is a small college located in Salem, West Virginia, stressing value-oriented inquiry together with opportunities to test career-related activities. The College offers a variety of programs leading to associate, baccalaureate, and master's degrees. *Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR—A tenure-track position is open for a qualified individual to teach in the area of neurophysiological approaches to patient care and human neuroanatomy-neurophysiology to students in the Physical Therapy Program, School of Life and Health Sciences, University of Delaware. In addition to instructional responsibilities, the successful candidate will be expected to establish an independent research program in his/her specialty. Applicants must hold a master's degree (Ph.D. preferred), must have clinical experience, and must be licensed or be eligible for state licensure in Delaware. Salary is commensurate with experience and qualifications. This is an academic appointment (nine-month) and begins 1 September 1986. Interested applicants should send curriculum vitae, a statement of research interests and reprints of publications, and three letters of evaluation by 1 March 1986 to: **Dr. Steven D. Skopik, School of Life and Health Sciences, UNIVERSITY OF DELAWARE, Newark, Del. 19716**. *The University of Delaware is an Equal Opportunity Employer which encourages applications from qualified minority groups and women.*

DEPARTMENT OF ANATOMY UNIVERSITY OF OTTAWA

Applications are invited for two tenure-track positions at the assistant professor level. Candidates must have a Ph.D., M.D., and/or D.D.S. degree(s), at least 2 years of postdoctoral experience, and a demonstrated ability to function as an independent researcher. Special (but not exclusive) attention will be given to neuroscientists and/or to those who would most likely make use of the department's excellent ultrastructure, biochemical, and tissue culture facilities. Special attention will also be given to the candidates who are willing to teach both gross and neuroanatomy to undergraduates.

Applicants should send curriculum vitae plus names of three referees to: **Dr. J. A. Hinke, Chairman, Department of Anatomy, Faculty of Health Sciences, University of Ottawa, 451 Smyth Road, Ottawa, Ontario, Canada K1H 8M5**. *In accordance with government of Canada regulations, preference must be given to Canadian citizens or landed immigrants.*

ASSISTANT PROFESSOR—MICROBIOLOGY

Department of Veterinary Microbiology and Immunology seeking person with a Ph.D. and preferably a D.V.M. or equivalent, with advanced training in veterinary or medical bacteriology. The candidate must have demonstrated interest and aptitude in teaching and demonstrated achievement in research. Preferential consideration will be given candidates with experience and interest in modern methods of molecular biology and their application to the study of bacterial diseases of veterinary importance. Send curriculum vitae and names and addresses of three referees to: **Dr. Ernst L. Biberstein, Chairperson, Search Committee, Department of Veterinary Microbiology and Immunology, University of California, Davis, Calif. 95616**. Applications accepted through 28 February 1986 or until suitable candidate is identified.

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ASSISTANT RESEARCH BIOCHEMIST OR VIROLOGIST part-time position available as of 1 January 1986. The project involves in vitro and in vivo viral and chemical carcinogenesis. Candidates must have Ph.D. in biochemistry or virology and have experience in molecular biologic cancer research. Salary commensurate with qualifications. *Equal Opportunity/Affirmative Action Employer.* Send curriculum vitae to: **Dr. No-Hee Park, Oral Biology, University of California, Los Angeles, School of Dentistry, CHS, Los Angeles, Calif. 90024**.

BIOCHEMICAL ENGINEER. Start fall 1986. Tenure-track, rank open; salary: \$40,000 per 9 months. Ph.D. required: fermentation experience and industrial background highly desirable. Responsibilities include teaching biological engineering analysis and establishing a vigorous research program in a new well-funded Biotechnology Program. Send curriculum vitae, B.S. and Ph.D. transcripts, statement of teaching/research interests, and names of three references by 17 January 1986 to: **Dr. John Frey, Department of Biological Sciences, Mankato State University, Mankato, Minn. 56001**. An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN



THE UNIVERSITY OF MANITOBA DEPARTMENT OF MICROBIOLOGY TENURE-TRACK POSITION ASSISTANT PROFESSOR LEVEL

The successful candidate will have a Ph.D. degree with 2 or 3 years of postdoctoral training in either environmental microbiology or molecular biology. Evidence of successful participation in a research program is expected. The appointment will be effective 1 July 1986 and the salary will be based on qualifications. The individual will be expected to develop a strong funded research program in his/her specialty including the direction of graduate students. Participation in the teaching of undergraduate and graduate courses will be expected. *The University encourages both women and men to apply. In accordance with Canadian immigration requirements this advertisement is directed to Canadian citizens and permanent residents.* Applicants are requested to arrange to have three letters of reference, curriculum vitae, recent reprints, and a brief description of present and prospective research forwarded by 31 December 1985 to: **Dr. P. Loewen, Chairman, Search Committee, Department of Microbiology, University of Manitoba, Winnipeg, Manitoba, Canada R3T 2N2**.

University of Florida, Psychology Department, invites nominations and applications for an **ASSISTANT/ASSOCIATE PROFESSOR IN BEHAVIORAL NEUROSCIENCE**; start date: fall term 1986. All research areas considered but preference for person who incorporates contemporary neuroanatomical techniques into the study of behavior. *Women and members of minority groups are urged to apply.* Applicants should send curriculum vitae, statement of research programs, and five letters of recommendation by 15 January 1986 to: **Psychobiology Search Committee, Philip Teitelbaum, Chairman, Psychology Department, University of Florida, Gainesville, Fla. 32611**.

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

ASSISTANT PROFESSORS—BIOLOGY. Two positions, tenure-track, Ph.D. in biology. One to teach cell and general biology, the other to teach developmental and general biology. Interest in teaching and research; publications required. Program prepares students for careers in the health sciences, teaching, and ecology/environmental science. Three letters of recommendation. Reply to: **Chair, Department of Natural Sciences, Baruch College/City University of New York, 17 Lexington Avenue, Box 502, New York, N.Y. 10010**. *Affirmative Action/Equal Opportunity Employer.*

The Microbiology Department announces an open **ASSISTANT PROFESSOR** position for September 1986. Appointment at a higher rank is possible for an unusually qualified individual. We are interested in outstanding molecular biology and microbiology applicants. Of most interest are individuals involved in molecular studies of prokaryotic genetics, developmental processes, or parasitology. However, exceptional applicants in other areas will be considered also.

Please submit curriculum vitae, including names and addresses of three references, and a summary of research interests to: **Dr. Charles F. Earhart, Search Committee Chairman, Microbiology Department, The University of Texas at Austin, Austin, Texas 78712-1095**. Applications will be accepted until 31 January 1986. *The University of Texas is an Equal Opportunity/Affirmative Action Employer.*

BIOSTATISTICIAN/EPIDEMIOLOGIST IMMEDIATELY AVAILABLE

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The sensitive measure of complement activation

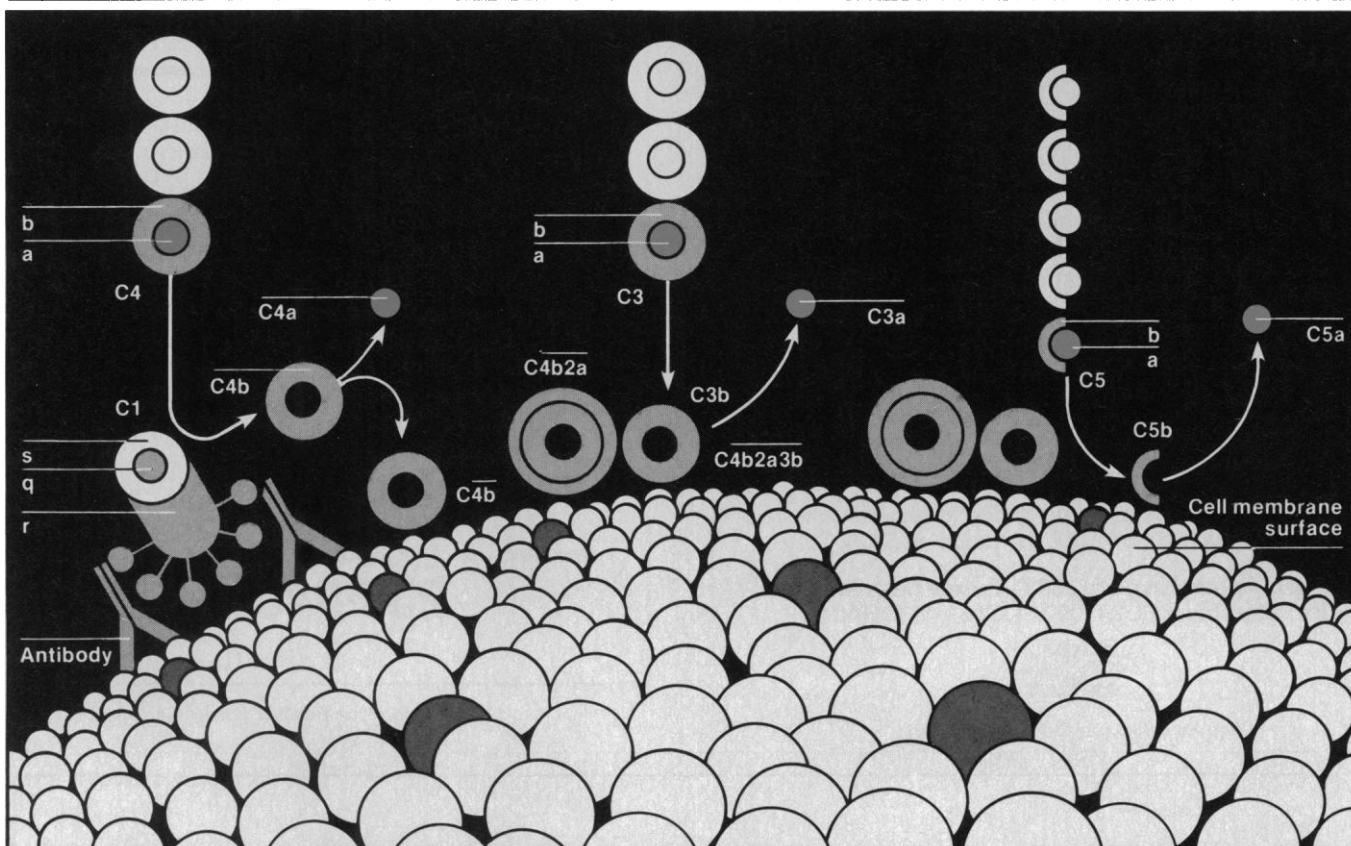


Illustration C3, C4, C5 activation in the classical complement cascade: Activated C1 (C1s), which binds to antigenic sites on the cell surface, cleaves C4 by limited proteolysis to yield C4a which is released to the fluid phase and C4b which binds to the surface of the cell. C4b2a cleaves C3 to yield C3a and C3b. The latter binds to the cell surface. Complexes of C4b2a and C3b form a C5 convertase (C4b2a3b) that cleaves C5 to yield C5a, and C5b which binds to the cell surface.

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- (1) Hugli, T E, and Chenoweth, D E. "Biologically Active Peptides of Complement: Techniques and Significance of C3a and C5a Measurement," *Laboratory and Research Methods in Biology and Medicine*, (ed. R M Nakamura, W R Dita, E S Tucker III: Alan R. Liss, Inc, 1980), pp.443-460.
- (2) Gorski, J P, "Quantitation of Human Complement Fragment C4a in Physiological Fluids by Competitive Inhibition Radioimmunoassay," *J. Immunol. Methods*, (47,1981), pp. 61-73.

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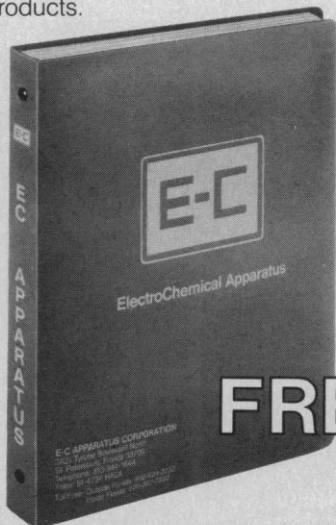
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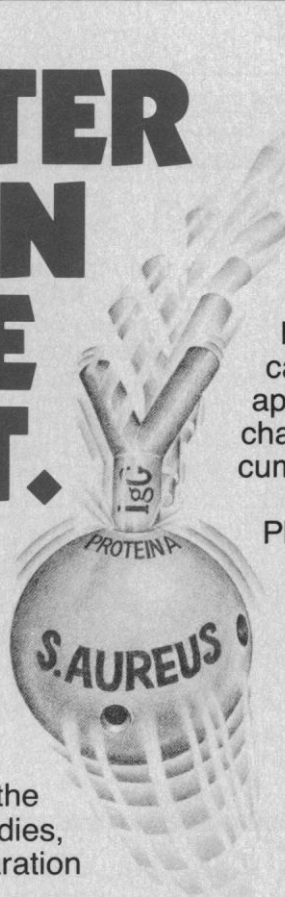
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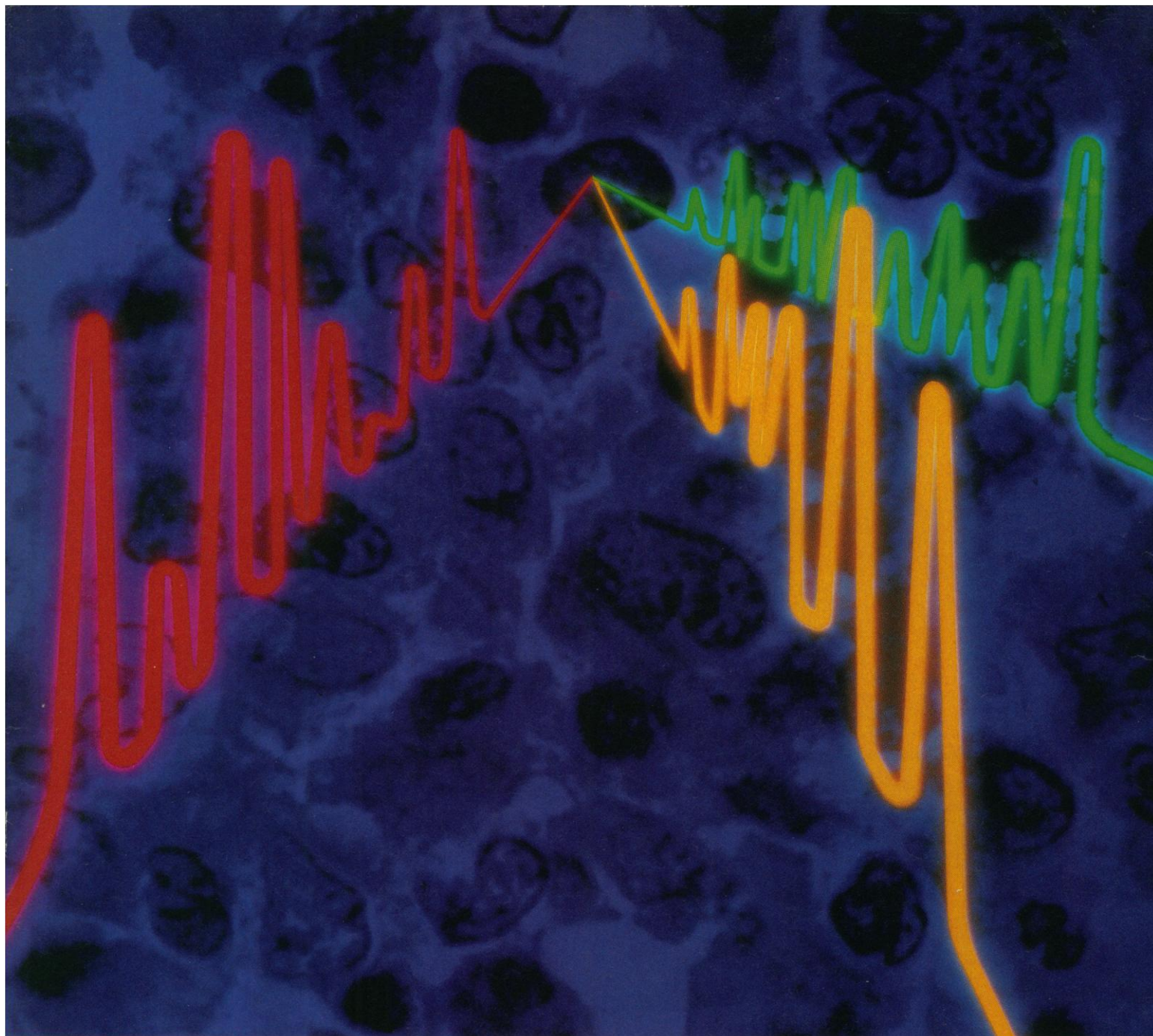
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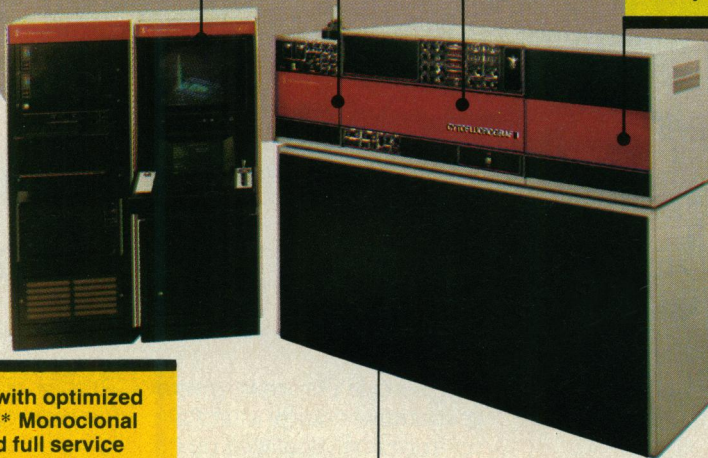
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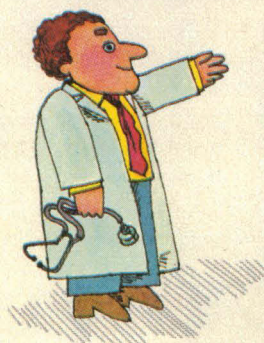
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**CHAIRMAN
DEPARTMENT OF ANIMAL
AND POULTRY SCIENCE
ONTARIO AGRICULTURAL COLLEGE
UNIVERSITY OF GUELPH**

Applications are invited for the position of chairman, Department of Animal and Poultry Science at the University of Guelph; the position is available 1 July 1986.

The Department of Animal and Poultry Science is one of ten administrative units in the Ontario Agricultural College (OAC). It has a close working relationship with units within the College, as well as with departments in the Ontario Veterinary College and the College of Biological Science. It is one of the largest departments within OAC with 40 faculty and professional staff members and 75 other staff. The undergraduate major in animal and poultry science averages 80 students each year, and there are currently 60 graduate students enrolled. The department administers major research programs in beef, dairy, poultry, and swine.

The successful applicant will have background and experience in animal science, poultry science, or in a closely related field and will have demonstrated qualities of leadership. Experience in teaching and research is desirable.

The closing date for applications is 31 January 1986. Applications should include curriculum vitae and the names and addresses of three persons who may be contacted for reference. *In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.* Inquiries and applications, which will be treated in confidence, should be addressed to:

**Dr. F. L. McEwen, Dean
Ontario Agricultural College
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Guelph, Ontario, Canada N1G 2W1

Appointment is subject to final budgetary approval.

Assistant Director Clinical Endocrinology

Continued expansion of our International operations has created an excellent and exciting opportunity on our Corporate Staff for an individual with a PhD preferably in Endocrinology (reproductive or neuroendocrinology), medical physiology or pharmacology.

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We anticipate up to 30% international travel and the ability to communicate in a foreign language would be an added plus.

This challenging position provides a unique opportunity for the qualified individual to participate in new and creative areas of clinical endocrine research.

This position will be based at our headquarters in Radnor, PA, which is an attractive Philadelphia suburb.

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Los Alamos National Laboratory

The Medical Radioisotopes Research Section is seeking three outstanding recent Ph.D. recipients for the postdoctoral fellowships described below. All positions require responsibility for planning, initiation, and implementation of independent research and presentation of research results. The ability to work as part of a team is also required. Compensation of \$29,520-\$31,080 per annum provided; possible renewal for a second year. **U.S. citizenship is required.**

Inorganic coordination or bioinorganic chemist to label monoclonal antibodies with metal radionuclides and with paramagnetic metals. Develop chelating agents which can be covalently linked to antibodies; particular emphasis will be given to the development of chelating agents for gadolinium. Determine the serum stability of the chelates and assist in animal biodistribution studies of radiolabeled molecules. Experience in radiolabeling or chelation reactions or bioinorganic chemistry is required.

Synthetic organic or bioorganic chemist to synthesize small molecules and chelating agents labeled with radionuclides (halogens or metals) for covalent linkage to monoclonal antibodies. Determine the serum stability of the radio-labeled molecules and assist in animal biodistribution studies of radiolabeled molecules. Collaborate with a protein chemist to develop reactions to conjugate small molecules to antibodies. Experience in halogenation, radiolabeling, chelation reactions, or synthetic reactions utilizing organometallic reagents is required.

Analytical, inorganic, or radiochemist to develop chemical separation procedures on a no-carrier-added level to isolate radioisotopes of interest to the nuclear medicine research community. Perform chemistry in radiochemical hot-cells. Develop new radioisotope generator systems. Interact with radio-labeling and biodistribution efforts of the program. Experience in chemical separation methods (ion-exchange, solvent extraction, electrochemical) and gamma-ray analysis desirable.

Interested candidates should send a resume to Dr. Janet Mercer-Smith (inorganic and organic applicants) or to Dr. Fred Steinkruger (separation applicants) at INC-11, MS J514, Los Alamos National Laboratory, Los Alamos, New Mexico 87545.

To formally apply, send resume, bibliography, three letters of reference, and graduate and undergraduate transcripts to:

**Carol M. Rich
POSTDOC-FF
Personnel Administration Division
Los Alamos National Laboratory
P.O. Box 1663, MS P290
Los Alamos, NM 87545**

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Administrative Supervisor
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Applications are invited for the Forest B.H. and Elizabeth D.W. Brown Postdoctoral Fellowship in Botany, providing for 1 year of research in the fields of Plant Molecular Genetics or the Evolutionary Paleontology of Vascular Plants. This appointment will commence in the academic year 1986-1987, or earlier by mutual agreement. Send inquiries and resume (curriculum vitae, reprints, and names of three potential references) to **Roberta Clouet, Department of Biology, KBT 102, Yale University, P.O. Box 6666, New Haven, Conn. 06511.** Application deadlines: 15 January, 1986.

Yale University is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

University of California, Los Angeles (UCLA)
School of Medicine
BIOLOGICAL CHEMISTRY

The Department of Biological Chemistry has openings at the level of **ASSISTANT PROFESSOR** (tenure track). We are seeking outstanding candidates with research interests in any modern area of molecular or cellular biochemistry. Applicants should submit curriculum vitae, a one-page summary of research plans, and names of three references to:

Dr. Elizabeth F. Neufeld, Chair
Department of Biological Chemistry
UCLA School of Medicine
Los Angeles, Calif. 90024

The University of California is an Equal Opportunity Employer; applications from women and members of minority groups are encouraged.

ASSISTANT PROFESSORS, CELLULAR, MOLECULAR AND DEVELOPMENTAL BIOLOGY. The newly reorganized Department of Cell Biology and Anatomy at the Oregon Health Sciences University invites applications for several tenure-track positions. We are seeking individuals with strong research backgrounds in cellular and molecular biology. A willingness to teach, or to acquire teaching skills, in gross anatomy or neuroanatomy is essential. *An Equal Opportunity Employer.* Please send curriculum vitae, the names of three references, and a synopsis of research plans to: **Search Committee, Department of Cell Biology and Anatomy, School of Medicine, Oregon Health Sciences University, Portland, Oregon 97201.**

ASSISTANT PROFESSOR OF MICROBIOLOGY

The Department of Microbiology, University of Georgia, Athens, Georgia, invites applications for a full-time (9 months per year) tenure-track appointment at the assistant professor level, effective September 1986. Applicants must have a Ph.D. and at least 2 years of postdoctoral experience. All applicants should have demonstrated research competence with prokaryotic or eukaryotic microorganisms and plan to work in the general area of molecular genetics and physiology. The appointee is expected to establish a vigorous research program, to participate in undergraduate and graduate teaching, and to supervise graduate students.

Applicants should forward curriculum vitae, a statement of future research interests, plus three supporting reference letters to:

Chairman, Search Committee
Department of Microbiology
University of Georgia
Athens, Georgia 30602

Applications should be postmarked no later than 15 December 1985.

An Equal Opportunity/Affirmative Action Institution

ASSISTANT/ASSOCIATE PROFESSOR—REPRODUCTIVE PHYSIOLOGIST with emphasis on cellular mechanisms to begin 6 January 1986 or earliest date thereafter when the most desirable candidate is available. This position is a tenure-track, academic-year appointment (70 percent research and 30 percent teaching). Develop program in reproductive cell biology/biochemistry that will attract M.S. and Ph.D. candidates and substantial external funding; teach each year experimental endocrinology and on alternate years advanced cell biology. Qualifications: Ph.D. in appropriate discipline; postdoctoral experience preferred but not absolutely essential; strong productive research background; teaching experience. Send a letter of application, curriculum vitae (with list of publications), and three letters of recommendation from persons qualified to critically evaluate research and teaching abilities and potential by 11 December 1985 to: **Dr. Samuel Smith, Animal and Nutritional Sciences, Kendall Hall, University of New Hampshire (UNH), Durham N.H. 03824.** *UNH is an Affirmative Action/Equal Opportunity Employer.*

BIOLOGIST. Tenure track, Ph.D. required. Texas Wesleyan College is seeking a faculty member with broad academic background to complement the present department composed of a vertebrate ecologist, plant anatomist/morphologist, and developmental biologist/geneticist. Strong commitment to undergraduate teaching essential. Send application, three letters of recommendation, and resume no later than 2 December 1985 to: **Dr. Ronald Ballard, Dean, School of Science and Humanities, Texas Wesleyan College, Fort Worth, Tex. 76105.** *An Equal Opportunity Employer.*

POSITIONS OPEN

ASSISTANT OR ASSOCIATE PROFESSOR—BIOCHEMISTRY. The Department of Chemistry and Biochemistry, Southern Illinois University at Carbondale, has available a tenure-track position in the Biochemistry Division beginning 16 August 1986. Candidate selected will be jointly appointed in the Department of Medical Biochemistry. Preference will be given to candidates with experience in biological chemistry dealing with membrane components or enzyme mechanisms. Minimum qualifications are a Ph.D. degree and postdoctoral training. Qualified candidates should send curriculum vitae, an outline of planned research program, and three letters of reference, before 16 December 1985, to: **Dr. Joseph C. Schmitt, Department of Chemistry and Biochemistry, Southern Illinois University, Carbondale, Ill. 62901.** *Southern Illinois University is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR OF MICROBIOLOGY

The Department of Microbiology, University of Illinois, Urbana, invites applications for a full-time (9 months per year) tenure-track appointment at the assistant professor level. The position is available for August 1986. Applicants must have a Ph.D. and at least 2 years of postdoctoral experience. Preference will be given to applicants who have demonstrated research competence in molecular biology and who plan to work in the general area of microbial genetics and physiology. The appointee is expected to establish a vigorous research program, to participate in undergraduate and graduate teaching, and to supervise graduate students. Salary will be commensurate with education and experience.

Applicants should send curriculum vitae, a summary of future research interests, and the names and addresses of three references to: **Dr. A. Salyers, Department of Microbiology, University of Illinois, 131 Burrill Hall, 407 South Goodwin, Urbana, Illinois 61801; telephone: (217-333-7378).** To receive full consideration applications should be received by 15 November 1985. Some interviews may be conducted before 15 November 1985. However, all applications that are received by that date will be given equal consideration. *The University of Illinois is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR PLANT MOLECULAR BIOLOGY

Anticipated tenure-track position available as early as 1 January 1986, as part of a rapidly expanding Plant Molecular Biology Center with appointment(s) possible in the Departments of Biological Sciences and/or Chemistry. Candidates must have a demonstrated competence in plant molecular biology and recombinant DNA technology. Postdoctoral experience is required. Development and maintenance of a vigorous research program with extramural funding is expected. Other duties will include a limited amount of formal teaching and the supervision of doctoral students. Northern Illinois University is a comprehensive university of 25,000 students located in a pleasant, attractive community 65 miles west of Chicago. Send curriculum vitae, statement of research goals, and three letters of reference by 30 November 1985 to: **Dr. Marvin Starzyk, Department of Biological Sciences, Northern Illinois University, DeKalb, Ill. 60115.** Telephone: 815-753-1753. *The University is an Affirmative Action/Equal Opportunity Employer.*

CELL BIOLOGIST

The Department of Anatomy and Cell Biology at the University of Florida invites applications for a tenure-track position as an assistant professor to be filled by 1 September 1986. The applicant should have a Ph.D., 2 years of postdoctoral experience, and demonstrate the ability to develop an independent research program. The specific area of expertise is open; however, the candidate should be conducting contemporary research directed toward the understanding of basic cellular and/or developmental processes at a molecular level. The appointee will be expected to take an active role in the graduate program and to participate in medical and dental student teaching in one of the following areas: cell biology, histology, embryology, or gross anatomy. Previous teaching experience in these subjects is not required, but there must be a sincere interest in becoming an accomplished teacher. Applicants should send complete curriculum vitae with reprints and names of three references to: **Dr. Carl Feldherr, Chairman of Search Committee, Department of Anatomy and Cell Biology, Box J-235 JHMHC, University of Florida College of Medicine, Gainesville, Florida 32610.**

Application deadline: 1 January 1986.

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Applied bioTechnology, a growing company specializing in:

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We are seeking highly-qualified individuals with at least two years of post-doctoral experience to assume major roles in the direction and development of vaccine and oncogene products.

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

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

The institution desires candidates with records of excellence in health professions, education, and/or research or equivalent professional accomplishments. Candidates should have experience in administration including planning and development.

Position is available spring 1986, but will consider a later starting date. Letters of application with current résumés and names of three references should be sent to:

**Dr. Leonard Werner, Chairperson
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SUNY College of Optometry
100 East 24 Street
New York, New York 10010**

Equal Opportunity/Affirmative Action Employer

Assistant Scientist Plant Biology



An equal opportunity employer

The Plant Genetics Department of Pfizer Central Research has an opening in plant biochemistry at the Assistant Scientist level. This department provides the basic research support for the corn, sorghum and soybean breeding programs of DeKalb-Pfizer Genetics.

The successful candidate will join a multidisciplinary team working on genetic improvement of crop plants and will be involved with investigating the biochemical basis for desirable agronomic traits. You will work with both whole-plant biologists as well as specialists in molecular and cellular biology involved in genetic transformation of cereal crops.

A strong commitment to innovative research with a willingness to learn new techniques is a prime requirement. Applicants should have training in plant biology or microbiology at the MS level with a background in basic botany or plant science. Experience in plant physiology, especially in the area of photosynthesis and carbon metabolism, would be of benefit. Preference will be given to individuals that can positively interact with other scientists while working toward a common goal.

This position offers an excellent opportunity for professional recognition and career growth. We offer an excellent salary, benefit and relocation package plus an attractive Southeastern Connecticut shore location. Qualified applicants should submit their resume, including the names, addresses and phone numbers of three professional references to: **Charles P. Norris, Personnel Associate, Pfizer Central Research, Eastern Point Road, Groton, CT 06340.**

POSITIONS OPEN

NIH BIOCHEMIST

Position available June 1986 for a research associate (Ph.D. or M.D.). The program is designed for individuals who are less than 3 years postdoctoral and are not U.S. citizens, with background or interest in research on microtubules. Current projects relate to post-translational modifications of microtubule proteins, membrane-microtubule interactions, and flagellar motility. Inquiries to: **Dr. Martin Flavin, Laboratory of Cell Biology, NHLBI, NIH, Bethesda, Maryland 20892.**

OLD DOMINION UNIVERSITY

BIOCHEMISTRY—SEARCH REOPENED. Tenure-track assistant professor position available August 1986 with earlier appointment possible. The department offers the B.S. degree in biochemistry, the B.S. and M.S. degrees in chemistry, and has a joint Ph.D. degree program in Biomedical Sciences with Eastern Virginia Medical School. Candidates should have an earned doctorate in biochemistry or clinical chemistry; postdoctoral experience preferred. Responsibilities include teaching undergraduate and graduate courses and initiating a vigorous research program. Areas of research preferred are nucleic acid chemistry or immunochemistry. Salary commensurate with qualifications and experience. *Minority candidates are especially encouraged to apply.* Send curriculum vitae, brief statement of research interests, and three letters of recommendation by 1 January 1986 to: **Dr. Robert L. Ake, Department of Chemical Sciences, Old Dominion University, Norfolk, Va. 23508. Old Dominion University is an Affirmative Action/Equal Opportunity Institution.**



CARDIOVASCULAR PHARMACOLOGIST/ PHYSIOLOGIST

Nova Pharmaceutical Corporation, a company dedicated to the discovery of novel therapeutic and diagnostic products using the most current techniques, has an immediate opening for a cardiovascular pharmacologist/physiologist with at least 2 years of postdoctoral experience. The ideal candidate would be familiar with *in vivo* techniques to assess systemic hemodynamic and cardiac function. Experience with renal, respiratory and/or gastrointestinal *in vivo* models would be helpful, but is not essential. The ability to initiate and conduct, or to direct goal-oriented research within a team framework, and a proven publication record is essential.

Nova occupies new facilities at the Francis Scott Key Medical Center in Baltimore, and has strong intra-campus links with The Johns Hopkins University, NIDA, and NIA. Nova has a full complement of chemical, biochemical, and pharmacological support personnel.

Nova offers competitive salaries and an excellent benefits package. For further information, please submit a current résumé with salary requirements to:

Lydia K. Cumor
Director of Personnel
Nova Pharmaceutical Corporation
5210 Eastern Avenue
Baltimore, Maryland 21224-2788

An Equal Opportunity/Affirmative Action Employer

DIRECTOR. Central Wisconsin Groundwater Information and Education Center, University of Wisconsin (UW)—Extension and College of Natural Resources, University of Wisconsin-Stevens Point. The candidate will be responsible for establishing the Groundwater Center and developing its educational program. Position requires advanced degree (Ph.D. preferred) in a field related to groundwater science. Faculty or staff position, depending on qualifications and degree status. Competitive salary commensurate with experience. Write to: **Professor A. Somersan, UW—Extension, 421 Extension Building, 432 North Lake Street, Madison, Wis. 53706, or telephone: 608-262-1748, for a copy of the position announcement.** Application deadline is 30 November 1985. *UW—Extension is an Equal Opportunity Employer.*

POSITIONS OPEN

CELL BIOLOGIST

Whittaker M.A. Bioproducts, a leader in the fields of cell culture and cell culture media, located 45 miles from Washington, D.C., in Walkersville, Maryland, has an opportunity for a scientist in our cell culture Research and Development Group. This position involves the development of chemically defined cell culture media and novel cell lines. Candidates should have a Ph.D. in cell biology, microbiology, or allied biological science, and expertise in the area of cell culture.

We offer an outstanding benefit and compensation package. For consideration, please forward résumé with salary history to: **Marian Knill, Director of Personnel, Whittaker M.A. Bioproducts, Biggs Ford Road, Walkersville, Md. 21793. An Equal Opportunity Employer.**

CELLULAR IMMUNOLOGIST

Otsuka Pharmaceutical Co., Ltd., Maryland Research Laboratories is seeking a Cellular Immunologist as Chief Scientist of the Immunology Department. Join an interdisciplinary team devoted to fostering creative, innovative research in the area of auto-immune diseases. The successful candidate will have:

- more than five years postdoctoral studies in Immunology
- basic understanding of Molecular Immunology
- investigative experience with T-Cell derived lymphokines and B-Cell differentiation

Salary and benefits are commensurate with qualifications and experience. Applications for this position should include C.V., publication record, and at least three references. Please send applications to:



Otsuka Pharmaceutical Co., Ltd.
Maryland Research Laboratories
General Affairs Department
P.O. Box 4165
Rockville, Maryland 20850

An Equal Opportunity Employer

COASTAL MARINE SCHOLAR. The Marine Sciences Research Center is seeking recent Ph.D.'s as candidates for a postdoctoral research position in any aspect of marine science, coastal zone management, or related disciplines. Twenty-one months of stipend will be provided (\$22,080 for 12 months). Scholars are encouraged to pursue their own research interests and to contact potential faculty sponsors regarding supplementary support. All requirements for Ph.D. must be completed by time of appointment. Submit résumé, detailed statement of research interests, and three letters of recommendation by 15 December 1985 to: **Dr. V. A. Gerard, Marine Sciences Research Center, State University of New York (SUNY) Stony Brook, Stony Brook, N.Y. 11794-5000. SUNY, Stony Brook, is an Affirmative Action/Equal Opportunity Educator and Employer.** AK Number 266A.

THE UNIVERSITY OF CALGARY POSITION IN DIABETES RESEARCH

The Julia McFarlane Diabetes Research Unit at the University of Calgary seeks a new faculty member with expertise in immunology in the area of diabetes mellitus research, with special emphasis on cell-mediated immunity. Candidates must be qualified to compete for funds from the Alberta Heritage Foundation for Medical Research or the Medical Research Council of Canada. Remuneration will be based on faculty rank salary scales at the University of Calgary. Rank will be based on qualifications and research experience. *All qualified individuals are encouraged to apply but preference will be given to Canadian citizens and permanent residents.* Deadline for receipt of applications is 30 November 1985. Please send curriculum vitae and names of three referees to:

Dr. D. A. K. Roncari, Director
Julia McFarlane Diabetes Research Unit
Faculty of Medicine
Health Sciences Centre
Room 2559
3330 Hospital Drive, NW
Calgary, Alberta, Canada T2N 4N1

POSITIONS OPEN

CARDIOLOGY RESEARCH TRAINING—Postdoctoral positions are available for M.D.'s or Ph.D.'s in a recently funded research training program. Experience in laboratory or clinical investigation and a formal research curriculum are available. Contact: **J. David Bristow, M.D., Division of Cardiology, Oregon Health Sciences University, 3181 Southwest Sam Jackson Park Road, Portland, Oregon 97201.**

CELL AND MOLECULAR BIOLOGY. A newly established research institute is seeking recent Ph.D.'s and M.D.'s to establish basic research programs broadly related to the diagnosis and treatment of children's diseases. Successful applicants will be offered laboratory space, seed money for research, university appointments, and renewable multiyear contracts at competitive salaries. If you think you have the qualifications, would like to see your work contribute to the welfare of children, and want to be in at the beginning, please send your curriculum vitae, a letter describing your interests and goals, and the names of three references to: **Dr. A. J. Kahn, Director, Pediatric Research Institute, Cardinal Glennon Children's Hospital, 1465 South Grand Boulevard, St. Louis, Missouri 63104. An Equal Opportunity Employer.**

CHAIRPERSON DEPARTMENT OF ANATOMY MEDICAL COLLEGE OF OHIO-TOLEDO

Applications and nominations are invited for the position of chairperson of the Department of Anatomy. Candidates holding a Ph.D. or M.D. degree must be highly qualified individuals with nationally recognized credentials in research with senior academic accomplishments. Administrative experience is desirable but not essential. The position offers an excellent opportunity to develop a leading academic department due to outstanding resources, scientific environment, and faculty positions.

Application or nomination should include curriculum vitae. Address correspondence to: **James H. Freisheim, Ph.D., Professor and Chairman, Department of Biochemistry, Medical College of Ohio, C.S. Number 10008, Toledo, Ohio 43699. An Equal Opportunity Employer, M/F.**

COMPUTER PROGRAMMER with biochemical/chemical background. Individual with degree in chemistry or biochemistry and computer familiarity or degree in computer science with chemistry/biochemistry familiarity to act in conjunction with molecular modeling group in documenting software for analysis and graphic display of large and small molecules. Please send résumé to: **ImClone Systems, Inc., 180 Varick Street, New York, New York 10014.**

DEVELOPMENTAL BIOLOGIST—Grinnell College invites applicants for a tenure-track position as **assistant professor of biology** to begin in August 1986, in **animal developmental biology** with proficiency in the molecular, cellular, and genetic approaches to development. Duties will be to teach an advanced course in this field and team-taught lecture-laboratory courses in both cellular and introductory biology. We seek candidates with a broad interest in biology who plan active research programs involving undergraduates. Start-up funds, excellent facilities, and continuing support for research are available. Send curriculum vitae, three letters of recommendation, and scholarly materials to: **Karl T. DeLong, Department of Biology, Grinnell College, P.O. Box 805, Grinnell, Iowa 50112-0806. Application deadline: 1 January 1986.**

Grinnell College is an Equal Opportunity/Affirmative Action Employer and especially seeks women and minority candidates.

PHYSIOLOGIST—Grinnell College invites applicants for a tenure-track position as **assistant professor of biology** to begin in August 1986. We seek an **animal organismal physiologist** specializing in the cellular mechanisms underlying physiology. Duties will be to teach an advanced course in this field, an advanced course in cellular biology, and team-taught lecture-laboratory course in both cellular and introductory biology. We seek candidates with a broad interest in biology who plan active research programs involving undergraduates. Start-up funds, excellent facilities, and continuing support for research are available. Send curriculum vitae, three letters of recommendation, and scholarly materials to: **Karl T. DeLong, Department of Biology, Grinnell College, P.O. Box 805, Grinnell, Iowa 50112-0806. Application deadline: 1 January 1986.**

Grinnell College is an Equal Opportunity/Affirmative Action Employer and especially seeks women and minority candidates.

Medical Staff Fellowship in Molecular Genetics at NIH

The Molecular Genetics Section of the Genetics and Biochemistry Branch, National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases, National Institutes of Health, is offering a Medical Staff Fellowship in Molecular Genetics. Applications are invited from individuals of the highest caliber with the M.D., or M.D., Ph.D. degrees. Applicants should have two years of clinical experience and research experience is preferred. Applications are being accepted now for appointments which begin July 1986. The appointment is for two years and there is a possibility of extension of the appointment for a third year.

The Medical Staff Fellow may participate in the NIH Interinstitute Medical Genetics Program as well as carry out research in basic molecular

genetics involving recombinant DNA techniques and DNA-mediated gene transfer into eukaryotic cells.

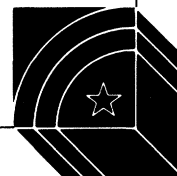
Interested candidates should submit their curriculum vitae to or request further information from:

Dr. R. Daniel Camerini-Otero
Chief, Genetics and Biochemistry Branch
National Institute of Arthritis, Diabetes,
and Digestive and Kidney Diseases
Building 10, Room 9D-15
National Institutes of Health
Bethesda, Maryland 20205

Deadline for applications is November 15, 1985.



NIH is an Equal
Opportunity
Employer



BIO-TECHNOLOGY

New Company **CHIEF EXECUTIVE** New Zealand

Thermophilic Enzymes Development

This is a rare opportunity to head up a "Grass Roots" company, New Zealand Enzymes, Limited which has recently been formed by Development Finance Corporation which, in turn, is New Zealand's largest venture capital firm.

NZEL has exclusive rights to the extreme thermophile technology of the universities of Waikato and Auckland, whose research leads the world in the development of a full range of enzymes with unequalled thermostability and general robustness. This success stems from New Zealand's extensive geothermal hot pools which contain the largest variety of thermophilic and extreme thermophilic micro-organism in the world, many of which appear unique.

The appointee will lead NZEL and the commercial exploitation of the resource, there being several directions in which the company is likely to develop and grow as it "breaks new ground". Initially they will focus on marketing of the technology, negotiation of R&D contracts, monitoring their performance and related activities. As the markets are primarily in North America and Europe, quite regular travel will be required from the New Zealand head office.

The compensation and comprehensive benefits package (including stock options) will recognize the critical importance of the position of the international standing of the appointee. Candidates must be senior executives with appropriate degree(s), relevant technical experience (minimum 10 years), entrepreneurial outlook and a superior record of commercial achievement in a closely allied field. Relocation expenses will be reimbursed.

Security: Your application will be accorded the strictest confidence. Initial interviews will be conducted in your locality. Please forward your resume and other pertinent details, quoting reference 1439 to:

PA E. R. Harrison
PERSONNEL SERVICES

PO Box 4178, Auckland 1, New Zealand
Telephone: (9)396721

**SENIOR POSITIONS IN
CLINICAL/MOLECULAR GENETICS
MEHARRY MEDICAL COLLEGE**

Two senior positions are available in the Department of Pediatrics as follows:

- 1) A chair professorship endowed by the Kellogg Foundation. We are interested in making an appointment, as soon as possible, of an individual with professional interests in clinical/molecular genetics, although exceptionally talented individuals with research interests in other areas will be considered.
- 2) Under the sponsorship of the March of Dimes-Birth Defects Foundation, Meharry Medical College will appoint a distinguished scientist in the area of clinical genetics and/or molecular biology in its Department of Pediatrics. The position is sponsored under a cooperative program between the March of Dimes-Birth Defects Foundation and Meharry Medical College.

For both positions, opportunity will be created for joint appointments in appropriate basic science departments. Interested individuals should hold the M.D. degree or M.D./Ph.D. and possess professional experience appropriate for appointment at the level of **associate or full professor**. The selected individuals are expected to have demonstrated leadership qualities necessary to catalyze institution-wide interest and expansion of research in clinical/molecular genetics and/or research related to birth defects, and to participate in regular teaching/patient care and postgraduate training programs of the Department of Pediatrics and/or appropriate basic science department.

Nominations or applications, containing curriculum vitae, names of four individuals who may be contacted for reference, and a summary of research interests or ongoing projects, should be sent to either: Ifeanyi J. Arinze, Ph.D., Chairman, Department of Biochemistry, or Festus Adebajo, M.D., Chairman, Department of Pediatrics, Meharry Medical College, Nashville, Tennessee 37208. *Meharry Medical College is an Equal Opportunity/Affirmative Action Employer.*

**UNIVERSITY OF MINNESOTA
MEDICAL SCHOOL
CORE LABORATORY DIRECTOR,
CLINICAL RESEARCH CENTER**

The General Clinical Research Center (GCRC) at the University of Minnesota seeks a faculty member at the rank of assistant professor to serve as the director of the Core Laboratory (CL) of the GCRC. The director must have a Ph.D. or M.D. degree and three or more years of postdoctoral and clinical-biochemical laboratory experience in an academic medical center. The individual should have demonstrated leadership abilities for supervising laboratory technologists and experience in teaching laboratory techniques. This position carries a tenure-track appointment in a basic health science department of the University of Minnesota Medical School and significant responsibilities for teaching of health science professional or postdoctoral students.

The director will collaborate in the clinical research studies of the GCRC, especially in initiating new assays and biochemical-clinical laboratory techniques. He/she will supervise and consult with technologists in the GCRC-CL, assure quality control and efficient management of the CL, and solve technical-scientific problems related to clinical research.

The applicant should have established credentials as a productive researcher and should be able to obtain grant funding through national agencies to support his/her personal research efforts. Preference will be given to candidates performing research in diabetes and related areas of endocrinology.

Candidates are invited to send, by 25 November 1985, a letter of application, curriculum vitae, and bibliography to:

**Bernard L. Mirklin
Professor of Pediatrics and Pharmacology
Chairman, Search Committee
Mayo Box 87
University of Minnesota
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

**DEAN, SCHOOL OF FORESTRY AND
ENVIRONMENTAL STUDIES**

Applications and nominations are invited for the position of dean of the Duke University School of Forestry and Environmental Studies. The School offers graduate programs leading to the master of forestry, master of environmental management, and, through the Graduate School, the M.S. and Ph.D. degrees. The School also offers concurrent degrees with Duke University's Fuqua School of Business and The Institute of Policy Sciences and Public Affairs. The School has built a strong reputation for producing leaders in public agencies, industry, education, and research in all parts of the nation and the world. It has a young and vigorous faculty and an excellent student body. The recent establishment of a sizable endowment fund for the School opens up many possibilities for development.

The dean of the School of Forestry and Environmental Studies is its chief executive officer and is responsible to the provost and the president for academic and administrative leadership in the School. The successful candidate is expected to have a Ph.D. degree or its equivalent, an established reputation in an area of forestry or environmental research, and a demonstrated talent for administration. Candidates must meet standards for appointment at the rank of professor with tenure. The expected starting date is 1 July 1986 or as soon thereafter as feasible.

Applications and nominations should be sent no later than 15 December 1985 to: **Aubrey W. Naylor, Chairman, Dean Search Committee, Department of Botany, Duke University, Durham, North Carolina 27706.**

Duke University is an Equal Opportunity/Affirmative Action Employer.

Baylor College of Medicine is searching for a **DIRECTOR** for its **LABORATORY ANIMAL CARE PROGRAM**. The task requires Board-certification/eligibility in laboratory animal medicine and demonstrated experience in programmatic development. The college recently occupied a \$4.5-million central animal facility and is renovating its major satellite facilities. Competitive salary and academic appointment are negotiable. Please send résumé and the names and addresses of three references, before 15 December 1985, to: **Robert R. Rich, M.D., Chairman, Search Committee, Baylor College of Medicine, DeBakey Center M929, One Baylor Plaza, Houston, Texas 77030.** *Baylor College of Medicine is an Affirmative Action/Equal Opportunity Employer.*

ELECTRON MICROSCOPIST

Position available for supervisor of transmission electron microscopy laboratory. Requires B.S. or M.S. in biology and minimum of 3 years of experience in electron microscopy. Experience in cell and tissue culture also desirable.

Position involves supervising a laboratory serving cell biologists conducting research on the regulation of cell growth and differentiation. Responsibilities include processing of cells and tissues for ultra-thin sectioning and critical point drying, implementation of new techniques, training of junior staff, and routine maintenance of an Hitachi HU12 electron microscope.

Send résumé and salary requirements to:

**James G. Kerr
Department B82
Southern Research Institute
P.O. Box 55305
Birmingham, Ala. 35255-5305**

An Affirmative Action/Equal Opportunity Employer

**FACULTY POSITIONS IN CELLULAR
AND MOLECULAR BIOLOGY**

Applications are invited for tenure-track positions in the Department of Cell Biology and Anatomy at Northwestern University Medical School. These positions are at the assistant and associate professor levels. Applicants must have a Ph.D., M.D., or equivalent degree, with research experience in cellular and/or molecular biology. Applicants will be screened with respect to their ability to carry on vigorous research programs and to participate in the teaching of graduate and medical students. Send complete curriculum vitae, brief description of research interests, and at least three letters of recommendation to: **Dr. Robert D. Goldman, Department of Cell Biology and Anatomy, Northwestern University Medical School, 303 East Chicago Avenue, Chicago, Ill. 60611.** *Northwestern University is an Equal Opportunity/Affirmative Action Employer and invites applications from all qualified individuals.*

POSITIONS OPEN

**HARVARD UNIVERSITY
EXPERIMENTAL ANIMAL ECOLOGIST**

The Department of Organismic and Evolutionary Biology is seeking to fill an assistant professorship in the area of animal ecology at the population or community level, working in any habitat. Applications are encouraged from individuals with a strong experimental focus in research, but combined with a solid background in ecological theory. The incumbent will be expected to develop an independent teaching and research program involving undergraduate and graduate students.

Those interested in applying should send a letter describing teaching/research experience and future plans, curriculum vitae, copies of representative publications, and the names of three individuals willing to serve as sources of recommendation to: **Lisa Workman, Department of Organismic and Evolutionary Biology, Harvard University, 26 Oxford Street, Cambridge, Massachusetts 02138,** no later than 15 December 1985.

Harvard University is an Affirmative Action/Equal Opportunity Employer.

**DEPARTMENT OF PSYCHOLOGY
CORNELL UNIVERSITY**

The Department of Psychology of the College of Arts and Sciences of Cornell University has an opening in fall 1986 for an **EXPERIMENTAL PSYCHOLOGIST** at any rank interested in cognition, language, and/or perception. We invite applicants with a variety of interests in experimental psychology including those with a developmental perspective. Candidates should submit curriculum vitae, reprints or preprints of recent research, and arrange that at least three letters of recommendation be sent to:

**Experimental Psychology Search Committee
Psychology Department
Uris Hall
Cornell University
Ithaca N.Y. 14853**

Cornell University is an Equal Opportunity/Affirmative Action Employer

FACULTY—NEUROCHEMIST. A junior or senior position for a neurochemist with extensive experience in the neurochemistry of neurological pathophysiology and behavior is available in the Department of Basic Sciences, University of Illinois, College of Medicine, at Peoria. Responsibilities: provide leadership in teaching of medical students and residents; conduct original investigations into neurochemical processes and the neurochemistry of behavior and diseases of the nervous system including epilepsy; and establish collaborative research programs within the College of Medicine. Requirements: Ph.D. in neurochemistry or biochemistry with major emphasis in neurochemistry; publication record in neurochemical pathophysiology and neurochemistry of behavior; record of extramural funding for research (associate or full professor); record of excellence in teaching medical students; and minimum of 6 years of experience in academic medical setting since receiving Ph.D. degree. Position available 1 January 1986 or after. Salary and rank commensurate with qualifications and responsibility. *The University of Illinois is an Affirmative Action/Equal Opportunity Employer.* Send curriculum vitae and names of three references to: **Phillip C. Jobe, Ph.D., Professor and Chair, Department of Basic Sciences, University of Illinois College of Medicine at Peoria, Box 1649, Peoria, Ill. 61656.** Applications will be received until the position is filled.

**UNIVERSITY OF PENNSYLVANIA
FACULTY POSITION**

Applications are invited for a postdoctoral fellow or junior faculty appointment in the Department of Dermatology. Level of appointment will depend on experience, accomplishment, and so forth. The candidate must have a Ph.D. in an area of immunology and have skills and interest in the following areas: (i) immunologic methods for study of cell growth and differentiation in normal and neoplastic cells; (ii) lymphocyte interactions and homing patterns in skin; (iii) lymphocyte products and mediators, and (iv) generation of hybridomas and monoclonal antibodies. Salary negotiable. Send detailed résumé and list of three references to: **Brian V. Jegasothy, M.D., Professor and Vice Chairman, Department of Dermatology, University of Pennsylvania, 329 Medical Education Building, 36th and Hamilton Walk, Philadelphia, Pa. 19104.**

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

STAFF OFFICER

Radiation Effects Research Foundation NATIONAL RESEARCH COUNCIL

The NATIONAL RESEARCH COUNCIL, operating agency of the National Academy of Sciences, National Academy of Engineering and the Institute of Medicine, is seeking a senior level administrator/scientist to direct NRC participation in the Radiation Effects Research Foundation, a binational organization studying the effects of radiation exposure in Hiroshima and Nagasaki. The individual selected will be responsible for securing, monitoring and budgeting approximately \$10 million per year; recruiting scientists; performing research using RERF data; negotiating with Japanese counterparts and staffing the RERF Advisory Committee. An advanced degree or equivalent in epidemiology, biostatistics, or a radiation effects related field is preferred, however relevant expertise in radiation biology, biophysics and, especially cancer causation, will be considered. Applicants must be familiar with scientists involved in radiation effects research. Ten years' experience in scientific research/administration is desired, and experience in a foreign country and some knowledge of the Japanese language/culture would be helpful. The successful candidate must be willing to reside in Japan for 1-2 years in the early stages of employment.

Salary is competitive with special allowances during residency in Japan. Excellent employee benefit package. Applications and salary requirements should be forwarded by December 1, 1985 to:

Dr. Alvin G. Lazen, Executive Director
Commission of Life Sciences

National Academy of Sciences

2101 Constitution Ave., N.W.
Washington, DC 20418
Equal Opportunity Employer

ROCHE

Pulling together data from a broad range of medical disciplines and synthesizing them into well-organized English language documents for submission to international regulatory authorities.

For this challenging activity within Clinical Research, Documentation, we are looking for a qualified

Clinical Research Scientist

If you have a solid research and publication record and the ability to critically review and clearly explain complex technical data, this position offers an interesting challenge.

Your background should include a Ph.D. or Ms. degree (or equivalent) in a biomedical discipline and a perfect command of the English language. A basic knowledge of statistics is an asset.

Please send your application to our Personnel Department, reference Science Dt/118/85, for immediate consideration.

F. Hoffmann-La Roche & Co. Ltd., 4002 Basel, Switzerland

ROCHE



The Howard Hughes Medical Institute

and

The National Institutes of Health

again announce

The Program for Research Opportunities for Medical Students

1986-87

HHMI-NIH Research Scholars can spend 9-12 months in one of the 1,000 research laboratories located at the NATIONAL INSTITUTES OF HEALTH, Bethesda, MD.

Salary, fringe benefits and travel will be provided.

Further information and application forms may be obtained by writing to the Howard Hughes Medical Institute, P.O. Box 330837, Coconut Grove, FL 33133

Your request for the application information should be received by December 2nd, 1985.

Final deadline for return of all application materials is January 15th, 1986.

POSTDOCTORAL APPOINTMENTS IN MATERIALS SCIENCE

The Materials Science and Technology Division of Los Alamos National Laboratory has a broad involvement at the forefront of materials research in support of the Nation's defense and energy programs.

Research opportunities are available in the area of materials chemistry including:

- Synthesis and characterization of novel ceramic and metallic materials. Synthesis techniques include chemical vapor deposition; ion implantation; thermal plasma, vapor deposition; and vapor-liquid-solid deposition.
- Synthesis and characterization of conducting and super strong polymers.
- Fundamental investigations of aqueous, organic and fused salt extraction processes, and liquid and solid state combustion processes.
- Surface studies and characterization (AES, EELS, EXAFS, FTIRS, IRRAS, SERS, UPS, and XPS) of thin optical coatings and novel energy conversion materials.

The Laboratory's postdoctoral appointees collaborate with leading scientists in a multidisciplinary R&D environment that includes exceptional experimental facilities, and one of the world's largest computing facilities.

- Appointments are for one year and may be renewable for a second year.
- Competitive stipends are provided in addition to the full range of employee benefits.

Candidates no more than three years past their Ph.D. are invited to apply by submitting a cv/resume, undergraduate and graduate transcripts, three letters of reference and a statement of research interests to:

Carol M. Rich
POSTDOC-FJ
Personnel Administration Division
Los Alamos National Laboratory
P.O. Box 1663, MS P290
Los Alamos, NM 87545

an Affirmative Action/
Equal Opportunity Employer
U.S. Citizenship Required

University of California



POSITIONS OPEN

FACULTY POSITION IN BIOCHEMISTRY

Applications are invited for a tenure-track position at the assistant or associate professor level. Preference will be given to individuals with principal research interests in neurobiology at the molecular/cellular level. Candidates should have two or more years of postdoctoral experience and a strong commitment to research.

Please send curriculum vitae, a summary of research plans, and the names of three references to: Search Committee, Department of Biochemistry, Dartmouth Medical School, Hanover, New Hampshire 03756. *Dartmouth Medical School is an Equal Opportunity/Affirmative Action Employer.*

THE UNIVERSITY OF CALGARY FACULTY POSITION IN DIABETES RESEARCH

The Julia McFarlane Diabetes Research Unit at the University of Calgary seeks a new faculty member with expertise in islet cell/beta cell culture and transplantation. Training and experience in the fields of cell biology and/or immunology and/or molecular biology are requisite. Candidates must be qualified to compete for funds from the Alberta Heritage Foundation for Medical Research or the Medical Research Council of Canada. Remuneration will be based on faculty rank salary scales at the University of Calgary. Rank will be based on qualifications and research experience. *All qualified individuals are encouraged to apply but preference will be given to Canadian citizens and permanent residents.* Deadline for receipt of applications is 30 November 1985. Please send curriculum vitae and names of three references to:

Dr. D. A. K. Roncari, Director
Julia McFarlane Diabetes Research Unit
Faculty of Medicine
Health Sciences Centre
Room 2559
3330 Hospital Drive, NW
Calgary, Alberta, Canada T2N 4N1

TENURE-TRACK FACULTY POSITION UNIVERSITY OF ROCHESTER SCHOOL OF MEDICINE AND DENTISTRY

The Department of Pharmacology and the Cancer Center at the University of Rochester invite applications for a tenure-track faculty position; applications for all professorial ranks will be considered. The successful applicant may hold a primary appointment in the Department of Pharmacology or joint primary appointments in the Department of Pharmacology and in the Cancer Center. Applicants should have a Ph.D. degree in pharmacology or a related field, an M.D. degree, or both, postdoctoral research training, the potential to attract research support to an independent research program, and an interest in professional and graduate education. Applications are welcome from individuals with expertise in any area of pharmacology, and candidates who apply the techniques of modern biochemistry and cell and molecular biology are sought in particular. The deadline for applications is 31 December 1985. Applicants should forward curriculum vitae, a list of publications, three letters of recommendation, and a summary of current and future research interests to: Search Committee, Department of Pharmacology, Box Pharmacology, School of Medicine and Dentistry, 601 Elmwood Avenue, Rochester, N.Y. 14642.

Equal Opportunity Employer, M/F

FACULTY POSITION—The University of Georgia, Department of Plant Pathology, announces a 12-month, tenure-track position. Rank and salary commensurate with qualifications and experience. Responsibilities include developing a research program with emphasis on the biology of plant pathogenic fungi including morphology, ecology, taxonomy, and host/pathogen relationships. Candidates must have a Ph.D. degree in botany or plant pathology and be proficient in research techniques utilized in modern mycological studies.

Applications will be accepted until 15 December 1985. Applicants must submit biographical, professional, and personal data; a complete list of publications, reprints of publications during the last 5 years; list of honors and awards, statement of research interests, and any other information which reflects professional achievements; and four letters of reference from individuals who can provide a critical evaluation to: Wiley N. Garrett, Head, Department of Plant Pathology, University of Georgia, Athens, Georgia 30602. *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

FACULTY POSITION: RESEARCH ASSISTANT PROFESSOR. Ph.D. and experience in embryology, developmental biology, or molecular biology. Preference for experience: development of pulmonary surfactant system. Applicants should be capable of establishing and developing an independent research program in developmental and molecular biology. Salary commensurate with training and experience. Reply to: Jeffrey A. Whitsett, M.D., Director of Research, Division of Neonatology, Department of Pediatrics, University of Cincinnati Medical Center, Cincinnati, Ohio 45267-0541. *University of Cincinnati is an Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITIONS/MARINE REMOTE SENSING—The College of Marine Studies of the University of Delaware invites applications for a tenure-track faculty position in optical physics, emphasizing the use of visible, infrared, and microwave techniques in the marine environment. Teaching at the graduate level will be required, including courses on the theory and marine applications of electromagnetic waves. The successful candidate will be expected to develop a funded research program involving graduate students. This individual will have the opportunity to interact with ongoing research in remote sensing of wetlands biomass and estuarine productivity; coastal circulation and fronts; air-sea interaction; spectral/spatial analysis of satellite imagery, electromagnetic and sound wave interaction with suspended particles; and Laser Doppler characterization of marine plankton. Candidates should hold a Ph.D. in the physical sciences or engineering, with a strong background in fundamental research on remote sensing. It is anticipated that the appointment will be at the assistant or associate professor level, but applications from more senior persons are welcome. Applicants should send curriculum vitae, pertinent reprints, and names of three references to: Dr. V. Klemas, Director, Applied Ocean Science Program, College of Marine Studies, UNIVERSITY OF DELAWARE, Newark, Del. 19716. Telephone: 302-451-2336. Deadline is 1 January 1986. *The University of Delaware is an Equal Opportunity/Affirmative Action Employer.*

TENURE-TRACK FACULTY POSITION IN BIOCHEMISTRY

The Department of Biochemistry at the University of Wisconsin-Madison invites applications for a position as assistant professor in the biochemistry of animal cells or systems, including, but not limited to, biochemistry of the nervous, immune, and reproductive systems. Candidates must have demonstrated excellence and independence in biochemical research, and have a strong background in biochemistry. The successful candidate will be expected to develop a vigorous and independent research program and participate in the undergraduate and graduate teaching program of the department. Applications, including curriculum vitae and a statement of plans for future research, should be sent to: Dr. H. F. DeLuca, Department of Biochemistry, University of Wisconsin-Madison, Madison, Wis. 53706. In addition, candidates should have letters sent from three people familiar with them and their work. Applications should be received by 16 December 1985 in order to guarantee consideration. *The University is an Affirmative Action/Equal Opportunity Employer, and applications are encouraged from women and minorities.*

FACULTY POSITION in the Department of Medicine to be co-director of biochemistry core in the Inflammatory Bowel Disease Center. A Ph.D. degree in pharmacology or a related field is required. Collaborative and independent research will focus on eicosanoids. Send curriculum vitae and names, addresses, and telephone numbers of three references to: Dr. R. Zipser, Gastroenterology, Harbor-UCLA Medical Center, 1124 West Carson Street, Torrance, Calif. 90502. *An Affirmative Action/Equal Opportunity Employer.*

MEDICAL ONCOLOGIST—Researcher—Must have a significant clinical commitment with research background, preferably in applications of monoclonal antibodies or other biological modifiers to clinical problems. Background suited to collaboration with strong basic science group recently developed at the University of New Mexico Cancer Center. Rank depends on qualifications. Send curriculum vitae, representative reprints, and statement of interests and research goals to: Thomas Tomasi, M.D., Ph.D., Director, Cancer Center, Chairman, Department of Cell Biology, University of New Mexico, Albuquerque, N.M. 87131. *Affirmative Action/Equal Opportunity Employer.*

RESEARCH SCIENTIST

For Novel Drug Formulations

Southern Research Institute seeks a scientist with a multidisciplinary background for research in controlled release, microencapsulation, and physical pharmacology.

Position requires a Ph.D. in pharmacology, biophysics, or other appropriate field with a concentration in physical pharmacy. Duties include writing proposals, reports, and publications and supervising lab chemists. Current research programs include development of controlled-release microcapsule formulations for the delivery of steroids, polypeptide hormones, proteins, and other drugs; and the formulation of topical, oral, and injectable doses.

Submit resume and salary requirements to:



Denise D. Johnson
Department A81
SOUTHERN RESEARCH INSTITUTE
P.O. Box 55305
Birmingham, AL 35255-5305

An Affirmative Action Employer/U.S. Citizenship Required

RESEARCH ASSOCIATE LABORATORY OF IMMUNOLOGY NATIONAL INSTITUTES OF ALLERGY & INFECTIOUS DISEASES NATIONAL INSTITUTES OF HEALTH

Description of Duties

Position available immediately for qualified scientist to assist in transgenic mouse facility in the Laboratory of Immunology. Studies are currently in progress to study the expression and regulation of a number of normal and mutant genes that play critical roles in the immune response.

Qualification

Ph.D. or M.D. applicants with experience in embryo injection and transplantation are preferred, but others with similar qualifications will be considered.

The Lab. of Immunology offers a unique environment where modern cellular and molecular methods are being applied to a variety of fundamental problems in immunology.

Qualified and interested candidates should send curriculum vitae and names and addresses of three (3) references to:

William E. Paul, M.D.
Chief, Lab. of Immunology
NIAID, NIH
Bldg. 10, Rm. 11N311
Bethesda, MD. 20892

NIH is an Equal Opportunity Employer

DIVISIONAL DEAN AND PROGRAM DIRECTOR, DIVISION OF BIOMEDICAL SCIENCES AND UCR/UCLA PROGRAM IN BIOMEDICAL SCIENCES, UNIVERSITY OF CALIFORNIA, RIVERSIDE (UCR)

Responsible for leadership of the research, teaching, and service activities of the Division of Biomedical Sciences at UCR. Duties include supervision of an undergraduate/professional medical education program leading to the B.S. degree from UCR and the M.D. degree from UCLA over a coordinated 7-year period of study; leadership of and active participation in the research activities of the divisional faculty at UCR; supervision of undergraduate and medical school basic sciences curricula at UCR and the affiliated Harbor/UCLA Medical Center teaching facility; serving as chairperson of the Division of Biomedical Sciences (15 ladder-rank faculty) at UCR; and maintaining liaison among UCR, UCLA, UC Office of the President and other applicable state and national agencies. **Requires:** (i) doctorate degree (Ph.D., M.D., or equivalent) with personal distinction in the conduct of an active biomedical research program and in medical school teaching; (ii) demonstrated success in developing and managing strong academic programs; (iii) qualification for appointment as a tenured faculty member at UCR in the Division of Biomedical Sciences; and (iv) demonstrated administrative performance in complex institutional settings. Duties begin on or before 1 July 1986.

Please send nominations or letter of application, résumé, and names of at least three references, preferably by 1 December 1985, to: **Divisional Dean Search Committee, Office of the Chancellor, University of California, Riverside, Calif. 92521.**

The University of California is an Equal Opportunity/Affirmative Action Employer. Female and minority candidates are encouraged to voluntarily identify themselves.



NEW SOUTH WALES GOVERNMENT

PREMIER'S DEPARTMENT

THE DIRECTOR Royal Botanic Gardens and Domain Sydney, Australia

Applications are invited for the position of director of the Royal Botanic Gardens and Domain. The present Director retires at the end of this year. The Director is responsible to a Trust for the administration, management and development of all Trust lands and related activities, including the Royal Botanic Gardens and Domain, the partially developed Mount Tomah Botanic Garden and the newly acquired Mount Annan Native Botanic Garden and Arboretum. The Director is also responsible for the National Herbarium of New South Wales.

Applicants should have:

- Tertiary qualifications in an aspect of the plant sciences, experience in modern plant systematics and appreciation of ecology.
- A sound appreciation of the work and objectives of botanic gardens.
- Proven administrative skills at a senior level.
- An imaginative perception of public and scientific involvement in development of the Botanic Gardens and an ability to communicate at all levels.

Salary: \$A53,743 (under review) plus \$A668 p.a. expense allowance.

Conditions: The position offers permanent appointment to the Public Service and access to the State Public Service Superannuation Fund, subject to conditions. Normal Service leave conditions apply, including 4 weeks annual leave.

General: Consideration will be given to assistance with fares and removal expenses for an appointee from interstate (or overseas).

Applications close 22 November, 1985.

All applications should be marked "Confidential" and addressed to the Secretary, Premier's Department, State Office Block, Macquarie Street, Sydney, 2000 and should include the names of two referees. Further information may be obtained from Mr. J. Moore, Assistant Secretary, Premier's Department, telephone (02) 270 4456.

Equality of Employment Opportunity is Public Service Policy.

115450

POSITIONS OPEN

FACULTY POSITION—CELL BIOLOGY. A tenure-track position at the assistant professor level is available in the Zoology Department beginning September 1986. We are seeking candidates with postdoctoral research experience and demonstrated accomplishments in an area of cell biology; we expect the candidate to establish an active research program. Candidates should be committed to undergraduate teaching in comparative structure and function (major's course) as well as specialty areas of cell biology. Interested persons should submit curriculum vitae, names and addresses of three references, a description of research plans, and reprints of significant work by 15 January 1986 to: **Search Committee, Department of Zoology, University of Vermont, Burlington, Vt. 05405.** *The University of Vermont is an Equal Opportunity/Affirmative Action Employer; women, minorities, and handicapped persons are encouraged to apply.*

FACULTY POSITIONS DIVISION OF BIOLOGICAL SCIENCES UNIVERSITY OF MISSOURI—COLUMBIA Cell Biologist and Neuroscientist

The Division of Biological Sciences is beginning a multiyear faculty recruitment program. Two tenure-track faculty positions at the **JUNIOR or SENIOR** levels are available in the program of **cellular, developmental, and molecular genetics and neurobiology and behavior** beginning in August 1986. The Division has established strong programs in these fields, has a well-funded faculty, and currently participates in two predoctoral training grants. Candidates must have a Ph.D. in an appropriate field, at least 2 years of postdoctoral training, and a demonstrated record of research accomplishment. Candidates must be strongly motivated toward creative research and have a commitment to undergraduate and graduate teaching. Candidates for a senior faculty position should have an outstanding record that includes peer reviewed grants, research publications, and participation in teaching. Complete curriculum vitae, including a brief statement of research interests and the names of four references, should be sent by 15 December 1985 to: **Dr. Louis Sherman, Director, Division of Biological Sciences, University of Missouri, Tucker Hall, Columbia, Mo. 65211.**

The University of Missouri is an Equal Opportunity Employer and encourages applications from women and minorities.

IMMUNOLOGIST

Tenure-track assistant professor in the Department of Life Sciences. Ph.D. with 2 years of postdoctoral experience required. The candidate is expected to establish a research program and participate in undergraduate and graduate teaching. While applicants trained in any area of immunology will be considered, individuals with expertise in molecular immunology, immunogenetics, mechanism of pathogenesis or immunoregulation are encouraged to apply. Position available January or September 1986. Submit letter outlining research and teaching interests, curriculum vitae, bibliography, and three reference letters to: **Dr. William J. Brett, Chairman, Department of Life Sciences, Indiana State University, Terre Haute, Ind. 47809,** by 18 November 1985. *Indiana State University is an Equal Opportunity/Affirmative Action Employer.*

MICROBIAL PHYSIOLOGIST with experience and training in molecular biology and genetics. Ph.D./postdoctoral experience required. Teaching consistent with other science faculty; research. Start: 16 September 1986. Assistant professor, 9-month, tenure track. Application closing date: 20 January 1986. Send curriculum vitae, transcripts, and three letters of recommendation to: **J. L. Fryer, Chairman, Department of Microbiology, Oregon State University (OSU), Corvallis, Ore. 97331.** *OSU is an Affirmative Action/Equal Opportunity Employer and complies with Section 504 of the Rehabilitation Act of 1973.*

POSTDOCTORAL FELLOW. Position available after December 1985 to obtain research training and experience in the field of retinoids and retinoid-binding proteins. The position is part of a broad interdisciplinary training program in the areas of lipid and lipoprotein metabolism, vascular cell biology, mitogens, and atherosclerosis, supported by a NIH training grant. Requirements: a Ph.D. or M.D. or equivalent, and U.S. citizenship or permanent residency. Apply to: **Dr. DeWitt S. Goodman, Columbia University College of Physicians and Surgeons, 630 West 168 Street, New York, N.Y. 10032.** *Columbia University takes Affirmative Action to ensure Equal Opportunity.*

POSITIONS OPEN

FACULTY POSITION DEPARTMENT OF BIOLOGICAL STRUCTURE SCHOOL OF MEDICINE UNIVERSITY OF WASHINGTON

Applications are invited for an **assistant or associate professorial position** by candidates with well-established and funded research programs that complement one of the existing broad areas of investigation in the department: cellular and molecular biology, experimental immunology and hemopoiesis, neurobiology, reproductive and developmental biology, macromolecular structure, morphometrics and computer modeling. The individual appointed must have, or be willing to acquire, the skills needed to teach in the anatomical disciplines and participate in the graduate program. Please send curriculum vitae, publication list, résumé of current research activity, status of funding, and four letters of reference by 1 December 1985 to: **Cornelius Rosse, M.D., D.Sc., Chairman, Department of Biological Structure, University of Washington, SM-20, Seattle, Washington 98195.** *The University is an Equal Opportunity/Affirmative Action Employer.*

MOLECULAR BIOLOGIST. Research faculty position for Ph.D. with at least 2 to 3 years of postdoctoral training and experience. Conduct independent and collaborative research in the area of retinoids and retinoid-binding proteins. Interests include regulation of gene expression and cell differentiation. Also serve as head of a new core molecular biology laboratory in Columbia's Arteriosclerosis Research Center. Train and collaborate with investigators studying: lipids and lipoproteins, mitogens, vascular cell biology, atherogenesis. Expertise in commonly utilized recombinant DNA methodologies essential. Salary negotiable. Send curriculum vitae, bibliography and selected reprints, and names of three references to: **Dr. DeWitt S. Goodman, Columbia University College of Physicians and Surgeons, 630 West 168 Street, New York, N.Y. 10032.** *Columbia University takes Affirmative Action to ensure Equal Opportunity.*

MOLECULAR BIOLOGIST/GENETICIST. Tenure-track assistant professor position, starting fall 1986, in an eight and one-half-member undergraduate biology department. Ph.D. required. Franklin and Marshall, a coeducational liberal arts college, is strongly committed to both research and teaching. Primary teaching responsibilities will be a core course in genetics and an upper-level molecular biology course; ability to participate in other courses (for example, biochemistry, microbiology, or plant biology) is important. Research experience in the molecular biology of plants or prokaryotes is desirable. Send résumé, graduate and undergraduate transcripts, statement of research interests, and letters from three referees by 25 November to: **Dr. Jonathan Richardson, Chairman, Department of Biology, Franklin and Marshall College, Lancaster, Pa. 17604.** *An Equal Opportunity Employer.*

MOLECULAR IMMUNOLOGY/IMMUNOGENETICS. Postdoctoral position available by summer 1986, for studies of genetically based mouse models of autoimmunity, immunodeficiency, and lymphocyte development and activation. Interest or experience in molecular biology, genetics, or cellular immunology desirable. Please send letter, curriculum vitae, and names of three references to: **Dr. Charles Sidman, The Jackson Laboratory, Bar Harbor, Maine 04609.**

PHYSICAL OCEANOGRAPHER UNIVERSITY OF SOUTH CAROLINA (USC)

The Marine Science Program and Department of Geology announce an open tenure-track faculty position in physical oceanography with specialty in either theoretical, numerical, or field oceanography. Salary and rank are dependent upon qualifications. Active oceanographic research at USC includes studies of estuarine and coastal circulation, mixing, and transport processes; thermohaline and deep ocean mixing; paleoceanography and circulation; and physical-biological coupling in nearshore ecosystems. Applicants must have a Ph.D. degree, substantial research qualifications, and a strong commitment to teaching and research. Submit résumé, a brief statement of research interests, and names/addresses/telephone numbers of three references to: **Dr. Björn Kjerfve, Chairman, Search Committee, Marine Science Program/Department of Geology, University of South Carolina, Columbia, S.C. 29208,** before 15 December 1985. *The University of South Carolina is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

MOLECULAR AND CELLULAR BIOLOGY

Applicants must have a strong background in recombinant DNA technology and postdoctoral research experience and publications in at least one of the following: virology, eukaryotic molecular genetics, developmental genetics, or immunology. Opportunities exist for collaboration with other faculty working in the area of recombinant DNA. The appointee will be required to maintain an active research program and to offer courses in genetics or biochemistry. This is a tenure-track position beginning 15 August 1986 at the assistant or associate professor level. Salary will be commensurate with experience.

The Department of Biological Sciences is well-equipped, emphasizes cell and molecular research, and offers undergraduate and graduate degrees including the Ph.D. in cellular biology of aging. The department consists of 20 full-time faculty committed to excellence in research and teaching. Oakland is a state-supported university on a 1500-acre campus 25 miles north of Detroit.

Applicants should submit curriculum vitae and a brief description of their research plans and have three referees send letters of recommendation before 15 December 1985 to:

**Dr. F. M. Butterworth
Chair Search Committee
Department of Biological Sciences
Oakland University
Rochester, Mich. 48063**

Affirmative Action/Equal Opportunity Employer

MOLECULAR PARASITOLOGIST

Southern Methodist University (SMU) invites applications for a tenure-track assistant professorship in the **Department of Biology** starting 20 August 1986. Preference will be given to individuals with training and experience at the postdoctoral level. Candidates will be expected to develop a vigorous research program and to teach at the undergraduate and graduate level. Applications, including an outline of research plans and the names of three references, should be submitted to: **P. Dennis Smith, Molecular Parasitology Committee, Department of Biology, Southern Methodist University, Dallas, Tex. 75275.** Review of candidates will begin 30 November 1985. *SMU is an Equal Opportunity/Affirmative Action Title IX Employer.*

ORGANIC CHEMIST—WILLIAMS COLLEGE will have an opening for a tenure-track position in organic chemistry (Ph.D. required; postdoctoral experience preferred) in fall 1986. While an appointment at the entry level is anticipated, a higher level appointment commensurate with a candidate's experience and qualifications will be considered. Applications from persons in any of the subfields within organic chemistry are invited. Applicants must have a strong commitment to both teaching and research. Teaching duties normally include complete responsibility for one course with laboratories each semester, selected from two semesters of introductory organic chemistry, two of advanced organic chemistry, and survey courses for nonmajors. Supervision of undergraduate research is expected. Williams College is a highly selective, coeducational, liberal arts institution of approximately 155 faculty and 1900 undergraduates, located in northwestern Massachusetts. The nine-person Chemistry Department is accredited by the ACS and has excellent facilities for teaching and research. Send résumé, description of research interests for undergraduates, transcripts, and names of three references to: **Dr. James F. Skinner, Chairman, Department of Chemistry, Williams College, Williamstown, Mass. 01267,** by 15 November 1985. *Affirmative Action/Equal Opportunity Employer. We are especially eager to identify minority and women candidates.*

YEAST MOLECULAR GENETICS

Southern Methodist University (SMU) invites applications for a tenure-track assistant professorship in the **Department of Biology** starting 20 August 1986. Preference will be given to individuals with training and experience at the postdoctoral level. Candidates will be expected to develop a vigorous research program and to teach at the undergraduate and graduate level. Applications, including an outline of research plans and the names of three references, should be submitted to: **P. Dennis Smith, Chairman, Yeast Molecular Genetics Committee, Department of Biology, Southern Methodist University, Dallas, Tex. 75275.** Review of candidates will begin 30 November 1985. *SMU is an Equal Opportunity/Affirmative Action Title IX Employer.*

POST-DOCTORAL FELLOW

On behalf of ICSU's Scientific Committee on Problems of the Environment (SCOPE), the U.S. National Committee for SCOPE invites applications for a Post-Doctoral Fellow to work with Dr. Robert Woodmansee at Colorado State University to synthesize information and assist in preparation of report from workshop to identify research needs for international program on global change. The focus of the workshop will be on research needs to extrapolate knowledge in ecological and physical sciences from local to global scales. Collaboration with National Center for Atmospheric Research to develop case studies may also be possible. Qualifications include excellent writing skills, Ph.D. in relevant area, experience with interdisciplinary research, and interest in international science.

Appointment will be for one year and will commence as soon as practicable for the Fellow. Please send resume and arrange for three letters of reference to be sent by November 25, 1985 to:

U.S. National Committee for SCOPE Environmental Studies Board National Research Council

2101 Constitution Ave., N.W.
Washington, DC 20418

Equal Opportunity Employer

POSTDOCTORAL POSITIONS Health Care Technology

Battelle's Columbus Division, a world leader in professional research and development services, has several postdoctoral positions currently available in the health care technology area. Each position provides opportunity to work in our challenging multidisciplinary environment.

BIOENGINEERING — Recent Ph.D. in biomedical engineering, clinical chemistry, computer science, or related fields. Experience in diagnostic instrumentation development, optics design, fluidics, software development and/or electronic design very desirable.

CLINICAL CHEMISTRY/BIOINSTRUMENTATION — Recent Ph.D. in immunology, clinical chemistry, biochemistry, bioengineering or related fields. Experience in development of reagent systems and assays for gene probes or antibody-based diagnostics very desirable.

BIOMEDICAL SPECTROSCOPY — Ph.D. in biochemistry/physiological chemistry. Will conduct research applying infrared spectroscopy to: problems of protein structure/function, development of new infrared techniques for studying biological molecules, studies of the surface chemistry involved in adsorption of biological molecules to various surfaces, development of techniques for studying cells by infrared spectroscopy. Position located in the Battelle operated National Center for Biomedical Infrared Spectroscopy.

Each position is a 1-2 year appointment. Individuals interested in these challenging opportunities should send resumes and three letters of reference to: **Virginia Tyler, Employment, Dept. U-4, Battelle Columbus Division, 505 King Avenue, Columbus, Ohio 43201-2693.**



Battelle

Columbus Division

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

Postdoctoral Fellowships at the

Medical Biology Institute

The Medical Biology Institute (MBI) is expanding its staff at all levels in Immunology, and in Developmental/Cellular/Molecular Biology. The Institute is particularly interested in attracting post-doctoral fellows of exceptional ability who desire an equally exceptional opportunity for professional development.

MBI is a young, vigorous basic research institute combining cellular, membrane and molecular approaches in the investigation of medically relevant biological problems and phenomena. It is located in La Jolla, California in the hub of an area noted for its rapidly expanding concentration of both academic and commercial biomedical science organizations including the Salk Institute, Scripps Clinic and Research Foundation, the University of California at San Diego and La Jolla Cancer Research Foundation.

MBI's scientific staff includes the following members who are currently in residence, and whose areas of active research span a healthy diversity of interests and expertise:

Darcy B. Wilson, Ph.D. (Scientific Director) — Immunobiology of T lymphocytes; idiotype regulation in GVH and autoimmune disease; functional studies of T cell surface molecules

David H. Katz, M.D. (President and Chief Executive Officer) — Cell/cell interactions in the immune system; the immunobiology of the IgE system; lymphokine biology and biochemistry; mechanisms of immunological tolerance

Donald E. Mosier, M.D., Ph.D. — Lymphocyte ontogeny and mechanisms of triggering of B lymphocytes; studies with a mouse model for AIDS

Fu-Tong Liu, Ph.D. — Molecular biology of the IgE system including gene expression, the structure and function of IgE and IgE-specific receptors

Carol Cowing, Ph.D. — Mechanisms of autoimmune disease; immunobiology of antigen presenting cells

Paolo del Guercio, M.D. — Analysis of B cell regulatory effects on immune responses and B cell-derived lymphokines

Ann Feeney, Ph.D. — Interactions of T and B lymphocytes

John F. Marcelletti, Ph.D. — Immunoregulation and immunoregulatory networks; isotype-specific regulation of antibody synthesis by molecular mediators derived from Fc receptor-bearing lymphocytes

Matthew F. Mescher, Ph.D. — Functional analysis of lymphocyte surface molecules utilizing natural and synthetic model membrane systems

Makoto Nonaka, M.D., Ph.D. — Cellular and molecular regulatory mechanisms of IgE antibody production in normal and atopic human subjects

Roy Riblett III, Ph.D. — Genetic organization of immunoglobulin genes.

Andrew Wiseman, Ph.D. — Somatic cell genetics of cultured mammalian cells; the genetics and biogenesis of mammalian mitochondria

Maurizio Zanetti, M.D. — Immunoregulation of autoimmune responses; structure/function of idiotype and anti-idiotype antibodies; functional analysis of self-reaching receptors on T lymphocytes

Riaz I. Zuberi, Ph.D. — Soluble mediators of the immune response, immunomodulation by lymphokines, monokines and prostaglandins

For further information, please write:

Darcy B. Wilson, Ph.D., Scientific Director

(619) 450-3033



MEDICAL BIOLOGY INSTITUTE
11077 North Torrey Pines Road
La Jolla, California 92037

POSITIONS OPEN

OCEANOGRAPHER/CHEMIST—National Oceanic and Atmospheric Administration's (NOAA) Atlantic Oceanographic and Meteorological Laboratory in Miami, Florida, is engaged in various research programs involving the ocean and atmosphere which require the application of leading edge analytical chemistry. Positions are open at the GS-12 level for chemists or oceanographers who have the capability to develop analytical methods in chemistry for application in these research programs. Currently the starting salary for these positions will be at about \$31,619. For further information on this position, contact: **Dr. Donald K. Atwood, NOAA/AOML, 4301 Rickenbacker Causeway, Miami, Fla. 33149, telephone: 305-361-4380.** Information as to how to apply for these positions may be obtained from: **The Personnel Division, U.S. Department of Commerce, Central Administrative Support Center, 601 East 12 Street, Kansas City, Mo. 64106; telephone: 816-374-5016.** An Equal Opportunity Employer.

PHYSIOLOGICAL PLANT ECOLOGIST

Assistant or associate professor. The Department of Plant Biology, University of Illinois at Urbana-Champaign, invites applications for a tenure-track position beginning 21 August 1986. Responsibilities include contributing to undergraduate and graduate teaching, supervising graduate students, and conducting a vigorous research program. A Ph.D. degree with emphasis in plant ecology is required. Extensive research experience with physiological approaches to understanding plant population or community dynamics is preferred. Salary negotiable. To ensure full consideration, applications should be received by 1 December 1985. Send curriculum vitae, summary of research interests, and three letters of reference to: **Dr. Paul G. Risser, Department of Plant Biology, University of Illinois, 505 South Goodwin, Urbana, Illinois 61801. Telephone: 217-333-6830.**

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

PHYSIOLOGIST to serve as science adviser to staff who produce a group of medical research publications. Excellent fringe benefits. Send curriculum vitae and names of three references. *Equal Opportunity/Affirmative Action Employer.* **Tracor Inc., Department J-323, 1601 Research Boulevard, Rockville, Md. 20850.**

PHYSIOLOGIST. Applications are invited for a non-tenure-track position as instructor in physiology, biochemistry, or cell biology with opportunities for collaborative research in one of several areas of cellular neurobiology. Teaching will be at both the undergraduate and graduate levels in areas of expertise. Ph.D. required. Prior research or teaching experience will determine salary. The position may be renewable. Send curriculum vitae and names of three references by 30 November 1985 to: **Dr. Albert Herrera, Neurobiology Section, Department of Biological Sciences, University of Southern California, Los Angeles, Calif. 90089-0371.** An Equal Opportunity/Affirmative Action Employer.

PLANT SCIENTIST UNIVERSITY OF CALIFORNIA, IRVINE

The Department of Developmental and Cell Biology, University of California, Irvine, seeks a biologist with strong research interests in basic problems of plant (i) development, (ii) cell biology, (iii) physiology, or (iv) interactions with symbionts. An individual using modern molecular and/or cellular techniques and with a strong botanical background is preferred. Appointment will be at the assistant professor level (tenure-track). Applications, including curriculum vitae, a description of past, present, and future research interests, reprints of up to five major publications, and three letters of recommendation, should be sent to: **Chair, Plant Scientist Search Committee, Department of Developmental and Cell Biology, University of California, Irvine, Calif. 92717.** Closing date for receipt of applications is 1 December 1985. *The University of California, Irvine, is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION

Postdoctoral position available immediately for study of arachidonic acid metabolism in atherosclerosis. Specific areas of research are biochemistry of platelets and monocytes during early atherosclerotic lesion formation. Send curriculum vitae and names of three references to: **Dr. Victor A. Skrinska, Cardiovascular Research Center, 2351 East 22, Cleveland, Ohio 44115.**

POSITIONS OPEN

PLANT PHYSIOLOGY

The Department of Biology at the University of Utah seeks candidates for a regular, tenure-track appointment in plant physiology. The successful candidate will be expected to establish an active research program and participate in undergraduate and graduate teaching. The area of specialization within plant physiology is less important than overall evidence of excellence and outstanding potential, but we do hope to appoint a colleague who can establish productive interactions with existing programs.

Address applications or nominations to:

**SEARCH COMMITTEE
Department of Biology
University of Utah
Salt Lake City, Utah 84112**

Please send résumé and three letters of reference by 1 December 1985.

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

POSTDOCTORAL IN NEUROCHEMISTRY available immediately to study catecholamine transport into adrenal chromaffin vesicles. Experience in bioenergetics, transport, or purification of membrane proteins desirable. Send curriculum vitae and names of three references to: **Dr. David Njus, Biological Sciences, Wayne State University, Detroit, Michigan 48202.** An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL—Available immediately to study the regulation of protein synthesis in Friend Erythroleukemia cells. Studies in progress include: regulation of RNP formation during cell growth, cloning and expression of protein synthesis factors, control of protein synthesis during and subsequent to heat shock, and characterization of specific RNP particles. Send curriculum vitae and list of three references to: **Dr. Lawrence I. Slobin, Department of Biochemistry, University of Mississippi Medical Center, 2500 North State Street, Jackson, Miss. 39216-4505.** Equal Opportunity Employer, M/F/H/V.

POSTDOCTORAL—BIOPHYSICAL—BIOINORGANIC. Ph.D. with biochemical or biophysical training and interest in metal ion-protein interactions. Application of new laser spectroscopic methods and lanthanide ion luminescence to probe calcium-binding proteins and nucleic acids [see *Accs. Chem. Res.* 14, 384 (1981)]. Send curriculum vitae and letters of recommendation to: **Professor William DeW. Horrocks, Jr., 152 Davey Laboratory, Department of Chemistry, The Pennsylvania State University, University Park, Pa. 16802.** Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION in cell physiology is available to study vascular mechanisms of hypertension. Experience with protein isolation techniques or mammalian cell culture preferred. Send curriculum vitae and names of three references to: **Dr. Richard Bukoski, Division of Nephrology/Hypertension, Department of Medicine, Oregon Health Sciences University (OHSU), 3181 S.W. Sam Jackson Park Road, Portland, Oregon 97201.**

OHSU is an Equal Opportunity Employer.

POSTDOCTORAL POSITION available February 1986 to study actions of analgesics alone and in combination with other agents. Stereotactic methodology and selected infusion procedures will be employed. Candidate should have background in neuroanatomy and/or neurophysiology. Term of appointment: 1 year (possibility of funding for second year). Salary: \$22,000, plus fringe benefits. Send curriculum vitae plus three letters of reference by 30 November 1985 to: **Dr. Frederick J. Goldstein, Department of Pharmacology and Toxicology, Philadelphia College of Pharmacy and Science, 43rd Street and Kingsessing Mall, Philadelphia, Pennsylvania 19104.**

POSTDOCTORAL POSITION

Position available immediately to join our work on the molecular mechanisms involved in the control of protein phosphorylation by insulin. Position is funded for a minimum of 2 years, with possible renewal for a third and final year. Salary is based on current NIH postdoctoral stipend levels. Highly motivated candidates with relevant background in biochemistry and/or pharmacology should send curriculum vitae and list of three references to: **J. C. Lawrence, Department of Pharmacology, Washington University School of Medicine, 660 South Euclid, St. Louis, Mo. 63110.**

POSITIONS OPEN

POSTDOCTORAL POSITION available during 1985-1986 in the **Developmental Biology Center, University of California, Irvine, California 92717.** Recent Ph.D. required, preferably in cell, molecular or developmental biology, neurobiology, or genetics. Positions are for research with **Dr. Scott Fraser** (patterning of neural development; cell communication through gap junctions); **Dr. Peter Bryant** (molecular genetics of growth control in *Drosophila*); **Dr. Hans Bode** (stem cell differentiation, pattern formation); or **Dr. J. Lawrence Marsh** (molecular genetics of pattern formation and gene expression in *Drosophila*). U.S. citizenship or permanent residency status required. For more information, contact the individuals above. To apply, submit résumé and description of research interests and experience, and have three letters of recommendation sent to: **The Director, Developmental Biology Center (address above).** Deadline for applications: 1 December 1985. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITION Vascular Smooth Muscle Physiology

One research associate position open after 15 January 1986 for the study of mechanisms of chemically induced vasodilation. Background in any one of the following areas is desirable: free radical biology, vasoactive peptides, vascular smooth muscle preparation, molecular cell biology. Salary will be commensurate with experience. Send curriculum vitae and names of three references to:

**Dr. Hara P. Misra, DPPP
Virginia-Maryland Regional College
of Veterinary Medicine
Virginia Tech
Blacksburg, Va. 24061**

Closing date: 31 December 1985.

Starting date: 1 February 1986.

An Equal Opportunity/Affirmative Action Institution

POSTDOCTORAL POSITION in molecular virology available immediately to study the role of the viral proteins in the replication of vesicular stomatitis virus. Recent Ph.D. with expertise in phosphoprotein characterization desirable. Submit curriculum vitae and two letters of recommendation to: **Dr. John T. Patton, Department of Biology, University of South Florida (USF), Tampa, Fla. 33620.** USF is an Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITIONS IN MOLECULAR BIOLOGY AND BIOCHEMISTRY at the Department of Microbiology of the University of Connecticut Health Center, Farmington, Connecticut. Positions are available immediately to qualified candidates interested in regulation of prokaryotic or eukaryotic gene expression, viral DNA replication, or bacterial membrane morphogenesis. The Health Center has developed vigorous programs of research aimed at understanding a wide variety of basic biological phenomena at the molecular level. Research opportunities include:

- ☐ **Dr. Mary Jane Osborn.** Biogenesis of the outer membrane of *S. typhimurium*; biosynthesis of lipopolysaccharide.
- ☐ **Dr. Lawrence Rothfield.** Molecular biology of bacterial cell division.
- ☐ **Dr. Asis Das.** Regulation of transcription termination in *Escherichia coli*.
- ☐ **Dr. Philip Farabaugh.** Regulation of expression of the Ty transposable elements of the yeast *S. cerevisiae*.
- ☐ **Dr. Sandra Weller.** Molecular genetics of herpes simplex virus DNA synthesis.

Applicants should supply a curriculum vitae and three letters of reference to:

**Wendy Wolcott
Department of Microbiology
University of Connecticut Health Center
Farmington, Connecticut 06032
An Affirmative Action/Equal
Opportunity Employer, M/W/H**

POSTDOCTORAL POSITIONS in biochemical and molecular pharmacology. Two positions available. Applicants should have a Ph.D. in biochemistry/pharmacology with experience in molecular biology being preferred. Starting salary of \$18,000 to \$25,000, depending upon experience and educational background. Submit curriculum vitae, summary of research experience, and three letters of reference to: **Dr. H. L. Gurtsoo, Roswell Park Memorial Institute, 666 Elm Street, Buffalo, N.Y. 14263.** Equal Opportunity Employer.

POSITIONS OPEN

POSTDOCTORAL FELLOW to conduct chemical research to investigate the synthesis of important antibiotic compounds (Thienamycins) specifically using organometallic chemistry. Require Ph.D. in chemistry with 2 years of experience. Salary: \$18,000 per year. Apply with résumé to: Georgia Department of Labor, One Peachtree Street, NW, Atlanta, Georgia 30303. Control (Number GA 5097811).

POSTDOCTORAL FELLOWSHIP—CELLULAR AND MOLECULAR IMMUNOLOGY. A 2-year position available immediately to study the biochemistry and functional roles of cytotoxic lymphokines produced by cloned human cytotoxic T-cells and T cell hybrids. Experience in biochemistry/molecular biology or immunology preferred. Salary commensurate with experience. U.S. citizenship or permanent residence required. Send curriculum vitae and the names of three references to: Dr. Carl F. Ware, Division of Biomedical Sciences, University of California, Riverside, Calif. 92521. An Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION IN MOLECULAR BIOLOGY OF GENE EXPRESSION IN SOYBEAN

A 3-year position is available to study the molecular bases of genetic control of the soybean urease isozymes. Available tools include urease genomic clones, a battery of mutants altered in urease synthesis and cell culture facilities. Research will be carried out in a refurbished building dedicated to plant cell and molecular biology. The laboratory group is part of a larger, supportive multidisciplinary program in plant science. Applicants should have familiarity with molecular biological techniques. Familiarity with plant physiology and/or genetic analysis is also desirable.

Send application and three letters of reference to:

Dr. Joseph C. Polacco
Department of Biochemistry
M121 Medical Sciences Building
University of Missouri
Columbia, Mo. 65212
Telephone: 314-882-8795

POSITIONS OPEN

POSTDOCTORAL POSITION available immediately. Study of invertebrate immunity, host-parasite relations, neurobiology, and reproductive maturation. Emphasis on schistosome parasites and their hosts. Experience with monoclonal antibodies and related methods highly desirable. Send résumé and names of three references to: Dr. Paul F. Basch, FCPM, Stanford University School of Medicine, Stanford, California 94305. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITIONS: (i) to study mechanisms of action of interferons; and (ii) to study molecular mechanisms of tissue-specific expression of isozymes of angiotensin-converting enzyme, an enzyme crucial for physiological regulation of hypertension. Both projects will need the use of modern techniques of molecular biology. Excellent academic atmosphere in a rapidly expanding department. Send curriculum vitae and the names and telephone numbers of at least two references to: Dr. Ganes C. Sen, Molecular Biology and Virology Program, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, N.Y. 10021. Equal Opportunity Employer, M/F/H.

POSTDOCTORAL POSITION—NEUROCHEMISTRY/NEUROIMMUNOLOGY. Available immediately to study animal models of electromagnetic field effects and immunological disorders affecting the nervous system. Experience required with computer-automated HPLC-EC and immunoassay systems to measure turnover of biogenic amines and peptides. Salary: \$27,000 plus. Send curriculum vitae to:

Dr. William H. Bailey
Laboratory of Neuropharmacology
and Environmental Toxicology
New York State Institute for Basic Research
1050 Forest Hill Road
Staten Island, New York 10314
Telephone: 718-494-5161

POSTDOCTORAL POSITION available in research of membrane lipids, lipoproteins, lipid transfer proteins, or arteriosclerosis. Background in lipid/lipoprotein metabolism desirable. Send résumé to: Dr. B. Zilversmit, Nutritional Biochemistry, 200 Savage Hall, Cornell University, Ithaca, N.Y. 14853.

POSITIONS OPEN

POSTDOCTORAL POSITION. Cell aging and the control of cell proliferation—Available 1 February 1986. Research centers on the cell and molecular biology of the regulation of proliferation and senescence. Trainee will participate in extensive training program of The Wistar Institute. Salary commensurate with NIH standards. Send curriculum vitae and the names and addresses of three references to: Box 226, SCIENCE. Equal Opportunity Employer.

POSTDOCTORAL POSITION available immediately to study host-pathogen relations during the initiation and development of cankers caused by virulent and hypovirulent strains of the chestnut blight fungus. Applicants should have a strong background in physiological plant pathology, stress physiology, and/or biochemistry. The beginning salary is \$18,000 to \$20,000, plus fringe benefits. Yearly contract is renewable for up to 3 years, depending upon mutual agreement. Send curriculum vitae, transcripts, and three letters of reference to: Dr. Louis Shain, Department of Plant Pathology, University of Kentucky, Lexington, Ky. 40546.

POSTDOCTORAL POSITION. The Departments of Plant Pathology and Agronomy (Plant Physiology) have a postdoctoral position available to study the harmful and beneficial effects of pasture and turf grasses infected with endophytic fungi. Research will focus on the role of endophytic fungi in the induced synthesis of pyrrolizidine alkaloids in *Festuca spp.* and identification of chemicals responsible for resistance to insect attack in infected pasture and turf grasses. Salary is \$19,500 per year. Send curriculum vitae to: Dr. Malcolm R. Siegel, Plant Pathology Department, University of Kentucky, Lexington, Ky. 40546.

POSTDOCTORAL POSITION available immediately. Project involves the use of immunohistochemical and pathway tracing techniques to study the connectivity of the neurotransmitter-specific and neuropeptide-specific neuronal populations composing the amniote basal ganglia. Send résumé and names of three references to: Dr. Anton Reiner, Department of Anatomy and Cell Biology, University of Michigan Ann Arbor, Mich. 48109.

NATIONAL SCIENCE FOUNDATION (NSF)

NSF is accepting Intergovernmental Personnel Act Mobility Program (IPA) nominations from colleges/universities, state and local governments for an assignment as Program Associate, Industrial Countries Section, Division of International Programs. The nominee will be involved in the management of Western Europe Regional Programs and other activities of the Section.

Applicants should have a Ph.D. in a scientific or engineering discipline supported by NSF, with experience in teaching, research, and/or science education related administration. A background in international affairs is desirable.

The individual selected for the assignment will remain an employee of his/her institution, which will be reimbursed by NSF for a portion of his/her salary and other costs related to the assignment. Nominations should be forwarded by the applicant's institution (not by the individual applicant) to the National Science Foundation, Personnel Administration Branch, Rm. 212, 1800 G St., NW., Washington, DC. Attn: Catherine Handle, (202) 357-7840. For technical information call Dr. Eduardo Feller, Head, Industrial Countries Section, 202/357-9700. Hearing impaired individuals should call 202/357-7492. NSF is an Equal Opportunity Employer.

NIOSH ANNOUNCES RESEARCH AWARDS FOR Ph.D. & M.D. SCIENTISTS



The National Institute for Occupational Safety and Health announces outstanding opportunities for research in

- bioengineering
- pathology
- biochemistry
- physiology
- immunology
- pharmacology
- mutagenesis

The National Research Council in cooperation with the National Institute for Occupational Safety and Health, Division of Respiratory Disease Studies in Morgantown, West Virginia will offer competitive research awards in 1986 for independent scientific research. Recipients will be free to work on problems of their own choice as guest investigators at NIOSH. This program is open to experienced senior scientists as well as to recent PhD and MD graduates. Stipends begin at \$26,350 for recent graduates and are appropriately higher for seniors. Relocation reimbursement and funds for professional travel on tenure are available, and a health insurance program is offered.

For further information and application materials please write to:

Associateship Programs (JH608/NI-1)
National Research Council
2101 Constitution Avenue, N.W.
Washington, D.C. 20418

1986 Deadlines for application are
January 15, April 15 and August 15.

Biotechnology Scientists Needed

at **IOB** 財団法人生物技術開発中心
DEVELOPMENT CENTER FOR BIOTECHNOLOGY
DCB Taipei, Taiwan R. O. C.

Protein Chemists

- Ph. D with experience in protein purification and characterization, knowledge & experience in epitope peptide and enzymology/microbiology/ molecular biology a plus.

Immunochemists

- Ph. D with experience in diagnostic kit development.

Organic chemists

- Ph. D with experience in bioconversion of organic chemicals.
- Ph. D with experience in organic synthesis.

Bacterial Geneticist: experienced in DNA manipulation of bacterial cells.

Viral Geneticist: experienced in transfection, viral DNA mapping.

Microbial Physiologists: familiar with fermentation parameter defining, physiological research of bacteria, fungi and yeast.

Tissue Culture Scientists: familiar with animal cell tissue culture technology, extraction and purification of products from tissue culture.

Biochemists: experienced in DNA sequencing and related technologies.

Enzyme technologists: experienced in bioconversion process using enzyme as the primary catalyst.

Biochemical Engineers: experienced in biotechnology pilot plant operations, process development, computer control & scale-up.

*Fluency in Chinese language is a prerequisite.

DCB is a private non-profit organization devoted to the promotion of biotech industry in Taiwan, ROC. we offer excellent career opportunity and comfortable compensation package.

Qualified candidates please send C.V. to:

Dr. George Liu
Coordination Council for North
American Affairs Office in USA
4301 Conn Ave. N. W.
Suite 132
Washington D. C. 20008
Before Nov. 15, 1985

POSITIONS OPEN

POSTDOCTORAL POSITION

Available immediately to study protein products involved in sister chromatid recombination. Send curriculum vitae, statement of research experience, and three letters of recommendation to: **Dr. Sharyn Endow, Department of Microbiology, Duke University Medical Center, Durham, N.C. 27710. Duke University is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION is available immediately for 2 years in a well-established Nuclear Medicine Research Laboratory at Thomas Jefferson University, a major teaching institution in Philadelphia. A candidate with U.S. citizenship and a Ph.D. degree in chemistry or biochemistry will participate in research program in developing radiopharmaceuticals for diagnostic imaging, tumor imaging, and cancer treatment.

Ongoing program includes preparations, in vitro and in vivo evaluation, and applications of radioactive organometallic compounds, radiolabeled monoclonal antibodies, and radiohalogenated molecules of biomedical importance. Send curriculum vitae and three letters of recommendation to:

Dr. Mathew L. Thakur
Department of Radiation Therapy
and Nuclear Medicine
Thomas Jefferson University
Philadelphia, Pa. 19107

Thomas Jefferson University is an Equal Opportunity Employer.

POSTDOCTORAL POSITION AVAILABLE immediately to join a research team investigating the molecular biology of retroviruses and cell differentiation. Minimum of 2 years of experience with standard techniques of molecular biology is required. Salary commensurate with qualifications and experience. Excellent fringe benefits. Send curriculum vitae, a brief summary of research interests, and three letters of reference to: **Dr. Charlotte Friend, Center for Experimental Cell Biology, MOUNT SINAI SCHOOL OF MEDICINE, One Gustave L. Levy Place, New York, N.Y. 10029. An Equal Opportunity Employer.**

POSTDOCTORAL AND RESEARCH ASSOCIATES

Applications are invited for postdoctoral and/or research associate positions for studies on the molecular mechanisms of inflammatory cell activation. Studies involve: ligand-receptor dynamics and cell activation analysis by flow cytometry, fluorescence spectroscopy, analysis of intracellular messengers, and computer modeling (Dr. L. A. Sklar); receptor recycling, cytoskeletal interactions, biophysical mechanisms of membrane proteins in inflammatory cells (Dr. A. Jesaitis); and receptor signal transduction and regulation via GTP binding proteins in neutrophils (Dr. G. M. Bokoch). Interested candidates should have strong biochemical biophysical backgrounds, with some expertise with membrane proteins or computer modeling techniques.

Also available is a position for a molecular biologist for cloning and molecular biological studies of membrane proteins of interest in inflammatory cell function (Dr. Charles G. Cochrane).

Positions are available immediately. Send curriculum vitae, statement of interests and names of three references to: **Dr. Gary M. Bokoch, Department of Immunology, IMM12, Scripps Clinic and Research Foundation, 10666 North Torrey Pines Road, La Jolla, Calif. 92037.**

POSTDOCTORAL/RESEARCH ASSOCIATE position available immediately to study intestinal ion transport using membrane vesicles, intact epithelia, and isolated cells. Ph.D. in life sciences (physiology, biochemistry, or pharmacology) with research experience in membrane transport preferred. Send résumé, statement of research interests, and names of three references to: **Dr. Henry J. Binder, Yale Medical School, 333 Cedar Street, New Haven, Connecticut 06510. Yale University is an Affirmative Action Employer.**

PROTEIN CHEMIST. Available immediately. Ph.D. with minimum of 3 years of experience in purification of proteins to homogeneity. Practical knowledge of multiple techniques required; RIA helpful. Résumé to: **BioGrowth, 505 Ortega Street, San Francisco, Calif. 94122, with names and address of three references.**

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE

Position available immediately. Study cell or molecular biological aspects of pancreatic islets. Specific project determined by applicant's interest and compatibility with existing departmental expertise. Current projects include: (i) extracellular matrix and fetal islet development, (ii) neuropeptides and insulin secretion, (iii) secretion of newly synthesized insulin and paracrine effects, (iv) phylogenetic aspects of islet development. Ph.D. with training in cell/molecular biology required. Salary: \$19,000. Send curriculum vitae and names, addresses, and telephone numbers of three references. U.S. citizens will be given preference.

Contact: **Dr. Ronald W. Dudek, Department of Anatomy, East Carolina University, School of Medicine, Greenville, North Carolina 27834; telephone 919-757-2863.**

East Carolina University is a constituent institution of the University of North Carolina, an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL RESEARCH ASSOCIATE positions are immediately available to work in a multidisciplinary environment to study the molecular mechanisms of gonadotropin action in corpus luteum. Previous experience in cell separation, purification, and culturing techniques is required for one position. For the second position, previous experience in studying eukaryotic gene expression is required. Interested candidates please send curriculum vitae, three references, and a statement of research goals to: **Dr. C. V. Rao, Department of Obstetrics/Gynecology, University of Louisville, 438 MDR Building, Louisville, Ky. 40292. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE. A position is available for a recent doctorate in synthetic organic chemistry to join the Cyclotron-PET Program at Brookhaven National Laboratory, to participate in the development of imaginative approaches to the rapid synthesis of organic radiotracers labeled with the short-lived positron emitters carbon-11 and fluorine-18 ($t_{1/2} = 20.4$ minutes and 110 minutes, respectively). In this position there will be broad interaction with a large multidisciplinary team of scientists whose research focus is on the study of neurochemical systems in the living human and animal brain using PET. Specific interests include the development of new radiotracers which will play a key role in the study of **neurotransmitter receptors, functional enzyme activity** (using mechanism based suicide enzyme inactivators) and **cerebral malignancy**.

Applicants should send résumé, transcripts, and request that three letters of recommendation be forwarded to: **Dr. Alfred P. Wolf, Chairman, Chemistry Department, Brookhaven National Laboratory, Associated Universities, Inc., Upton, Long Island, New York 11973. Equal Opportunity Employer, M/F.**

POSTDOCTORAL/RESEARCH ASSOCIATE positions available in 1986 to investigate: (i) tissue-specific expression and regulation of the human phenylalanine hydroxylase and α -antitrypsin genes in hepatoma cells and transgenic animals; (ii) site-directed integration of the cloned genes into the mammalian genome by homologous recombination; and (iii) the prospect of somatic gene therapy of PKU and α -antitrypsin deficiency by retroviral-mediated gene transfer into cells and animals. Background training in molecular biology is required. Send curriculum vitae and three names of references to: **Dr. Savio L. C. Woo, Professor, Department of Cell Biology, Baylor College of Medicine, Houston, Texas 77030.**

PROFESSOR OR ASSOCIATE PROFESSOR OF CHEMISTRY AND COORDINATOR of the Clinical Chemistry Program. Since the Clinical Chemistry Program is centered on doctoral-level research, the person appointed must have a strong record of research publication as well as a commitment to continue his or her own research program. The department is particularly interested in candidates with major agency funding and previous academic experience in a chemistry department. Certification by the American Board of Clinical Chemistry is desirable but not essential. A complete application should include curriculum vitae and at least three letters of recommendation. Direct applications by 15 December 1985 to: **Professor A. H. Andrist, Chairman, Department of Chemistry, CLEVELAND STATE UNIVERSITY, 1983 East 24 Street, Cleveland, Ohio 44115.**

Equal Opportunity Employer, M/F/H

POSITIONS OPEN

POSTDOCTORAL RESEARCH FELLOW POSITIONS. Isolation, characterization, and expression of genes involved in human cancer in genetically well defined population groups. Also, association of such sequences with cell cycle, development, and use for diagnosis, prognosis, and therapy. Available fall and winter. Send résumé and other information to: **Leonard H. Augenlicht, Ph.D., Chief, Laboratory of Molecular Oncology, Department of Oncology, Montefiore and Albert Einstein Medical Centers, 111 East 210 Street, Bronx, New York 10467. An Equal Opportunity Employer, M/F.**

POSTDOCTORAL RESEARCH position available in Molecular and Cell Biology Department for study of regulation of DNA replication and repair in the simple, differentiating eukaryote, *Dictyostelium discoideum*. A range of problems are available, utilizing biochemical, genetic, and recombinant DNA approaches, including cloning in yeast. Starting stipend of \$19,000 to \$23,000 per year, depending upon experience. Well-equipped, active laboratory supported by new 5-year NIH grant. Starting date flexible. Send résumé and names of three references to: **Dr. R. A. Deering, 201 Althouse, The Pennsylvania State University, University Park, Pa. 16802. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH POSITION available spring-summer 1986 to study response of cultured endothelial cells to recombinant lymphokines at molecular level. Previous experience in molecular biology (RNA isolation, quantitation; cDNA library construction, screening; DNA cloning, sequencing required). Background in cell biology, immunology, or vascular biology desirable. Send curriculum vitae and names of three references to: **Dr. Jordan S. Pober, Laboratory of Vascular Pathophysiology, Department of Pathology, Brigham and Women's Hospital and Harvard Medical School, 75 Francis Street, Boston, Mass. 02115. An Equal Opportunity Employer.**

POSTDOCTORAL OR RESEARCH SCIENTIST

Positions available for research on cellular and molecular biology of HMG CoA reductase and lipoprotein receptors in human leukocytes and other human tissues. Emphasis on (i) pharmacologic and hormonal enzyme and receptor regulation in cultured and freshly isolated cells, (ii) structural composition of human reductase, and (iii) its functional role in lipoprotein diseases in relation to membrane receptor status. Applicants should have expertise in cell culture and cell cycling, protein chemistry, or molecular biology. Send curriculum vitae to: **Peter W. Stacpoole, Ph.D., M.D., Division of Endocrinology, Box J-226, University of Florida, College of Medicine, Gainesville, Fla. 32610.**

PROJECT ASSOCIATE for research program in polymerization, polymer characterization, and on-line measurement. Successful candidate will develop new analytical procedures for analysis of polymers, supervise installation, operation, and maintenance of analytical instrumentation, write computer programs for data analysis, supervise staff, compile computer database of literature reviews, and assist in preparation of research proposals and reports. Requirements: Ph.D. in analytical chemistry with 2 years of postdoctoral research experience using HPLC, LS, NMR, FT-IR, UV, MS, GC, TGA, and DSC. One year of research experience with FORTRAN and BASIC computer programming required. Salary: \$23,000 per year; 40 hours per week. Send résumé by 25 November to: **Eileen Breitwieser, Wisconsin Job Service, 206 North Broad Street, Madison, Wis. 53703. Employer-paid ad. An Equal Opportunity Employer.**

The **DEPARTMENT OF PSYCHOLOGY**, University of Toronto (Scarborough Campus), invites applications for a tenure-stream position in brain and behavior, beginning in July 1986. Submissions are encouraged in the areas of physiological psychology, neuroscience, psychopharmacology, neuropsychology, psychobiology, and so forth. Appointment will be at the **ASSISTANT PROFESSOR** level. The successful candidate will be involved in undergraduate and graduate teaching and will be expected to pursue an active and productive research program. Applicants should, by 15 December 1985, submit curriculum vitae and have at least three letters of reference sent to: **Dr. Ted L. Petit, Chairman, Search Committee, Life Science Division, Scarborough Campus, University of Toronto, 1265 Military Trail, Scarborough, Ontario, Canada M1C 1A4. We have been given permission to offer this position to the best qualified candidate, regardless of country of citizenship.**

POSITIONS OPEN

PROTEIN-LIPID INTERACTION position available for postdoctoral research associate. Experience in steady-state and nanosecond fluorometry and/or laser Raman spectroscopy is desirable. Send curriculum vitae and names, addresses, and telephone numbers of two references as soon as possible to: **Professor Solon Georgiou, Biophysics and Chemical Physics Laboratory, Department of Physics, University of Tennessee, Knoxville, Tenn. 37996-1200. Telephone: 615-974-7829 or 974-7835.**

Two non-tenured positions at the level of **RESEARCH ASSISTANT PROFESSOR** are available in the Thrombosis Research Center for individuals with a Ph.D. in biochemistry. Experience in protein chemistry and specific experience in the purification and characterization of human factor XII. Continued support of these positions are contingent upon the availability of funding through research grants. Qualified applicants should send curriculum vitae, a detailed statement of accomplishments and research interests, and names and addresses of three references to: **Dr. Robert W. Colman and Dr. Peter Walsh, Temple University Health Sciences Center, 3400 North Broad Street, Philadelphia, Pa. 19140. Equal Opportunity Employer.**

RESEARCH ASSOCIATE. Position available immediately. Research involves the study of novel human glycosyltransferases. Background in glycoproteins, glycolipids, and enzymology is desired. Experience in structural study of glyconjugates, HPLC, and tissue culture helpful. Send curriculum vitae and two letters of reference to: **Dr. Khushi L. Matta, Roswell Park Memorial Institute, 666 Elm Street, Buffalo, New York 14263. Equal Opportunity Employer.**

SCIENTIFIC DIRECTOR—The American Red Cross Blood Services, Northwest Ohio Region, invites applications to establish/direct tissue preservation laboratory. Ph.D. in biological science required, with experience in cryopreservation of tissues, organs. Potential ability to secure grants essential. Faculty appointment at local medical school/university encouraged. Send curriculum vitae to: **American Red Cross, 2275 Collingwood Boulevard, Toledo, Ohio 43620. Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

RESEARCH ASSOCIATE POSITION, Memorial Sloan-Kettering Cancer Center, New York City. Research on hormone regulated phospholipid signaling. Molecular biology and biochemistry of human prostaglandin synthase gene regulation to be examined in cell systems. Experience in cell and molecular biology preferred. Start January 1986. Send curriculum vitae and names of three references to: **Dr. R. S. Bockman, Endocrine Division, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, New York 10021.**

RESEARCH ASSOCIATE position, University of South Carolina. A 1-year position beginning anytime after 1 September 1986 with research emphasis on stable isotope geochemistry applied to paleoceanography, carbonate diagenesis, or biogeochemical processes. Applicant should possess a Ph.D. in geology, chemistry, or oceanography and have the ability to establish his/her own research program as well as interface with ongoing research in the Department of Geology or Marine Science Program. A clear statement of research goals and three references should be sent to:

**Dr. Douglas F. Williams
Department of Geology and Belle
Baruch Institute for Marine
Biology and Coastal Research
University of South Carolina
Columbia, S.C. 29208**

The University of South Carolina is an Affirmative Action/Equal Opportunity Employer. Deadline: 1 December 1985.

RESEARCH BACTERIOLOGIST

Beecham Laboratories, a leading manufacturer of veterinary biologicals, has the following opportunity for an individual with training in veterinary microbiology: Project Leader Bacterin Research and Development, M.S. or B.S. with 3 years of experience in bacteriology, industrial experience desirable. To apply, send résumé plus salary requirements to: **Hans Draayer, Manager, Biological Research and Development, Beecham Laboratories, East Lincoln Road, White Hall, Ill. 62092. An Equal Opportunity Employer.**

POSITIONS OPEN

RADIATION THERAPY—UNIVERSITY OF PENNSYLVANIA. Laboratory scientists at assistant, associate, and/or full professor levels for expanding research program. Interest should be in radiobiology, cell biology, molecular biology, or protein chemistry. *The University of Pennsylvania is an Equal Opportunity/Affirmative Action Employer.* Inquiries should be directed to: **John Biaglow, Ph.D., Radiation Therapy, 3400 Spruce Street, Philadelphia, Pa. 19104.**

RESEARCH ASSOCIATE position available in Department of Nuclear Medicine, State University of New York, Buffalo, to prepare organic molecules for labeling with Tc-99m and I-123 [*J. Med. Chem.* 28, 1280 (1985)]. Prefer Ph.D. synthetic organic or medicinal chemist with strong interest in interdisciplinary research. Send résumé to: **Dr. Hank Kung, Building 5, VA Medical Center, 3495 Bailey Avenue, Buffalo, N.Y. 14215.**

SCRIPPS INSTITUTION OF OCEANOGRAPHY/STRATIGRAPHY. Applications are invited for a tenure-track faculty position in the general field of stratigraphy and paleoceanography. We seek someone at the assistant professor level, but the level of appointment will depend on the applicant's qualifications. Candidates will be expected to supervise and conduct research in stratigraphy or paleoceanography. The position will also involve graduate level teaching and the supervision of graduate student research. Applicants must hold the Ph.D. degree and have demonstrated excellence and independence in their research. Assistant level candidates will be expected to show evidence of their potential through letters of recommendation and a publication record appropriate for their experience. Associate or professorial level candidates must show evidence of a strong research record in their specialization. Send curriculum vitae, including description of research interests, list of publications, résumé of teaching experience, and names of at least three references to: **Professor LeRoy M. Dorman, Chairman, Graduate Department, A-008, Scripps Institution of Oceanography, University of California, San Diego, La Jolla, Calif. 92093. Closing date for applications is 31 December 1985. An Equal Opportunity/Affirmative Action Employer.**

Neuroscientist or Molecular Neuropharmacologist

We're putting research to work at American Cyanamid's Medical Research Division, Lederle Laboratories. We're discovering and developing new, unique products to prevent or treat major diseases. Right now, the Geriatric Program in the Department of CNS Research is seeking a Ph.D. with a strong foundation in biochemistry or molecular pharmacology plus postdoctoral training and continued interest in functional neuroscience.

You should be able to integrate skills and interests with a large multi-discipline research group working on functional disturbances in the CNS, especially associated with age, dementia, stroke and other neurodegenerative disorders in the brain.

You will have multiple research responsibilities, including routine *in vitro* drug screening, participating in multidiscipline team research projects, and establishing and conducting individual basic research projects. A working familiarity with routine receptor binding and radioenzymatic assays is essential, as is sophistication, experience and interest in one or more areas concerned with neurotropic factors, cholinergic second-messengers, neurodegenerative processes, and molecular neurotransmitter interactions.

This is an excellent opportunity for career development, integrating basic and applied research within a multidiscipline, industrial/academically-oriented program. Lederle is located in beautiful Rockland County, just 35 miles from New York City. We provide a highly competitive compensation and benefits package including a 401K savings plan option. For immediate consideration, forward your resume and description of research interests and career goals to: **Mrs. Nancy Levine, Professional Employment Coordinator, Lederle Laboratories, American Cyanamid Company, Medical Research Division, Pearl River, New York 10965. An Equal Opportunity Employer m/f**



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ASSOCIATE UNIVERSITY VETERINARIAN

Director of Laboratory Animal Services

Together with the University Veterinarian, develops, implements and maintains animal care standards and policies to maximize University research and teaching programs. Has direct responsibility for provision of veterinary care to all laboratory animals at the University's three campuses. Advises faculty and staff on matters relating to animal care and use. Together with the Veterinarian, assumes responsibility for the supervision and training of animal care technicians when such personnel are placed under the Office of the Veterinarian.

Requires a D.V.M. from an approved veterinary college, plus completion of a training program in laboratory animal medicine. Must be licensed in at least one state in the United States, preferably New Jersey, and be ACLAM Certified (or eligible). Requires several years of experience in clinical laboratory animal medicine. Administrative experience in a research organization, or federal funding agencies is desirable.

Salary range: \$34,277 - \$46,276. A courtesy faculty appointment is possible if warranted and desired. Excellent benefits package includes tuition remission for employee and children.

Send resume, indicating position no. 179, to:

THE STATE UNIVERSITY OF NEW JERSEY
RUTGERS

Division of Personnel Services
New Brunswick, N.J. 08903

An Affirmative Action/
Equal Opportunity Employer

POSITIONS OPEN



California Biotechnology Inc.

RESEARCH ASSOCIATE

A position for a research associate, with a B.S. or M.S., is currently available in our DNA sequencing laboratory. Experience with M13 cloning, dideoxynucleotide sequencing, and computer analysis of DNA sequences is required. California Biotechnology is an established company located in the Palo Alto area, and has a strong commitment to applying recombinant DNA techniques to areas of medical research. We offer competitive salaries and an excellent benefits package.

Applications should be sent to: **The Director of the DNA Sequencing Laboratory, California Biotechnology Inc., 2450 Bayshore Frontage Road, Mountain View, Calif. 94043.**

RESEARCH FACULTY POSITION IN CELL BIOLOGY

The Center for Endocrinology, Metabolism and Nutrition of Northwestern University Medical School invites applications for research faculty position to work in studies of developmental biology with whole embryo and isolated fetal structures. Successful candidate will direct the Tissue Culture Core Unit for the center and will join an established program with opportunities for collaborative and independent initiatives. Candidates should have Ph.D. or M.D. and at least 2 years of postdoctoral research training. Salary and rank commensurate with qualifications. Send curriculum vitae and names of three references by 1 December 1985 to: **Dr. Norbert Freinkel, Northwestern University Medical School, 303 East Chicago Avenue, Chicago, Ill. 60611.**

Northwestern University is an Equal Opportunity/Affirmative Action Employer.

RESEARCH FACULTY POSITION IN MOLECULAR AND DEVELOPMENTAL BIOLOGY

The Center for Endocrinology, Metabolism and Nutrition of Northwestern University Medical School invites applications for research faculty position to work in developmental biology with special emphasis on metabolic regulation and gene expression during mammalian embryogenesis and differentiation. The successful applicant will join an established program with opportunities for collaborative and independent studies. Candidate should have Ph.D. or M.D. degree and at least 2 years of relevant postdoctoral research training. Salary and rank commensurate with qualifications. Send complete curriculum vitae, brief description of previous and future research, and names of three references by 1 December 1985 to: **Dr. Norbert Freinkel, Northwestern University Medical School, 303 East Chicago Avenue, Chicago, Ill. 60611.** *Northwestern University is an Equal Opportunity/Affirmative Action Employer.*

SENIOR CELL BIOLOGIST—Designs processes for the production of pharmacologically active proteins utilizing medium- to large-scale mammalian cell culture, involving: defined medium development, fermentation design, and the study of high density cell physiology to optimize fermentation process.

Requirements include a doctorate in biochemistry and at least 2 years of postdoctorate industrial experience involving the use of mammalian cell culture, defined medium, and quantitative biochemical techniques. Must be proficient in the general aspects of mammalian cell culture, especially in the areas of fermentation design, kinetic analysis of cell growth and product formation, defined medium development, and physiology of high cell density culture. Skills in the following biochemical techniques are also required: enzyme linked immunosorbent assays (ELISA) or radioimmunoassay (RIA), polyacrylamide gel electrophoresis, enzymatic analysis of metabolites using spectrophotometric assays and physiological amino acid analysis. Excellent communication skills are also required. Forty hours per week; \$3,283 per month.

Position is located in Cambridge, Massachusetts. Send résumé only to: **Job Order Number 5984, Massachusetts Division of Employment Security, C.F. Hurley Building, Boston, Mass. 02114.**

POSITIONS OPEN

RESEARCH ASSOCIATE. Fertilization and reproductive immunology. Studies include biochemical and immunological analyses of sperm autoantigens, T-cell antigens, and sperm plasma membranes. Applicants should have recent Ph.D. with at least 2 years of postdoctoral experience and a strong background in immunology, biochemistry, and reproductive biology. Send curriculum vitae and names of three references to: **Dr. Michael G. O'Rand, Laboratories for Cell Biology, Department of Anatomy, University of North Carolina at Chapel Hill, Chapel Hill, N.C. 27514, by 22 November 1985.** *Women and minorities are encouraged to voluntarily identify themselves. Equal Opportunity/Affirmative Action Employer.*

Position: RESEARCH ASSOCIATE-CHEMISTRY.

Hours: 40 hours per week; 9 a.m. to 5 p.m.

Salary: \$20,000 per year.

Requirements: Ph.D. in organic chemistry, including six credit hours of research involving the purification and characterization of enzymes.

Duties: Develop inactivators as chemical agents used to destroy the GABA-T enzyme which regulates epileptic and other convulsions; develop chemical compounds which inhibit the MAO enzyme which regulates depressive states in human beings, using magnetic resonance spectroscopy.

Send résumés to: **ILLINOIS JOB SERVICE, 910 South Michigan Avenue—Room 333, Chicago, Illinois 60605; attention: Minafor Jaskowiak, Reference Number 4760-J.** An employer-paid ad.

TRAINING PROGRAM

UCLA—INTERCAMPUS MEDICAL GENETICS TRAINING PROGRAM

The University of California, Los Angeles (UCLA) School of Medicine announces the establishment of a new postdoctoral research training program in medical genetics utilizing the clinical and research resources of its affiliated campuses and teaching hospitals. This program will be open to academically oriented applicants with the M.D., Ph.D., D.D.S., or equivalent degree. There will be a wide variety of research training opportunities in molecular, biochemical, immuno-, cancer, cyto-, somatic cell, population, and clinical genetics. The program will also meet all of the requirements of the American Board of Medical Genetics.

Training program faculty include members of the Departments of Biological Chemistry, Biomathematics, Medicine, Pediatrics, Obstetrics-Gynecology, Psychiatry, and the Molecular Biology Institute. Send curriculum vitae and three letters of reference to: **David L. Rimoin, M.D., Ph.D., Harbor-UCLA Medical Center, 1000 West Carson, Torrance, Calif. 90509.**

PROGRAM

CAREER CHANGE OPPORTUNITY

This unique program offers the candidate with an earned doctorate in the sciences the opportunity to obtain a doctor of optometry (O.D.) degree in 2 calendar years. Employment opportunities exist in private practice, industry, education, and research. Contact: **Ph.D.-O.D. Program Director, Admissions Office, The New England College of Optometry, Room 13, 424 Beacon Street, Boston, Mass. 02115.**

COURSE

MOLECULAR ENDOCRINOLOGY AND TECHNIQUES FOR HORMONE ACTION

16 to 21 February 1986

This course will consist of lectures in methodology with comprehensive syllabus covering receptors, gene transcription, mRNA and protein synthesis, recombinant DNA, protein hormones, and cyclic nucleotides.

Co-directors: **W. T. Schrader and B. W. O'Malley.** Fee: \$365 (\$245—fellow).

For further information, contact:

**Bonnie Cuthbert
Department of Cell Biology
Baylor College of Medicine
Houston, Texas 77030
Telephone: 713-799-6200
Deadline—17 January 1986**

CALL FOR PROPOSALS

DYSTONIA MEDICAL RESEARCH FOUNDATION Invites Research Grant Applications

Dystonia is a symptom which occurs in several human disorders. It consists of involuntary, often prolonged muscle spasms resulting in abnormal postures. The diseases include spondylus musculorum deformans (torsion dystonia), spasmodic torticollis, writer's cramp, blepharospasm, and orofacial dystonia. Dystonia is thought to be due to basal ganglia dysfunction but pathological findings are few. Present animal models are unsatisfactory.

Research proposals on dystonia are solicited, particularly those aimed at discovering the cause or improving the treatment. Grants are typically limited to \$25,000 per year, renewable for 1 or 2 additional years. Deadline for next grant review is 15 December 1985.

For application forms, please write to: **Charles H. Markham, M.D., Scientific Director, Dystonia Medical Research Foundation, 8383 Wilshire Boulevard, Beverly Hills, Calif. 90211.**

FELLOWSHIPS

FELLOWSHIPS. Stanford University's Center for International Security and Arms Control announces 1-year fellowships designed to provide mid-career scientists an opportunity for study in problems related to international security, defense policy and planning, and arms control starting fall 1986. For information, contact: **Center for International Security and Arms Control, 320 Galvez Street, Stanford, Calif. 94305.**

NIH POSTDOCTORAL FELLOWSHIPS available in reproductive biology. Multidisciplinary training sponsored by a faculty of fourteen from the Departments of Physiology and Cell Biology and Anatomy at the Oregon Health Sciences University and the Oregon Regional Primate Research Center. Beginning stipend is \$15,996. Applicants must be U.S. citizens or permanent residents. Send résumé and two letters of reference to: **Dr. John A. Resko, Department of Physiology, Oregon Health Sciences University, Portland, Oregon 97201.** *Affirmative Action Employers.*

GRADUATE ASSISTANTSHIP AVAILABLE IN MUSHROOM SCIENCE

Ph.D. candidate with interest in some area of research on the commercial mushroom. This is a 3-year project sponsored by Monterey Mushrooms. Areas of interest may be selected from within pathology, nutrition, physiology, virology, or genetics. Applicants must have an M.S. degree and proper qualifications. Apply to: **Dr. L. C. Schisler, Department of Plant Pathology, 211 Buckhout Laboratory, The Pennsylvania State University, University Park, Pennsylvania 16802.**

HARVARD UNIVERSITY SCHOOL OF PUBLIC HEALTH Takemi Fellowships in International Health

The Takemi Program in International Health invites applications from promising graduates of advanced degree programs and mid-career professionals with relevant backgrounds, for fellowships in research and advanced training on critical problems in international health, especially those concerned with less developed countries.

Fellows will be appointed for a 10-month term beginning in September 1986. Deadline for applications is 1 March 1986. Decisions will be announced in May 1986.

For information, write to:

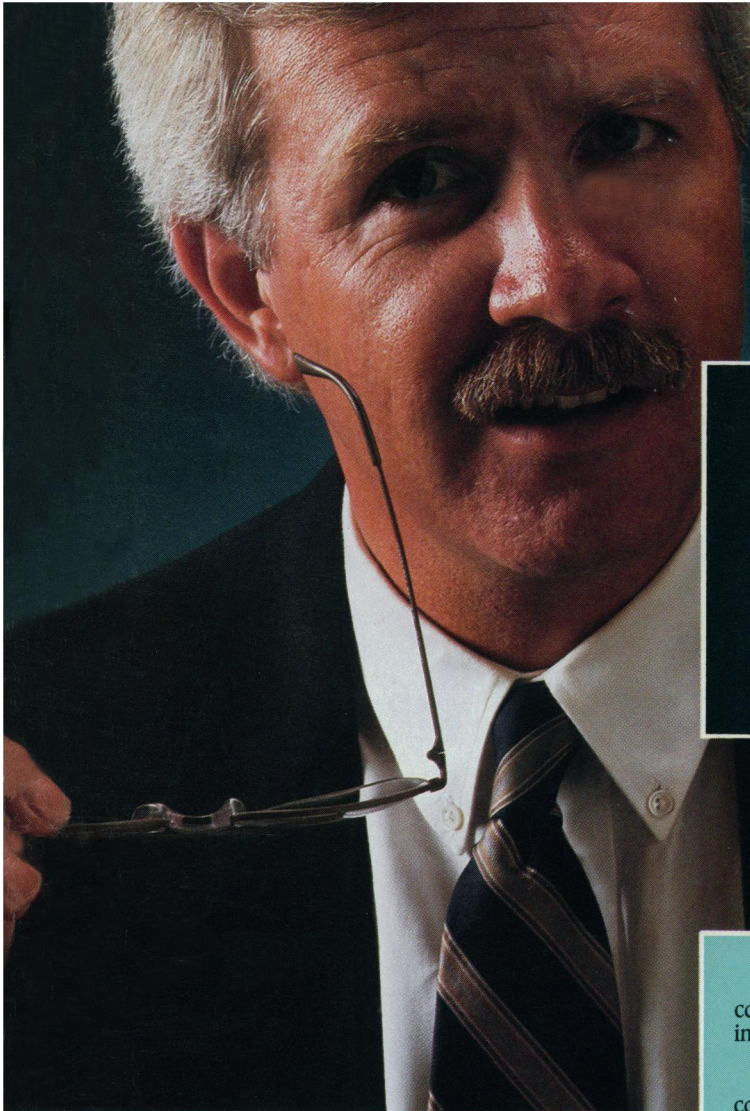
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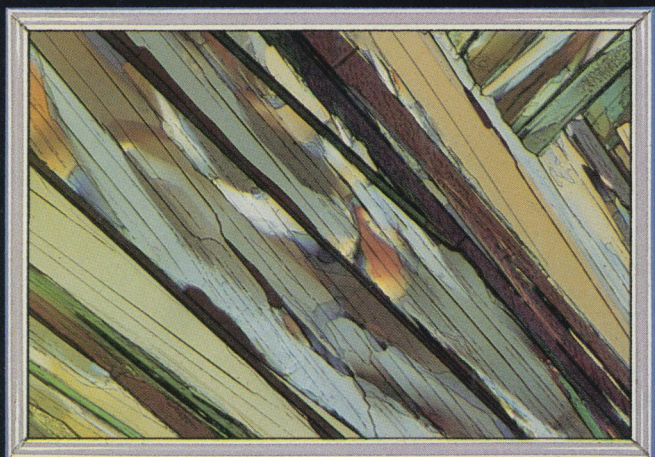
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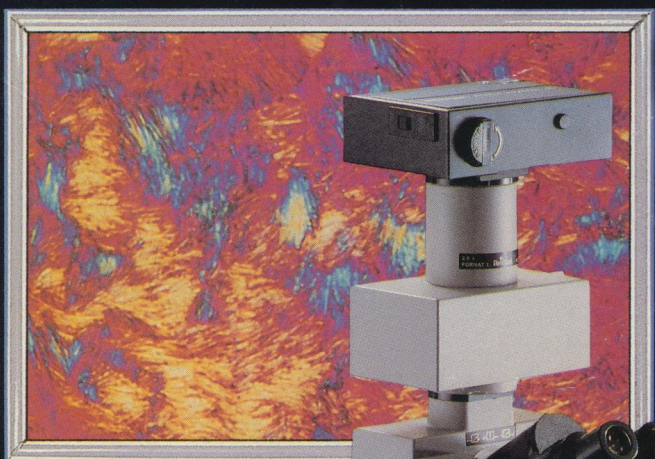
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