

lected illustrations and tables and provides a fresh look at a complex biological problem.

The relationships of extracellular matrix to development is the theme of a chapter by Reddi that briefly recapitulates the history of the subject and its model systems. Some of this material is more thoroughly covered in earlier chapters, and the remainder is more of an informational survey than an incisive analysis.

The book ends with a discussion of genetic and acquired disorders of collagen deposition by Krane. The study of genetic disorders is progressing rapidly, and the chapter does not cover some recent insights. Nevertheless, Krane's commentary and analysis should serve as important guides for investigators.

In summary, the Piez and Reddi book is an important addition to the literature on extracellular matrix. It can be recommended to neophytes and to experts.

The contributions to the volume edited by Trelstad consist mainly of brief reviews, many of them old hat, all written by major figures. There is overlap with the Piez and Reddi volume in the treatment of collagen, fibronectin, and proteoglycans. The most exciting parts of this volume are those devoted primarily to new information; of note are a chapter describing anchorins and a chapter on the analysis of basal laminae by the use of monoclonal antibodies.

Anchorins are defined by von der Mark and associates as a class of membrane proteins involved in cell-matrix interactions. One of these proteins, found on rat myoblasts, seems analogous to that described as a laminin receptor on other cells. Interestingly, the myoblast protein, when solubilized in detergent, showed low affinity and limited specificity for laminin, but these properties were significantly improved upon insertion of the receptor into liposomes. Similar results were found by this group when a collagen-binding protein was isolated from chondrocytes. Both receptor proteins, which differ in size, were purified to homogeneity and antisera were then raised against them. Immunolocalization studies showed that the receptors were present on cell surfaces. Such definitive studies usher in a new era for the investigation of cell-matrix interactions.

Linsenmayer, Fitch, and Mayne have used monoclonal antibodies to map type IV collagen domains, to examine the immunoreactivity of type IV collagen *in situ* and during development, and to describe basal lamina heterogeneity revealed by monoclonal antibodies directed against both type IV collagen and lens

capsule. A crisp, incisive interpretation of the data, clearly noting their limitations, is provided by the authors. A major point of the interpretation is that some basal lamina show immunologic constancy whereas others manifest great diversity and the difference must reflect differences in matrix composition or assembly.

One predominant theme in the book is that there are many types of interactions between cells and matrix and that virtually all of the known matrix molecules participate in such relationships, especially during development. Furthermore, the studies describing regeneration of the neuromuscular junction predict that biologically active components of the matrix, of unknown nature, are vital in such regeneration.

Though this compendium will be of value to some developmental biologists as a reference, I do not believe it is an important addition to most bookshelves.

MARVIN L. TANZER

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University of Connecticut  
Health Center, Farmington 06032

## Mistletoes

**The Biology of Mistletoes.** MALCOLM CALDER and PETER BERNHARDT, Eds. Academic Press, Orlando, Fla., 1983. xiv, 348 pp., illus. \$49.

Ideas concerning the systematics of those groups of plants that in Anglo-Saxon countries are referred to as mistletoes have changed considerably in the last couple of decades. No longer is the term equated with a single family, Loranthaceae; instead (depending on who is being consulted), there are two to four families involved, with perhaps a couple of genera from Santalaceae thrown in. Such changing and diverging attitudes are a reflection of a great deal of recent scientific attention paid to these unusual plants. Thus Calder and Bernhardt's *The Biology of Mistletoes* is timely in drawing the attention of the botanical world to past and current work in at least the two largest families, Loranthaceae s.s. and Viscaceae. It is unfortunate, however, that virtually no reference is made to Misodendraceae; similarly, the other purely American family, Eremolepidaceae, receives no attention except for a brief discussion of its systematic status.

The 17 chapters present a great variety of topics, including biogeography, embryology, fruit and floral biology, and various aspects of physiology. The con-

tributions are a little uneven in the sense that some represent very recent work whereas others could have been (or were) written 20 years ago with essentially the same content and conclusions. In the first category are the various Australian contributions, among which Barlow's integration of mistletoe systematics with plate tectonics especially merits attention. In the second category are the two chapters on embryology, which are very much of the *déjà vu* type; among other things, the tiresome subject of the "*Psittacanthus*" *cuneifolius* endosperm, the existence of which has led to doubts concerning the lack of endosperm as a generic character, is once again raised, notwithstanding published evidence showing the species to be quite unrelated to *Psittacanthus*. In fact, there are such failings in several chapters: factual and interpretative errors that could have been largely eliminated by more stringent editing.

A great deal of attention is paid to issues involving species from Australia, an emphasis that, I think, is justified because of active work there in the last decade and that will counter the opposite bias of older literature.

The book should be successful in stimulating further interest in these unusual plants. The authors and editors must feel frustrated by the lax advertising; the only announcement I have seen arrived some months after the book's appearance.

JOB KUIJT

Department of Biology,  
University of Lethbridge,  
Lethbridge, Alberta T1K 3M4, Canada

## Books Received

**Advances in Petroleum Geochemistry.** Vol. 1. Jim Brooks and Dietrich Welte, Eds. Academic Press, Orlando, Fla., 1984. x, 344 pp., illus. \$49.50.

**AIDS.** A Basic Guide for Clinicians. Peter Ebbesen, Robert J. Biggar, and Mads Melby, Eds. Munksgaard, Copenhagen, 1984. 313 pp., illus. \$40.

**Analysis of Foods and Beverages.** Modern Techniques. George Charalambous, Ed. Academic Press, Orlando, Fla., 1984. xviii, 654 pp., illus. \$82.

**The Analysis of Time Series.** An Introduction. C. Chatfield. 3rd ed. Chapman and Hall, London, 1984 (U.S. distributor, Methuen, New York). xiv, 286 pp. Paper, \$17.95.

**Annual Review of Astronomy and Astrophysics.** Vol. 22. Geoffrey Burbidge, David Layzer, and John G. Phillips, Eds. Annual Reviews, Palo Alto, Calif., 1984. x, 635 pp., illus. \$44.

**Annual Review of Phytopathology.** Vol. 22. Raymond G. Grogan, George A. Zentmyer, and Ellis B. Cowling, Eds. Annual Reviews, Palo Alto, Calif., 1984. xii, 487 pp., illus. \$27.

**Applications of Picosecond Spectroscopy to Chemistry.** Kenneth B. Eisenthal, Ed. Reidel, Boston, 1984 (distributor, Kluwer Boston, Hingham, Mass.). xii, 363 pp., illus. \$59. NATO ASI Series C, vol. 127. From a workshop, Acquafredda di Maratea, Italy, June 1983.

**Asian Marine Biology 1.** The Marine Biological Association of Hong Kong. Hong Kong University Press, Hong Kong, 1984. xvi, 175 pp., illus. Paper, \$20.

**Aspects Psychosociaux de la Dépression en Sortir?**

- Lars Fredén. Mardaga, Brussels, 1983. 296 pp. Paper, 990 BF. Psychologie et Sciences Humaines, 132. Translated from the English edition (1982) by Stéphane Renard.
- Astronomy Handbook.** James Muir. Arco, New York, 1984. 189 pp., illus. Paper, \$6.95. Reprint, 1982 ed.
- Atlas of Cancer Mortality in England and Wales, 1968-1978.** M. J. Gardner *et al.* Wiley, New York, 1984. xii, 116 pp. \$90.
- Atomic and Quantum Physics.** An Introduction to the Fundamentals of Experiment and Theory. H. Haken and H. C. Wolf. Springer-Verlag, New York, 1984. xiv, 394 pp., illus. \$29. Translated from the German edition (Berlin, 1983) by W. D. Brewer.
- Bacterial Protein Toxins.** J. E. Alouf *et al.*, Eds. Academic Press, Orlando, Fla., 1984. xx, 455 pp., illus. \$26. From a conference, Seillac, France, June 1983.
- The Basal Ganglia.** Structure and Function. John S. McKenzie, Robert E. Kemm, and Lynette N. Wilcock, Eds. Plenum, New York, 1984. x, 576 pp., illus. \$79.50. Advances in Behavioral Biology, vol. 27. From a symposium, Lorne, Australia, Aug. 1983.
- Carnitine.** The Vitamin B<sub>12</sub> Phenomenon. Brian Leibovitz. Dell, New York, 1984. 240 pp. Paper, \$2.95.
- Catalytic Cracking of Heavy Petroleum Fractions.** Daniel Decroocq. Editions Technip, Paris, 1984. viii, 123 pp., illus. 210 F.
- Cell Surface Dynamics.** Concepts and Models. Alan S. Perelson, Chales DeLisi, and Frederik W. Wiegel, Eds. Dekker, New York, 1984. xx, 550 pp., illus. \$85. Receptors and Ligands in Inter cellular Communication, 3.
- Cellular and Molecular Biology of Neoplasia.** Tak W. Mak and Ian Tannock, Eds. Liss, New York, 1984. xii, 214 pp., illus. \$58. Also published as *Journal of Cellular Physiology*, supplement 3, 1984. From a symposium, Honey Harbor, Ontario, Canada, Oct. 1983.
- Central and Peripheral Endorphins.** Basic and Clinical Aspects. Eugenio E. Müller and Andrea R. Genazzani, Eds. Raven, New York, 1984. xxiv, 365 pp., illus. \$65. Frontiers in Neuroscience Series. From a meeting, Viareggio, Italy, 1983.
- Children and Arson.** America's Middle Class Nightmare. Wayne S. Wooden and Martha Lou Berkeley, Plenum, New York, 1984. x, 267 pp. \$16.95.
- Chloroplasts.** J. Kenneth Hooper. Plenum, New York, 1984. xii, 280 pp., illus. \$42.50; paper, \$19.95. Cellular Organelles.
- Chromosomal Variation in Man.** A Catalog of Chromosomal Variants and Anomalies. Digamber S. Dorgaonkar. 4th ed. Liss, New York, 1984. xxxvi, 965 pp., illus. \$95.
- Clifford Algebra to Geometric Calculus.** A Unified Language for Mathematics and Physics. David Hestenes and Garret Sobczyk. Reidel, Boston, 1984 (distributor, Kluwer Boston, Hingham, Mass.). xviii, 314 pp. \$58. Fundamental Theories of Physics.
- Cognitive Psychophysiology.** Event-Related Potentials and the Study of Cognition. Emanuel Donchin, Ed. Erlbaum, Hillsdale, N.J., 1984. xx, 428 pp., illus. \$49.95. The Carmel Conferences, vol. 1. From a workshop, Carmel, Calif., Jan. 1979.
- Comparative Pathobiology.** Vol. 6. Invertebrate Blood: Cells and Serum Factors. Thomas C. Cheng, Ed. Plenum, New York, 1984. viii, 211 pp., illus. \$45. From a symposium, Gainesville, Fla., Aug. 1979.
- Comparative Pathobiology.** Vol. 7. Pathogens of Invertebrates: Application in Biological Control and Transmission Mechanisms. Thomas C. Cheng, Ed. Plenum, New York, 1984. viii, 278 pp., illus. \$49.50. From a meeting, Seattle, July 1980.
- Contemporary Problems in Plant Anatomy.** Richard A. White and William C. Dickson, Eds. Academic Press, Orlando, Fla., 1984. xiv, 598 pp., illus. \$49. From a symposium, Durham and Chapel Hill, N.C., 1983.
- Controlled Atmosphere Storage of Fruits.** L. V. Metlitskii *et al.* Balkema, Rotterdam, 1983 (U.S. distributor, P.O. Box 230, Accord, Mass.). viii, 150 pp., illus. \$14. Russian Translations Series, 9. Translated from the Russian edition (Moscow, 1972).
- Cooperative Learning in the Classroom.** Research in Desegregated Schools. Shlomo Sharan *et al.* Erlbaum, Hillsdale, N.J., 1984. xvi, 160 pp. \$19.95.
- The Corals of Hong Kong.** P. J. B. Scott. Hong Kong University Press, Hong Kong, 1984. viii, 112 pp., illus. Paper, HK\$85.
- Deformation of Ceramic Materials II.** Richard E. Tressler and Richard C. Bradt, Eds. Plenum, New York, 1984. xii, 751 pp., illus. \$95. Materials Science Research, vol. 18. From a symposium, University Park, Pa., July 1983.
- Dopamine Receptor Agonists.** George Poste and Stanley T. Crooke, Eds. Plenum, New York, 1984. xxvi, 388 pp., illus. \$55. New Horizons in Therapeutics. From a symposium, Philadelphia, Feb. 1983.
- East African Mammals.** An Atlas of Evolution in Africa. Vol. 1. Jonathan Kingdom. University of Chicago Press, Chicago, 1984. x, 446 pp., illus. Paper, \$25. Reprint, 1974 edition.
- Educating the Young Thinker.** Classroom Strategies for Cognitive Growth. Carol Copple, Irving E. Sigel, and Ruth Saunders, Erlbaum, Hillsdale, N.J., 1984. xx, 266 pp., illus. Paper, \$19.95.
- Electrochemical Detectors.** Fundamental Aspects and Analytical Applications. T. H. Ryan, Ed. Plenum, New York, 1984. viii, 172 pp., illus. \$39.50. From a symposium, London, Sept. 1981.
- Electron-Molecule Interactions and Their Applications.** Vol. 2. L. G. Christophorou, Ed. Academic Press, Orlando, Fla., 1984. xvi, 678 pp., illus. \$85.
- Elementary Kinematics of Elementary Particles.** G. I. Kopylov. Mir, Moscow, 1983 (U.S. distributor, Imported Publications, Chicago). 272 pp., illus. Paper, \$4.95. Science for Everyone. Translated from the Russian edition (Moscow, 1981) by Nicholas Weinstein.
- Elements of Digital Satellite Communication.** Vol. 1. William W. Wu. Computer Science Press, Rockville, Md., 1984. xvi, 607 pp., illus. \$44.95. Electrical Engineering Communications and Signal Processing.
- The Encyclopedia of Mammals.** David Macdonald, Ed. Facts On File, New York, 1984. xvi, 896 pp., illus., + appendices. \$45.
- Epilepsy and the Family.** Richard Lechtenberg. Harvard University Press, Cambridge, Mass., 1984. xii, 223 pp., illus. \$16.50.
- Etoposide (VP-16).** Current Status and New Developments. Brian F. Issell *et al.*, Eds. Academic Press, Orlando, Fla., 1984. xx, 355 pp., illus. \$30. From a symposium, New York, Sept. 1983.
- International Handbook of Community Services for the Mentally Retarded.** Jack A. Stark, John J. McGee, and Frank J. Menolascino, Erlbaum, Hillsdale, N.J., 1984. xiv, 262 pp., illus. \$27.50. School Psychology.
- Introduction to Laboratory Hematology and Hematopathology.** Harold R. Schumacher, David F. Garvin, and Douglas A. Triplett. Liss, New York, 1984. xiv, 628 pp., illus. \$49.50.
- An Introduction to Louisiana Archaeology.** Robert W. Neuman. Louisiana State University Press, Baton Rouge, 1984. xviii, 366 pp., illus. \$27.50.
- Introduction to Medical Microbiology.** Marcus M. Jensen and Donald N. Wright. Prentice-Hall, Englewood Cliffs, N.J., 1985. xiv, 529 pp., illus. \$28.95.
- An Introduction to Statistical Physics.** A. M. Vasil'yev. Mir, Moscow, 1983 (U.S. distributor, Imported Publications, Chicago). 360 pp., illus. \$8.95. Translated from the Russian edition (Moscow, 1980) by G. Leib.
- Ion Implantation and Beam Processing.** J. S. Williams and J. M. Poate, Eds. Academic Press, Orlando, Fla., 1984. xii, 419 pp., illus. \$57.50. From a workshop, Phillip Island, Australia, 1981.
- Laser Physics.** L. V. Tarasov. Mir, Moscow, 1983 (U.S. distributor, Imported Publications, Chicago). 358 pp., illus. \$10.95. Translated from the Russian edition (Moscow, 1981) by Ram S. Wadhwa.
- Learning and Cognition in the Mentally Retarded.** Penelope H. Brooks, Richard Sperber, and Charley McCauley, Eds. Erlbaum, Hillsdale, N.J., 1984. xxii, 541 pp. \$49.95. NICHD—Mental Retardation Research Centers Series. From a conference, Nashville, Tenn.
- Molten Salt Techniques.** Vol. 2. Robert J. Gale and David G. Lovering, Eds. Plenum, New York, 1984. xviii, 257 pp., illus. \$39.50.
- Moments of Vision.** The Stroboscopic Revolution in Photography. Harold E. Edgerton and James R. Killian, Jr. MIT Press, Cambridge, Mass., 1984. 178 pp., illus. Paper, \$14.95. Reprint, 1979 edition.
- Monoamine Innervation of Cerebral Cortex.** Laurent Descarries, Tomás R. Reader, and Herbert H. Jasper, Eds. Liss, New York, 1984. xiv, 361 pp., illus. \$68. Neurology and Neurobiology, vol. 10. From a symposium, Montreal, May 1983.
- Multiple Trauma.** R. J. Wilder, Ed. Karger, Basel, 1984. xii, 286 pp., illus. \$57. Progress in Critical Care Medicine, vol. 1.
- The Mystery of Life's Origin.** Reassessing Current Theories. Charles B. Thaxton, Walter L. Bradley, and Roger L. Olsen. Philosophical Library, New York, 1984. xii, 229 pp. \$14.95; paper, \$8.50.
- The Natural History of Sharks.** Thomas H. Lineaweaver III and Richard H. Backus. Schocken, New York, 1984. 256 pp., illus. Paper, \$9.95. Nick Lyons Books. Reprint, 1970 edition.
- Neptune's Revenge.** The Ocean of Tomorrow. Anne W. Simon. Franklin Watts, New York, 1984. xii, 223 pp. \$15.95.
- Neuvième Congrès International de Stratigraphie et de Géologie du Carbonifère.** (Washington, D.C., and Champaign-Urbana, Ill., May 1979) Vol. 2, Biostratigraphy. Patrick K. Sutherland and Walter L. Manger, Eds. Southern Illinois University Press, Carbondale, 1984. x, 630 pp., illus. Paper, \$75.
- New Methods in Reading Comprehension Research.** David E. Kieras and Marcel A. Just, Eds.
- Erlbaum, Hillsdale, N.J., 1984. xviii, 378 pp., illus. \$39.95. From a conference, Tucson, Ariz., Dec. 1981.
- Novel Application of Anomalous (Resonance) X-ray Scattering for Structural Characterization of Disordered Materials.** Yoshio Waseda. Springer-Verlag, New York, 1984. vi, 183 pp., illus. Paper, \$8. Lecture Notes in Physics, vol. 204.
- Observational Tests of the Stellar Evolution Theory.** André Maeder and Alvio Renzini, Eds. Reidel, Boston, 1984 (distributor, Kluwer Boston, Hingham, Mass.). xxiv, 590 pp., illus. \$66; paper, \$29.95. International Astronomical Union Symposium No. 105. From a symposium, Geneva, Sept. 1983.
- Opioid Modulation of Endocrine Function.** Giuseppe Delitala, Marcella Motta, and Mario Serio, Eds. Raven, New York, 1984. xiv, 282 pp., illus. \$49.50. Frontiers in Neuroscience Series. From a meeting, Florence, Oct. 1983.
- Optical Radiation Measurements.** Vol. 5, Visual Measurements. C. James Bartleson and Frac Grum, Eds. Academic Press, Orlando, Fla., 1984. xii, 662 pp., illus. \$110.
- Optics and Lasers.** Including Fibers and Integrated Optics. Matt Young. 2nd ed. Springer-Verlag, New York, 1984. xx, 269 pp., illus. Paper, \$19.50. Springer Series in Optical Sciences, vol. 5.
- Organizing Principles of Neural Development.** S. C. Sharma, Ed. Plenum, New York, 1984. viii, 421 pp., illus. \$65. NATO ASI Series A, vol. 78. From an institute, Povoá de Varzim, Portugal, June 1982.
- Origins of Cognitive Skills.** Catherine Sophian, Ed. Erlbaum, Hillsdale, N.J., 1984. xiv, 442 pp., illus. \$39.95. From a symposium, Pittsburgh, 1983.
- Oxygen Radicals in Chemistry and Biology.** Wolf Bors, Manfred Saran, and David Tait, Eds. Walter de Gruyter, New York, 1984. xx, 1029 pp., illus. \$114. From a conference, Neuherberg, Germany, July 1983.
- Patent and Trademark Tactics and Practice.** David A. Burge. 2nd ed. Wiley-Interscience, New York, 1984. xviii, 213 pp. \$29.95.
- Patterns of Human Heredity.** An Introduction to Human Genetics. James R. Brennan. Prentice-Hall, Englewood Cliffs, N.J., 1985. xii, 340 pp., illus. \$24.95.
- Secondary Metabolism in Microorganisms, Plants, and Animals.** Martin Luckner. 2nd ed. Springer-Verlag, New York, 1984. 576 pp., illus. \$48.50.
- Self-Validating Numerics for Function Space Problems.** Computation with Guarantees for Differential and Integral Equations. Edgar W. Kaucher and Willard L. Miranker. Academic Press, Orlando, Fla., 1984. xiv, 255 pp. \$28. Notes and Reports in Computer Science and Applied Mathematics, 9.
- Semiconductors and Semimetals.** Vol. 21, Hydrogenated Amorphous Silicon: Part A, Preparation and Structure. Jacques I. Pandove, Ed. Academic Press, Orlando, Fla., 1984. xvi, 331 pp., illus. \$69.
- Sex from a Different Position.** Cyrus Bass. Publishers Associates, Chicago, 1984. x, 310 pp. Paper, \$11.
- The Sex Life of Flowers.** Bastiaan Meuse and Sean Morris. Photographs by Oxford Scientific Films. Drawings by Michael Woods. Facts on File, New York, 1984. 152 pp. \$19.95.
- Shock Waves in Condensed Matter—1983.** J. R. Asay, R. A. Graham, and G. K. Straub, Eds. North-Holland, New York, 1984. xviii, 647 pp., illus., + plates. \$71.25. From a conference, Santa Fe, N.M., July 1983.
- Shorebirds.** Joanna Burger and Bori L. Olla, Eds. Plenum, New York, 1984. Two volumes. Breeding Behavior and Populations. xvi, 437 pp., illus. \$59.50. Migration and Foraging Behavior. xiv, 329 pp., illus. \$49.50. Behavior of Marine Animals, vols. 5 and 6.
- Single-Cell Mutation Monitoring Systems.** Methodologies and Applications. Aftab A. Ansari and Frederick J. de Serres, Eds. Plenum, New York, 1984. xviii, 289 pp., illus. \$39.50. Topics in Chemical Mutagenesis, vol. 2.
- Sintering and Heterogeneous Catalysis.** G. C. Kuczynski, Albert E. Miller, and Gordon A. Sargent, Eds. Plenum, New York, 1984. xii, 349 pp., illus. \$55. Materials Science Research, vol. 16. From a conference, Notre Dame, Ind., June 1983.
- Social Research in the Judicial Process.** Cases, Readings, and Text. Wallace D. Loh. Russell Sage Foundation, New York, 1984 (distributor, Basic Books, New York). xxxii, 778 pp. \$37.50.
- Society and Knowledge.** Contemporary Perspectives in the Sociology of Knowledge. Nico Stehr and Volker Maja, Eds. Transaction Books, New Brunswick, N.J., 1984. x, 414 pp. \$29.95; paper, \$12.95. Translated from the German and the French.
- Solar Energy Planning.** A Guide to Residential Settlement. Phillip Tabb. McGraw-Hill, New York, 1984. xvi, 256 pp., illus. \$34.95.
- Solutions of Einstein's Equations.** Techniques and Results. C. Hoenselaers and W. Dietz, Eds. Springer-Verlag, New York, 1984. vi, 439 pp. Paper, \$20.50. Lecture Notes in Physics, vol. 205. From a seminar, Retzbach, Germany, Nov. 1983.

(Continued on page 324)

## Marine Biological Laboratory

# Courses May — August 1985

### **Biology of Parasitism —**

Paul Englund, John Hopkins Medical School; and  
Alan Sher, National Institutes of Health;  
Co-Directors.

### **Biophysics of Neural Function**

Daniel Alkon, NINCDS, Director

### **Cellular Neurobiology of the Leech**

John Nicholls, Biocentrum, Basel, Director

### **Embryology:**

*A Modern Course in Developmental Biology*

William R. Jeffery, Texas; and Bruce Brandhorst,  
McGill; Co-Directors

### **Marine Ecology**

Peter Frank, Oregon, Director

### **Microbiology:**

*Molecular Aspects of Cellular Diversity*

Ralph Wolfe, Illinois; and Peter Greenberg,  
Cornell; Co-Directors

### **Neural Systems and Behavior**

Darcey Kelly, Columbia; and Tom Carew, Yale;  
Co-Directors

### **Neurobiology**

Arthur Karlin, Columbia, Director

### **Physiology:**

*Cell and Molecular Biology*

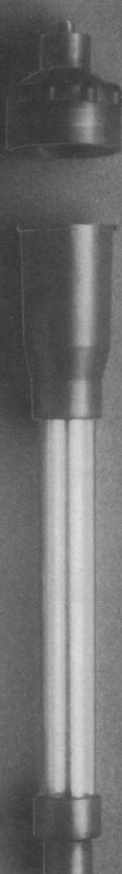
Robert D. Goldman, Northwestern, Director

### **Deadline for Applications: March 1, 1985**

For further information contact the Office of  
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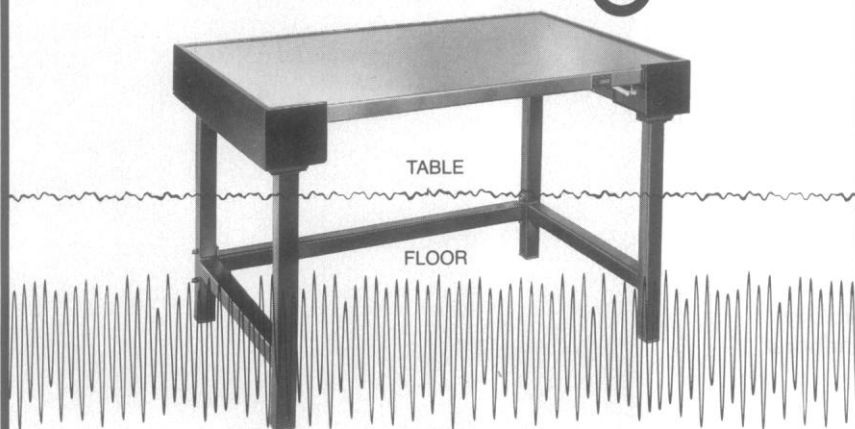
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# 1 9 THE 8 5 CAROLINA WORKSHOPS

## May 19-30: Chemical Synthesis of DNA Oligonucleotides

Students will synthesize 12-14 base oligonucleotides of their own design. The solution triester condensation method will be used. This method uses simple laboratory equipment and is the method of choice for economical synthesis of large amounts of oligonucleotides. The synthesized product will be purified and sequenced. Alternative methods of synthesis will be discussed. Utilization of oligonucleotides as primers, probes and site-specific mutagens will be demonstrated.

**Sponsor:** Susan T. Lord  
University of North Carolina

**Instructors:**  
Howard Goyer, Group Leader  
Oligodeoxynucleotide Synthesis  
Laboratory  
Pharmacia P-L Biochemicals, Inc.

Richard Ogden  
Agouron Institute

**Tuition:** \$1000

## June 8-June 22 Molecular Genetics: Chromosome Structure and Function

Emphasis on general and advanced recombinant DNA techniques including restriction digests, electrophoretic analysis, Southern blot transfers, labeling of DNA with both radioactive and biotinylated nucleotides, M13 cloning and dideoxy-sequencing. Students will study chromosome segregation and replication by constructing mutations *in vitro* and transforming yeast with yeast-E coli shuttle vectors. Chromosomal integration techniques will be employed. Transformants will be analyzed using molecular and classical genetic approaches. Lab work will be supplemented by lectures from visiting and University of North Carolina faculty.

**Sponsor:** Dana M. Fowles  
University of North Carolina

**Instructors:**  
Molly Fitzgerald-Hayes  
University of Massachusetts

Carol S. Newlon  
New Jersey School of  
Medicine—UMDNJ

**Tuition:** \$1200

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March 4, 1985

**Acceptance notification**  
by: April 1, 1985

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University of  
North Carolina  
at Chapel Hill

**Program in  
Molecular  
Biology &  
Biotechnology**

## BOOKS RECEIVED

(Continued from page 291)

**Spectral Problems in Organic Chemistry.** R. Davis and C. H. J. Wells. International Textbook Company, Glasgow, 1984 (U.S. distributor, Methuen, New York). vi, 121 pp., illus. Paper, \$10.95.

**Spoken Words.** Effects of Situation and Social Group on Oral Word Usage and Frequency. William S. Hall, William E. Nagy, and Robert Linn. Erlbaum, Hillsdale, N.J., 1984. xii, 489 pp. Paper, \$45.

**Staphylococci and Staphylococcal Infections.** Vol. 1, Clinical and Epidemiological Aspects. C. S. F. Easmon and C. Adlam, Eds. Academic Press, Orlando, Fla., 1983. xvi, 384 pp., illus., + index. \$65.

**Statistical Uses of Administrative Records.** Recent Research and Present Prospects. Beth Kilss and Wendy Alvey, Eds. Statistics of Income Division, Internal Revenue Service, Washington, D.C., 1984 (available from B. Kilss, Statistics of Income Division, I.R.S., 1111 Constitution Ave., NW, Washington, D.C.). Two volumes. xxviii, 682 pp., illus. Paper.

**Stories, Scripts, and Scenes.** Aspects of Schema Theory. Jean Matter Mandler. Erlbaum, Hillsdale, N.J., 1984. xii, 132 pp., illus. \$19.95. John M. MacEachran Memorial Lecture Series.

**Supercomputers and Parallel Computation.** D. J. Paddon, Ed. Clarendon (Oxford University Press), New York, 1984. x, 258 pp., illus. \$39. The Institute of Mathematics and Its Applications Conference Series. 1. From a conference, Bristol, England, Sept. 1982.

**Superconductivity in Magnetic and Exotic Materials.** T. Matsubara and A. Kotani, Eds. Springer-Verlag, New York, 1984. xii, 211 pp., illus. \$23.50. Springer Series in Solid-State Sciences, vol. 52. From a symposium, Kashikojima, Japan, Nov. 1983.

**Superforce.** The Search for a Grand Unified Theory of Nature. Paul Davies. Simon and Schuster, New York, 1984. vi, 255 pp., illus. \$16.95.

**Surgical Care of Voice Disorders.** Wilbur J. Gould and Van L. Lawrence, with Nobuhiko Isshiki. Springer-Verlag, New York, 1984. x, 116 pp., illus. \$24.50. Disorders of Human Communication 8.

**Surgical Pathology of the Mediastinum.** Alberto M. Marchevsky and Mamoru Kaneko. Raven, New York, 1984. xii, 292 pp., illus. \$53.

**Synthetic Organic Photochemistry.** William M. Horspool, Ed. Plenum, New York, 1984. xviii, 534 pp., illus. \$75.

**Systematic and Regional Biogeography.** Stanley A. Morain. Van Nostrand Reinhold, New York, 1984. xii, 335 pp., illus. \$32.50.

**Systems Analysis and Modeling in Defense.** Development, Trends, and Issues. Reiner K. Huber, Ed. Plenum, New York, 1984. xvi, 913 pp., illus. \$125. From a symposium, Brussels, July 1982.

**Temperament.** Early Developing Personality Traits. Arnold H. Buss and Robert Plomin. Erlbaum, Hillsdale, N.J., 1984. viii, 185 pp. \$22.50.

**Testing Drugs for Physical Dependence Potential and Abuse Liability.** Joseph V. Brady and Scott E. Lukas, Eds. National Institute on Drug Abuse, Rockville, Md., 1984 (available from the National Clearinghouse for Drug Abuse Information, Rockville, Md.). xiv, 153 pp. Paper. NIDA Research Monograph 52.

**Theory and Applications of Correspondence Analysis.** Michael J. Greenacre. Academic Press, Orlando, Fla., 1984. xii, 364 pp., illus. \$56.

**Theory of NMR Parameters.** I. Ando and G. A. Webb. Academic Press, Orlando, Fla., 1984. xii, 217 pp., illus. \$52.

**Treatise on Heavy-Ion Science.** Vol. 1, Elastic and Quasi-Elastic Phenomena. D. Allan Bromley, Ed. Plenum, New York, 1984. xxii, 753 pp., illus. \$95.

**Tree Representations of Internal Migration Flows and Related Topics.** Paul B. Slater. Community and Organization Research Institute, University of California, Santa Barbara, 1984. viii, 155 pp. + figures. Paper, \$25.

**Veterinary Anesthesia.** William V. Lumb and E. Wynn Jones. 2nd ed. Lea and Febiger, Philadelphia, 1984. x, 693 pp., illus. \$69.50.

**Vicia Faba.** Agronomy, Physiology and Breeding. P. D. Hebblethwaite *et al.*, Eds. Nijhoff/Junk, The Hague, 1984 (U.S. distributor, Kluwer Boston, Hingham, Mass.). x, 333 pp., illus. \$53.50. World Crops, vol. 10. From a seminar, Nottingham, England, Sept. 1983.

**White-Tailed Deer.** Ecology and Management. Lowell K. Halls, Ed. Illustrated by Cindy House. Stackpole, Harrisburg, Pa., 1984. xxvi, 871 pp. + plates. \$39.95. A Wildlife Management Institute Book.

**The World Guide to House Plants.** Anthony Huxley, Ed. Scribner, New York, 1984. 224 pp., illus. \$19.95.

**The Yeasts.** A Taxonomic Study. N. J. W. Kregger van Rij, Ed. 3rd ed. Elsevier, New York, 1984. xvi, 1082 pp., illus. \$173.

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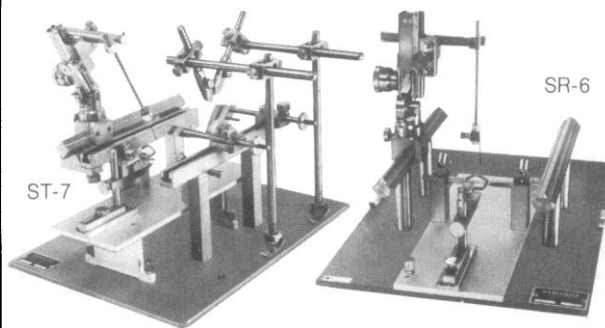
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**Aquatic Biologist.** Ph.D. Seven years of industrial and government research experience in laboratory and field assessments for chemical safety. Additional experience in effluent biomonitoring. Laboratory manager. Publications. Seeks research or managerial position. Box 13, SCIENCE. X

**Biochemist/Antibiotic Research.** Ph.D. seeks position with industry/government, preferably in New Haven, Connecticut, Philadelphia, Pennsylvania, or Frederick, Maryland, areas. Six years of experience as group leader in antitumor antibiotics research, including: fermentation, screening procedures, de-replication, isolation, structure analysis, biosynthesis, and mechanism of action. Also familiar with tissue culture techniques. Excellent reputation, publications, and references. Box 14, SCIENCE. X

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**Biochemist/Cell Biologist.** Ph.D. 1976. Experienced in cellular metabolism, enzyme activity and hormonal regulation in vitro (cell suspension, broken cell system, and tissue culture) and in vivo. Highly motivated and knowledgeable in analyzing, planning, and executing problems pertinent to regulation of cell activity and the mechanism of action thereof. Seeks position with academic/research institution. Box 17, SCIENCE. X

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**Microbiologist.** B.A., RM(AAM) in pathogenic bacteriology/virology, 15 years of experience in veterinary research, diagnostic virology, serology, electron microscopy; veterinary vaccine development; mammalian, insect, and microcarrier cell culture; laboratory design/safety; public speaking, technical writing, publications; equipment purchase; personnel management; resource management planning. Seeks management position/director of quality control with biotech firm. Box 8, SCIENCE. X

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The U.S. Environmental Protection Agency (EPA), Environmental Research Laboratory at Corvallis, Oregon, is seeking an **AQUATIC ECOLOGIST, TOXICOLOGIST, OR CHEMIST** for its Freshwater Sediment Research Program. Incumbent will work at the Corvallis laboratory to determine bioavailability and effects of sediment-bound chemicals. Applicants must possess a doctorate or its equivalent relating to freshwater benthic ecology, toxicology, or chemistry, with extensive training in and knowledge of freshwater benthic chemical and biological processes. Experience managing multidisciplinary research is desirable. This is not currently a permanent EPA position, but may become so. Several types of employment opportunities currently exist and will be discussed with suitable applicants. Please contact Dr. Ronald R. Garton at 503-757-4605 or FTS 420-4605 if you have questions regarding this position. Applicants should send a résumé or standard form 171 to: **Dr. Ronald R. Garton, U.S. Environmental Protection Agency, Environmental Research Laboratory-Corvallis, 200 SW 35th Street, Corvallis, Oregon 97333**, no later than 18 February 1985. EPA is an Equal Opportunity Employer.

### ASSISTANT PROFESSOR OF ANATOMY

Applications are invited for a tenure-track appointment at the assistant professor level, beginning 1 September 1985, in the Department of Anatomical Sciences. Teaching will be in medical and dental gross anatomy. Preference will be given to candidates who have postdoctoral experience and an active research program. Current areas of research in the department include cell motility, hematology, functional morphology, neurobiology, and reproductive biology. Interested applicants should submit curriculum vitae and three letters of reference by 15 February 1985 to: **Dr. Barry S. Eckert, Search Committee Chair, Department of Anatomical Sciences, 317 Farber Hall, State University of New York (SUNY) at Buffalo, Buffalo, New York 14214.**

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## POSITIONS OPEN

### STANFORD UNIVERSITY

The Department of Biological Sciences is searching for an **ANIMAL ORGANISMAL BIOLOGIST** at the level of assistant professor. Preference will be given to candidates in the areas of physiological aspects of behavior, integrative aspect of neuro- or endocrine physiology, or physiological ecology. The successful candidate must have an outstanding record of research. Teaching responsibilities will include an undergraduate course in animal physiology. *Stanford University is an Equal Opportunity Employer.* Send curriculum vitae and the names of three references to: **Organismal Biology Search Committee, Department of Biological Sciences, Stanford University, Stanford, Calif. 94305.**

### ASSISTANT/ASSOCIATE PROFESSOR (TENURE TRACK)

Applications are invited for a full-time research position in Oakland University's Institute of Biological Sciences, a unit which is devoted exclusively to vision research. Candidates for assistant professor must have an M.D. or Ph.D. in biochemistry, physiology, cell and molecular biology, or a related area and 2 and 3 years of postdoctoral experience in monoclonal antibodies, immunochemical techniques, and tissue culture as well as a record of significant publications. Candidates for associate professor must possess a well-recognized record of published research, a history of previous grant support, or a high potential for extramural funding. The successful candidate is expected to develop and maintain an independent research program in visual sciences and to secure grant support. Initial support will be made available to set up a laboratory. Opportunities exist for collaboration with other members of institute faculty in the areas of cornea, lens and cataract, photochemistry of vision, and transduction. Previous research experience in visual sciences is desirable but not mandatory. Applications including curriculum vitae, a list of publications with reprints of selected papers, names of three references, and a statement of research plans should be sent by 15 February 1985 to: **Dr. V. N. Reddy, Director, Institute of Biological Sciences, Oakland University, Rochester, Michigan 48063.** An Equal Opportunity/Affirmative Action Employer.

**ASSISTANT PROFESSOR,** Department of Internal Medicine, University of Texas Medical School at Houston is seeking a Ph.D. organic chemist to join a group effort in steroid metabolism. Capabilities for steroid synthesis and for GC-MS and NMR analysis are requisite. Independent research activity will also be encouraged. Send curriculum vitae and references to: **Box 11, SCIENCE.** An Equal Opportunity Employer. Women and minorities are encouraged to apply.

**ASSISTANT PROFESSOR, Molluscan Fisheries and Aquaculture.** Permanent fixed term, probability of changing to tenure track after 1 year. Funded at 75 percent. Salary negotiable. Requires Ph.D. and demonstrated ability to work with industry and public agencies. Submit letter, curriculum vitae, and names of three references by 28 February 1985 to: **J. E. Lannan, Hatfield Marine Science Center, Oregon State University, Newport, Ore. 97365.** Oregon State University is an Affirmative Action/Equal Opportunity Employer and complies with section 504 of the Rehabilitation Act of 1973.

**ASSISTANT PROFESSOR OF NUTRITION.** Our current faculty opening is a tenure-track position effective 1 July 1985. Responsibilities include development of an extramurally funded, independent research program relevant to human nutrition problems, graduate and undergraduate teaching, and university and professional service. Candidates should hold a Ph.D. in nutrition or may present a related doctoral degree plus significant training in nutrition. Particular attention will be paid to those individuals who possess experience in nutritional research in the areas related to immunology, genetics, or endocrinology. Postdoctoral research experience with publications and college teaching experience are desirable. To apply, submit a statement of research objectives and teaching interests, curriculum vitae with reprints, and names, addresses, and telephone numbers of references by 1 March 1985 to: **Dr. Susan Oace, Department of Nutritional Sciences, University of California, Berkeley, Calif. 94720.** Ask one or two references to send letters directly to the search committee; other references may be contacted by us. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### ASSISTANT PROFESSOR—IMMUNOLOGY

Tenure-track position in microbiology in a large, diverse Department of Biological Sciences (34 full-time faculty). Relevant Ph.D. and postdoctoral experience required. Teach undergraduate and graduate courses in immunology plus other courses as needed. Must be able to establish a strong research program which can be sustained by external support. Send curriculum vitae, summary of research interests, and three letters of recommendation prior to 10 March 1985 to: **Dr. James Wick, Box 5640, Northern Arizona University, Flagstaff, Ariz. 86011.** *An Equal Opportunity/Affirmative Action Employer.*

### MEMORIAL UNIVERSITY OF NEWFOUNDLAND DEPARTMENT OF BIOLOGY ASSISTANT/ASSOCIATE PROFESSOR Microbiology (Molecular Biology)

Applications are invited for an assistant/associate professor of biology in the area of microbiology (molecular biology). The successful applicant will be required to teach undergraduate courses in introductory microbiology and in virology and to initiate a strong research programme in the area of virology. Preference will be given to applicants with a demonstrated ability in undergraduate teaching.

Applications, which should include a full curriculum vitae, list of publications, and the names of three referees, close on 1 February 1985.

**Dr. G. R. Brassard**  
Acting Head

Department of Biology  
Memorial University of Newfoundland  
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### DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY ALBANY MEDICAL COLLEGE

Applicants are invited to apply for two tenure-track positions available on 1 July 1985. The positions are expected to be filled at the **ASSISTANT OR ASSOCIATE PROFESSOR** level. Preference will be given to individuals with research interests in neuropharmacology, cardiovascular pharmacology, or endocrine pharmacology, although all areas of pharmacology and toxicology will be considered. The successful candidates will be expected to develop active and funded research programs and to participate in medical student and graduate student teaching. The Department of Pharmacology and Toxicology is newly reorganized and has begun a period of growth and development. The Albany area offers major summer and winter recreational and cultural activities. Applicants should send curriculum vitae, a summary of research activities, and three letters of reference to: **Dr. Stanley D. Glick, Chairman, Department of Pharmacology and Toxicology, Albany Medical College, Albany, New York 12208.** *Equal Opportunity/Affirmative Action Employer, M/F.*

### ASSISTANT PROFESSOR OF SYSTEMIC PHYSIOLOGY

Applications for an assistant professor (salary and level dependent upon qualifications and experience) are now being accepted from qualified candidates with both D.V.M. degree and Ph.D. in physiology (or associated field). Candidate must have demonstrated interest, aptitude, and experience in teaching areas of systemic physiology and demonstrated interest and achievement in research. Responsibilities will include lecture and laboratory instruction in systemic physiology for students in the professional veterinary program and to develop didactic instruction at the graduate level in their area of expertise. Supervision of graduate students in laboratory research will also be required. Candidate will be responsible for the development of a creative and productive basic and clinical research program in their area of interest as an indispensable and fundamental requirement of this position. Send curriculum vitae, including bibliography, and names of at least three references to: **Dr. Alfred A. Heusner, VM: Physiological Sciences, School of Veterinary Medicine, University of California, Davis, Calif. 95616.** Applications will be accepted through 1 March 1985, or until a suitable candidate is identified. *The University of California is an Affirmative Action/Equal Opportunity Employer.*

## POSITIONS OPEN

### ASSISTANT/ASSOCIATE PROFESSOR MOLECULAR BIOLOGY/ BIOMEDICINAL CHEMISTRY

School of Pharmacy and Comprehensive Cancer Center, University of Southern California, seek candidates with Ph.D. in chemistry, biochemistry, or molecular biology for two tenure-track positions. Candidates conducting research on gene amplification, cell proliferation, growth factors, drug resistance, or on role of protein products with respect to cancerous state are encouraged to apply. Teaching biomedical chemistry at professional (Pharm.D.) and graduate (Ph.D.) levels is required. Send three letters of reference, curriculum vitae, brief summary of research accomplishments and future goals by 28 February 1985 to: **Joon H. Rho, Ph.D., School of Pharmacy, University of Southern California, 1985 Zonal Avenue, Los Angeles, Calif. 90033-1086.** *An Equal Opportunity Employer, M/F/H.*

### ASSISTANT PROFESSOR—EPIDEMIOLOGY/ INFECTIOUS DISEASES ASSISTANT OR ASSOCIATE PROFESSOR— EXPERIMENTAL PATHOLOGY/ CELL BIOLOGY

The Department of Veterinary Science, University of Wisconsin-Madison, invites applications for two faculty positions:

**Assistant Professor-Epidemiology/Infectious Diseases**—tenure-track position. The candidate is expected to develop an independent research program with focus on the mechanisms of animal disease and direct graduate student training. The primary teaching responsibility is a graduate level course in epidemiology.

**Assistant or Associate Professor-Experimental Pathology/Cell Biology**—tenure track or tenure position. The candidate is expected to develop an independent research program with focus on the mechanisms of animal disease and direct graduate student training. The primary teaching responsibility is a graduate course in experimental pathology at the cellular level.

Opportunities exist for fruitful collaboration with other faculty having programs in epidemiology, experimental pathology, immunology, virology, microbiology, reproductive and cardiopulmonary physiology, and parasitology. Departmental facilities include a P3 laboratory. Candidates for both positions must possess a Ph.D. or D.V.M.-Ph.D. or equivalent. Submit curriculum vitae, description of research goals, teaching experience, and names of four references to: **Dr. G. Splitter, Associate Professor, Department of Veterinary Science, 1655 Linden Drive, Madison, Wis. 53706.**

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**ASSISTANT PROFESSOR OF MEDICINE (IMMUNOLOGY/ALLERGY).** The University of Tennessee Center for Health Sciences, Department of Medicine, Division of Allergy/Immunology, invites applications from individuals with a strong research, patient care, and teaching background. Should have completed training in medicine and allergy/immunology. Send curriculum vitae to: **Dr. T. J. Yoo, Professor and Head, Division of Allergy/Immunology, Department of Medicine, University of Tennessee Center for Health Sciences, 956 Court Avenue, Room 3H05, Memphis, Tenn. 38163.** *Equal Opportunity/Affirmative Action Employer.*

### POSITION IN CANCER RESEARCH LABORATORY

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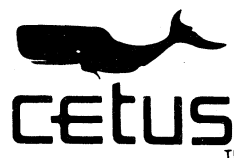
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## POSITIONS OPEN

**ASSOCIATE RESEARCH SCIENTIST.** Department of Pharmacology. To design and synthesize antitumor alkylating agents derived from hydrazines and cancer chemotherapeutic agents derived from azo-mycin effective against hypoxic tumor cells. Requires Ph.D. or equivalent degree in pharmaceutical or medicinal chemistry with experience in evaluating agents for antineoplastic activity in experimental animal systems. Prior experience in the kinetic investigation of organic reaction mechanisms required. In addition to a strong background in biochemistry, molecular pharmacology, and organic synthesis, the candidate must have expertise in instrumental techniques including UV-VIS, IR, NMR, and mass spectroscopy and chromatographic methods of separation and purification. Full-time position with annual salary of \$23,000. Interested applicants should submit their résumés to or apply at: **Connecticut State Job Service, 100 Arch Street, New Britain, Conn. 06051**, and refer to job order number 0388077.

**AUDITORY/VESTIBULAR NEUROBIOLOGIST.** Tenure-track assistant professor position, jointly appointed in Department of Neuroscience and Division of Otolaryngology. Ph.D. and/or M.D. degree and postdoctoral experience expected. Successful candidate will be expected to conduct vigorous independent research program and participate in graduate and medical education. Equipped laboratory and start-up funds provided. Projected starting date: 1 July 1985. Send curriculum vitae, statement of research goals and teaching interests, and names of three references by 1 February to: **J. B. Munson, Chair of A/V Search Committee, Department of Neuroscience, Box J-244, University of Florida College of Medicine, Gainesville, Florida 32610. Equal Opportunity/Affirmative Action Employer.**

### BIOCHEMICAL EPIDEMIOLOGIST

For research program in carcinogenesis and molecular biology. Clinical and laboratory dimensions Ph.D. level with relevant biochemical and epidemiological experience. Excellent working conditions. Available immediately. Send curriculum vitae and salary requirements to:

**Preventive Medicine Institute/Strang Clinic  
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Attention: Dr. Daniel G. Miller**

### BIOLOGY APPOINTMENT

Assistant professor—Ph.D. required. Must be prepared to teach biochemistry, molecular genetics, basic genetics, and, at times, general biology. Submit letter and résumé and have transcripts and at least three recommendations sent to: **Dr. James B. Mitchell, Chairperson, Biology Department, Moravian College, Bethlehem, Pa. 18018; telephone: 215-861-1427.** Moravian is an independent, liberal arts college. *An Equal Opportunity Employer.*

**BIOLOGY:** Teach graduate and undergraduate courses; freshman-level biology and cellular biology; interest and expertise in biotechnology and/or biology of women and/or biology of aging would be valuable to the department. Tenure track; August 1985; assistant professor; salary dependent upon qualifications and experience; Ph.D. required. Letter of application, curriculum vitae, three letters of recommendation, and transcripts to: **James Schlough, Department of Biology, University of Wisconsin-Whitewater, Whitewater, Wisconsin 53190.** Deadline: 28 February 1985, or until position can be filled. *An Equal Opportunity Employer.*

**BIOLOGIST (CELL BIOLOGIST/IMMUNOLOGIST)**—The Department of Biology, University of Wisconsin-Eau Claire, invites applications for a probationary faculty appointment beginning August 1985. Responsibilities will include teaching in our introductory zoology program and/or human anatomy and physiology with the expectation that the successful applicant will develop an advanced course in his/her area of specialization. The applicant will also be expected to participate in advising students, committee work, and develop an active research program. A Ph.D. degree is required (by the starting date).

Send a letter of application, curriculum vitae, complete transcripts, and three letters of recommendation by 18 February 1985, to: **Dr. Birdell Snudden, Chairman, Biologist Search Committee, Department of Biology, University of Wisconsin-Eau Claire, Eau Claire, Wis. 54701.**

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## POSITIONS OPEN

**BIOCHEMIST—WILLIAMS COLLEGE** has an opening for fall 1985 for a 2-year assistant professor position in biochemistry (Ph.D. required; postdoctoral experience preferred). Applicants should have a strong commitment to both teaching and research. Teaching duties each semester normally include complete responsibility for one course with laboratory and supervision of senior research projects. Williams College is a highly selective, coeducational, liberal arts institution of approximately 155 faculty, 1900 undergraduates, and 30 to 40 chemistry majors each year, located in northwestern Massachusetts. The Chemistry Department is accredited by the ACS and has excellent facilities for teaching and research. Send résumé, undergraduate and graduate transcripts, description of research interests for undergraduates, and names of three references to: **Dr. James F. Skinner, Chairman, Department of Chemistry, Williams College, Williamstown, Mass. 01267**, by 20 February 1985. *Affirmative Action/Equal Opportunity Employer. We are especially interested in identifying minority and women candidates.*

**BIOCHEMISTRY:** Assistant professor position to teach undergraduate biochemistry and organic chemistry. Ph.D. degree and commitment to undergraduate teaching and research required. Send cover letter describing specialization, interests, résumé, and names of three references to: **Dr. Edward J. Baum, Chairman, Department of Chemistry, Grand Valley State College, Allendale, Michigan 49401. An Equal Opportunity/Affirmative Action Employer.**

**BIostatistician/RESEARCH SCIENTIST.** Join research team to analyze multivariate serial data for body composition, risk factors, and growth. Ph.D. biostatistics or equivalent. Knowledge of SAS and microcomputers desirable. \$26,000 to \$32,000. Closing date for applications: 31 January 1985. Curriculum vitae and names of three references to: **Dr. Alex Roche, Division of Human Biology, Department of Pediatrics, Wright State University School of Medicine, 1005 Xenia Avenue, Yellow Springs, Ohio 45387; telephone: 513-767-7324. An Equal Opportunity/Affirmative Action Employer.**

**BOTANIST.** Tenure-track faculty position. Desired research emphasis in ecological/evolutionary genetics. Will teach courses in introductory botany, population genetics, and area of specialty. Expected to advise graduate students and develop active research program with some relevance to northern regions. Applicants must have earned Ph.D., postdoctoral experience preferred.

Applicants should forward a letter of application, curriculum vitae, copies of publications, and three letters of reference by 28 February 1985 to:

**W. S. Armbruster, Chairman  
Botany Search Committee  
Department of Biology, Fisheries and Wildlife  
University of Alaska-Fairbanks  
Fairbanks, Alaska 99701**

*The University of Alaska is an Equal Opportunity/Affirmative Action Employer and Educational Institution.*

**BOTANIST:** A probationary faculty position in the Department of Biology is open beginning Semester 1, 1985-1986. Primary responsibilities include teaching undergraduate courses in general botany and plant anatomy/morphology. The successful candidate will be expected to initiate or carry on a research program in his/her specialty and supervise undergraduate and graduate research projects. The Ph.D. is required. Rank and salary are commensurate with experience. *Minority candidates and women are especially urged to apply.* Submit a letter of application, curriculum vitae, transcripts, and three letters of reference by 1 March 1985 to: **Dr. John Woodruff, Chair, Botanist Search Committee, Department of Biology, University of Wisconsin-Eau Claire, Eau Claire, Wis. 54701.**

*The University of Wisconsin-Eau Claire is an Affirmative Action/Equal Opportunity Employer.*

**RESEARCH ASSOCIATE, Ph.D.,** to join research team for a 4-year study of body composition, growth, maturation, and health-related outcomes. The candidate should have training in at least one of the following areas: Epidemiology, human biology, physical anthropology, exercise physiology, public health, or aging. Salary: \$22,000 to \$28,000. Closing date: 31 January 1985. Send résumé to: **A. F. Roche, M.D., Division of Human Biology, Department of Pediatrics, Wright State University School of Medicine, 1005 Xenia Avenue, Yellow Springs, Ohio 45387; telephone: 513-767-7324. An Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

**BIOMEDICAL PHYSIOLOGIST/IMMUNOLOGIST**—Assistant professor, fall 1985, \$21,000 to \$29,000, dependent on experience and qualifications, to teach undergraduate and graduate courses and to develop and sustain an active independent research program. Ph.D. required. Send letter of application, résumé, and names, addresses, and telephone numbers of three references to: **Dr. Leeds M. Carluccio, Chairman, Biological Sciences Department, CENTRAL CONNECTICUT STATE UNIVERSITY, New Britain, Conn. 06050**, by 15 February, 1985. *Central Connecticut State University is an Affirmative Action/Equal Opportunity Employer. Women, minorities, handicapped, and veterans are encouraged to apply.*

**BIOPSYCHOLOGIST.** The Department of Psychology invites applications for a full-time, 1-year (non-continuing) assistant professorship in biopsychology, to teach one-semester courses in physiological psychology, animal behavior (both with laboratory), and a seminar or course on topic of incumbent's interest. Specific area(s) of competence open, although a background in neuroethology, developmental neurobiology, or neuroanatomy/neurophysiology is especially desirable. Qualifications required are Ph.D. (or expected by fall 1985), excellence in undergraduate teaching, and competence in conducting/directing independent research. Send letter of application, current curriculum vitae, transcripts, reprints/preprints, and three letters of reference by 15 February 1985 to: **Loche Van Atta, Chair, Biopsychology Search Committee, Department of Psychology, Oberlin College, Oberlin, Ohio 44074. Oberlin College is an Affirmative Action/Equal Opportunity Employer and specifically encourages women and minority applicants.**

### CHAIRPERSON—DEPARTMENT OF VETERINARY MICROBIOLOGY

Applications are invited for the position of chairperson of the Department of Veterinary Microbiology at the New York State College of Veterinary Medicine. The interests of the department encompass clinical as well as molecular microbiology and immunology. The department's historical strength lies in infectious disease research. We seek an individual with outstanding academic accomplishments, including an established record of leadership in research and teaching in modern medical microbiology. Send letters of nomination or application to: **Ann Marcham, Assistant to the Dean, New York State College of Veterinary Medicine, Cornell University, Ithaca, New York, 14853.** Applicants should include a detailed résumé. The screening of applications will begin on 15 March 1985 and continue until a suitable candidate has been selected. *Cornell University is an Affirmative Action/Equal Opportunity Employer.*

### CHAIRMAN OF PHARMACOLOGY

Applications are being accepted for the position of chairman of pharmacology at the University of Pittsburgh School of Medicine. This endowed chair requires an established investigator (M.D., M.D.-Ph.D., or Ph.D.) of national reputation with a strong commitment to medical and graduate student teaching as well as an appreciation of clinical pharmacology. Adequate space and funding for the recruitment of new faculty members is available. Inquiries will be held in strict confidence.

Submit curriculum vitae and bibliography to:

**Thomas J. Gill, III, M.D.  
Chairman, Pharmacology Search Committee  
University of Pittsburgh School of Medicine  
Department of Pathology  
716 Scaife Hall  
Pittsburgh, Pa. 15261**

Closing date: 31 March 1985.

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

**FACULTY APPOINTMENT**—The Department of Pharmacology at Duke University is seeking applicants for a faculty position. The applicant should hold the M.D. or Ph.D. degree and have a record of productive postdoctoral research. All areas of biological science relevant to pharmacology will be considered. Candidates are expected to participate in the teaching activities of the department and to develop an independent research program. Send curriculum vitae, names of three individuals for references, and brief description of proposed research to: **Dr. Norman Kirshner, Department of Pharmacology, Duke University Medical Center, Durham, N.C. 27710. Duke University is an Affirmative Action/Equal Opportunity Employer.**



## POSITIONS OPEN

**THE ZOOLOGY DEPARTMENT AT THE UNIVERSITY OF ARKANSAS, MAIN CAMPUS FAYETTEVILLE**, is seeking applicants for **CHAIR** at associate professor level. We expect to fill position by 1 July 1985. Zoology Chair Search Committee will begin reviewing applicants 1 March. The department is multidisciplinary, 15 faculty positions, 50 graduate students, 500 undergraduate majors, campus of 15,000 students. Qualifications of applicant should include: Active research program, record of successful research funding, skilled teacher of graduate and undergraduate students. Field of research not specified, though physiology or cell biology preferred. Administrative experience desired. Funding available for successful candidate to establish his/her research program on Fayetteville campus. Applicants should provide complete résumé and three letters of reference to: **Professor James E. Dunn, Chair, Zoology Faculty Chair Search Committee, Department of Mathematical Sciences, SCEN 301, University of Arkansas, Fayetteville, Ark. 72701.** *University of Arkansas is an Equal Opportunity/Affirmative Action Employer.*

### CHAIRPERSON DEPARTMENT OF BIOLOGICAL SCIENCES

The Department of Biological Sciences at State University of New York at Albany (SUNYA) is seeking a senior scientist to serve as chairperson. The department has 33 faculty and 70 graduate students with research interests in the following areas: Cell and developmental biology, ecology and animal behavior, molecular biology, and neurobiology.

Candidates should have a research program compatible with one of the above areas and a broad appreciation for graduate and undergraduate training in biology. The department expects to make several junior appointments within the above areas in the next several years. A letter of interest and curriculum vitae should be sent before 1 March 1985 to: **Dr. Jon Jacklet, Chair, Search Committee, Department of Biological Sciences, State University of New York at Albany, 1400 Washington Avenue, Albany, N.Y. 12222; telephone: 518-457-4036.**

*SUNYA is an Affirmative Action/Equal Opportunity Employer. Applications from minority persons, women, handicapped persons, and Vietnam veterans are especially welcomed.*

### DIRECTOR ALASKA WAMI MEDICAL PROGRAM

The University of Alaska, Fairbanks, solicits applications for the directorship of the Alaska component of the WAMI (Washington, Alaska, Montana, Idaho) regionalized medical school program. The director administers the first year medical school curriculum in coordination with the University of Washington School of Medicine. He/she will teach, promote and participate in research, counsel medical students, and work with faculty and staff to assure excellence of departmental programs. Qualifications include: Ph.D. or M.D., demonstrated experience in teaching basic medical science, record of independent research, ability to obtain extramural funding, and academic administrative ability. There will be a tenure-track appointment with the University of Alaska, Fairbanks; appointments with the University of Washington as assistant dean and faculty member of an appropriate department. Salary commensurate with qualifications and experience. Submit letter of applications, résumé, and three references to: **Chair, WAMI Search Committee, c/o Dean, College of Natural Sciences, 122 Arctic Health Research Building, University of Alaska, Fairbanks, Alaska 99701.** Application deadline 1 March 1985 (postmark date). *The University of Alaska-Fairbanks is an Equal Opportunity/Affirmative Action Employer and Educational Institution and encourages women and minorities to apply for this position.*

The Department of Geology is soliciting applications for an anticipated tenure-track **FACULTY POSITION IN SOLID EARTH GEOPHYSICS** at an assistant professor level to begin in August 1985. Current areas of interest to the department include seismology, exploration and regional geophysics, and tectonophysics. The successful candidate is expected to develop a strong research program, and teach graduate and undergraduate courses. Send letters of application accompanied by curriculum vitae, description of research interests, and names of at least three references to: **Pradeep Talwani, Geology Department, University of South Carolina, Columbia, S.C. 29208.** Closing date for applications is 28 February 1985. *The University of South Carolina is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### CROP PHYSIOLOGIST Assistant/Associate/Full Professor

The successful candidate will develop a research and teaching program encompassing a broadly based, quantitative approach to crop physiology, crop management, and/or agronomic crop ecology. Research interests should be aimed primarily at the whole plant or community level. The individual may also interact with the faculty of the newly organized Institute for Biomolecular Research in the Agricultural and Environmental Sciences. The institute represents a major, newly-funded commitment to basic research in agricultural and environmental sciences at Cook College.

Teaching responsibilities: One undergraduate level course in crop physiology/ecology and one graduate level course, stressing quantitative methodology. The individual will also advise graduate and undergraduate students. Apply before 1 March 1985 by sending curriculum vitae, transcripts, reprints, names of at least three references, and a description of research plans to:

**Dr. Marla A. Jackson, Crop Physiologist Search  
Department of Soils and Crops  
Cook College, Rutgers University  
New Brunswick, N.J. 08903**

*Rutgers University is an Equal Opportunity/Affirmative Action Employer.*

### DEVELOPMENTAL BOTANIST

The Biology Department of Carleton College is seeking a **DEVELOPMENTAL BOTANIST** with a broad background in vascular plants and a thorough training in morphogenesis/development to fill a tenure-track **ASSISTANT PROFESSOR** position in the department. The candidate is expected to have a firm commitment to teaching at the undergraduate level combined with a strong interest in maintaining a significant research program which lends itself to involvement of first rank undergraduate majors. Postdoctoral research experience would be an advantage but is not required. *Women and minority candidates are especially encouraged to apply.* The candidate will be responsible for part of team-taught course in introductory botany, a course in plant development, a junior/senior level seminar (alternate years), and a course to be agreed upon. Interested applicants please send curriculum vitae, undergraduate and graduate transcripts, and three letters of reference to: **Dr. G. J. C. Hill, Chairman, Biology Department, Carleton College, Northfield, Minn. 55057. Telephone: 507-663-4391.** Closing date for applications: 15 February 1985.

*Carleton College is an Affirmative Action/Equal Opportunity Employer.*

### DIRECTOR SHANNON POINT MARINE CENTER WESTERN WASHINGTON UNIVERSITY

Western Washington University seeks an established marine scientist to become the full-time director of its Shannon Point (Puget Sound) Marine Center starting 1 September 1985. Candidates for director must possess a strong research record and proven administrative ability in marine science. A Ph.D. in a marine related area and academic experience equivalent to the full professor rank is preferred. Faculty status is negotiable. Salary is competitive. Please submit curriculum vitae and a minimum of three letters of reference by 1 March 1985 to: **Dr. Maurice L. Schwartz, Chairman, SPMC Director Search Committee, Environmental Studies Building, Western Washington University, Bellingham, Wash. 98225.** *Western Washington University is an Equal Opportunity/Affirmative Action Employer.*

### FACULTY POSITION HARVARD MEDICAL SCHOOL

Berman-Gund Laboratory for the Study of Retinal Degenerations seeks a retinal cell biology with expertise in electron microscopy and immunocytochemistry. Ph.D. with postdoctoral experience required. Independent investigator desired. Laboratory full equipped. Program includes morphometric analyses on postmortem donor eyes with retinal degenerations with aid of full-time senior technician. Opportunity to work with other scientists in multidisciplinary effort. Academic rank commensurate with accomplishments. Send curriculum vitae and names of three references to: **Dr. E. L. Berson, Director, Berman-Gund Laboratory, Massachusetts Eye and Ear Infirmary, 243 Charles Street, Boston, Mass. 02114.** *An Equal Opportunity/Affirmative Action Employer.*

## SCRIPPS CLINIC AND RESEARCH FOUNDATION

### NIH Research Fellowships in Hematology

Opportunities are provided for basic or clinical research in a variety of disciplines. Fellows will be participating in ongoing independently funded research programs and will work closely with an experienced preceptor.

**Term.** Fellowships are for one to four years.

**Requirements.** M.D., Ph.D. or equivalent. U.S. citizenship or permanent resident alien status.

**Salaries.** \$16,000-30,000 according to NIH scale.

**Inquiries.** Dr. Ernest Beutler, Chairman, Department of Basic and Clinical Research, Scripps Clinic and Research Foundation, 10666 North Torrey Pines Road, La Jolla, California (USA) 92037.

### Research Programs.

Platelet kinetics, function, and biochemistry  
Coagulation  
Hemostasis  
Thrombosis  
Fibrinolysis  
Red cell enzymology, biochemistry and genetics  
Immunohematology  
Molecular Biology  
Oncologic Pharmacology  
Bone Marrow Transplantation

### Preceptors.

Ernest Beutler, M.D.  
Samuel A. Burshtein, M.D.  
Dennis A. Carson, M.D.  
George L. Dale, Ph.D.  
Stephen R. Hanson, Ph.D.  
Laurence A. Harker, M.D.  
G. Levin, Ph.D.  
Robert McMillan, M.D.  
Zaverio Ruggeri, M.D.  
Joseph A. Sarge, M.D.  
Shobhana Vora, M.D.  
Theodore S. Zimmerman, M.D.

## Cellular Electrophysiologist

G.D. Searle Research & Development Division has an outstanding opportunity within its Biological Research Department for a Research Biologist with proven experience in cellular electrophysiology. The successful candidate will evaluate electrophysiological effects of new antiarrhythmic agents in isolated cardiac preparations.

The qualified candidate will have an M.S. in Physiology or Pharmacology with some experience in cellular electrophysiology or a B.S. in same with 3-5 years experience.

Searle R&D offers excellent compensation, benefits, and a challenging work environment. To apply in strict confidence, please submit resume, including three references, to:

Nanci Connors/7BG-5  
Searle Research  
and Development  
Division of G.D. Searle & Co.  
4901 Searle Parkway  
Skokie, IL 60077

An Equal Opportunity Employer,  
Minorities/Females/  
Handicapped

# SEARLE

## POSITIONS OPEN

### CLINICAL TRIALS MANAGER

Senior person to lead data management and data processing activities in statistical center for national multi-center cancer clinical trials group. Minimum education and experience requirement is Master's degree in computer science or related field and at least five years of experience in medical computing. Applicant must be experienced with DEC20 Tops 20 Operating System, data base management systems including 1022, IBM microcomputers, and communications networks. Applicant must have significant experience in organizing data collection and quality control procedures for multi-center cancer clinical trials. Must have established reputation in the field as evidenced by publications and invitations to present seminars and workshops at leading centers in the United States or overseas. Must have experience writing grant proposals and speaking at site visits. Necessary to have demonstrated supervisory and management skills and must be able to work independently on own initiative. Must have teaching experience with clinical and data management personnel. Possibility of university appointment. Position requires frequent interaction with physicians, nurses, and data managers throughout the United States and applicant must be available for frequent travel. Salary \$34,500 per annum. *Equal Opportunity Employer.* Please send complete curriculum vitae and at least three letters of reference to: **Massachusetts Division of Employment Security, C. F. Hurley Building, Boston, Mass. 02114**, and refer to job reference number: 5196.

### THE ACADEMY OF NATURAL SCIENCES DIRECTOR OF COMPUTER SERVICES

The Academy of Natural Sciences is a research institution based in Philadelphia with laboratories in southern Pennsylvania and Maryland. The director of computer services, responsible for academic and administrative computing, is expected to provide leadership for long-range planning and budgeting, management of staff, and must be able to communicate effectively with a group of users with diverse needs. In addition, the director must be a working programmer; knowledge of biological statistics is desirable. The position reports to the senior vice president. Candidates should have demonstrated managerial experience, preferably within a research organization. The position is currently vacant and will be filled as soon as practical. Salary will be competitive and negotiable. Send a letter of application, a current résumé, and names of three references to: **Mrs. A. Roberts, Director of Personnel, The Academy of Natural Sciences, 19th and the Parkway, Philadelphia, Pa. 19103.** *Equal Opportunity Employer.*

**EVOLUTIONARY BIOLOGY/ANIMAL ECOLOGY.** The Department of Biology at the University of Chicago announces a search to fill one or more positions in the area of evolutionary biology/animal ecology (broadly defined), at the level of assistant or associate professor. We are interested in a research program that combines experimental and theoretical approaches. Although we are especially interested in the areas of animal ecology and molecular evolution, other areas will be seriously considered.

Please send a letter of application, curriculum vitae, reprints and/or recent manuscripts, a statement of research interests, and three letters of reference to: **Search Committee, Department of Biology, The University of Chicago, 915 East 57th Street, Chicago, Illinois 60637.**

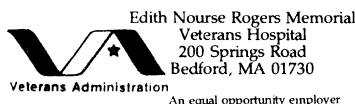
Deadline for receipt of applications is 15 February 1985. *The University of Chicago is an Affirmative Action/Equal Opportunity Employer.*

**BIOLOGY DEPARTMENT HEAD**—Appointment effective 15 August 1985 in department offering baccalaureate and master's degree programs. Pre-professional programs in pre-medicine and pre-dentistry also important. Applicants must have Ph.D. in a biological science discipline and qualify for a tenured faculty position. Teaching experience, research, and public service commitment, with strong administrative capabilities necessary. Send application, curriculum vitae, and arrange to have three letters of recommendation submitted by 15 March 1985 to: **Office of Academic Affairs, Biology Head Search, Western Kentucky University, Bowling Green, Ky. 42101.** *An Affirmative Action/Equal Opportunity Employer.*

## POSITIONS OPEN

### DIRECTOR OF GRECC

Position available for Director (M.D. or Ph.D.) of Geriatric Research, Education, and Clinical Center (GRECC) emphasizing neurosciences. Located at Edith Nourse Rogers Memorial Veterans Hospital in Bedford, Massachusetts, and affiliated with Boston University School of Medicine. A background in clinical or basic sciences relevant to aging; administrative ability; active interest in research and in demonstrated projects and clinical models in gerontology are required. VA salary, appropriate Boston University School of Medicine appointment. Send curricula vitae to **C.A. Pinderhughes, M.D., GRECC Director Search Committee.**



### FACULTY POSITION

The Department of Biochemistry, Microbiology, Molecular and Cell Biology of the Pennsylvania State University invites applications for several junior and senior tenure-track positions. Renewed commitments from the University to expand our department and form a Biotechnology Institute provide exciting and challenging opportunities for creative research at Penn State. Candidates should have postdoctoral experience and will be expected to develop timely and competitive research programs. Outstanding individuals who will use molecular approaches for the study of genetic, regulatory, and structural relationships in microbial, animal, and plant systems are sought. A wide variety of interactions with our large and diversified research faculty are possible in many areas. We provide excellent physical facilities, competitive salary and benefits, and a stimulating research environment. Applications should consist of curriculum vitae, copies of recent publications, a brief but detailed description of research goals and three references from whom we may request letters. Applications will be received until 15 March 1985, or until the positions are filled thereafter. Submit applications to: **Dr. Jean E. Brencley, Head, Department of Biochemistry, Microbiology, Molecular and Cell Biology, 108B Altshouse Laboratory, Penn State University, University Park, Pa. 16802.**

*An Affirmative Action/Equal Opportunity Employer*

### FACULTY POSITION BIOCHEMISTRY AND MOLECULAR BIOLOGY

The Department of Biochemical and Biophysical Sciences at the University of Houston invites applications for an anticipated new faculty position at the assistant professor level. Candidates are being sought with postdoctoral experience, recognized scientific accomplishments, and unusual promise in the fields of biochemistry or molecular biology. Individuals who use the methods of molecular biology to study fundamental problems in biochemistry are encouraged to apply. The new faculty member will be expected to establish a vigorous independent research program of quality and to participate actively in the undergraduate and graduate instruction of the department. The University of Houston is a state-supported institution with an enrollment of about 30,000. Send curriculum vitae, a brief statement of research plans, current representative reprints, and have three letters of recommendation forwarded no later than 1 February 1985 to: **Dr. Allen Bartel, Department of Biochemical and Biophysical Sciences, University of Houston-University Park, 4800 Calhoun, Houston, Texas 77004.**

*An Affirmative Action/Equal Opportunity Employer*

## POSITIONS OPEN

### ENVIRONMENTAL CHEMISTRY MANAGER

Excellent growth opportunity to direct a group devoted to environmental studies, as well as support of technology development and mitigation measures. We require a PhD in a related discipline (e.g. Organic Chemistry, Soil Sciences, Geochemistry) and at least 5 years successful experience managing similar personnel and programs. An equivalent combination of education/experience may be substituted for PhD. Specific experience in hazardous waste evaluation and ground water quality, is also required.

Our location offers an abundance of recreational, educational and cultural opportunities in a university, small community atmosphere. Send resume with salary history or requirements to Manager of Personnel Services:

**WESTERN RESEARCH INSTITUTE  
P.O. Box 3395, University Station  
Laramie, Wyoming 82071**

### FACULTY POSITION

The Department of Biochemistry, University of Kansas Medical Center, is seeking to fill a state supported 12-month, tenure-track faculty position at the level of assistant or associate professor. Candidates should have a Ph.D. in biochemistry or in a related field and are expected to have or establish a research program in molecular immunology/immunobiology or in a related area. Teaching is in medical and graduate biochemistry. Candidates are requested to send curriculum vitae, summaries of current and proposed research, and the names of three references to: **Dr. K. E. Ebner, Chairman, Department of Biochemistry, University of Kansas Medical Center, Kansas City, Kan. 66103.** Applicant evaluation will continue until a suitable candidate is found. *An Equal Opportunity/Affirmative Action Employer.*

### FACULTY POSITION ALLERGY AND IMMUNOLOGY

Applications are being accepted for a tenure-track faculty position within the newly established Asthma and Allergy Division at Case Western Reserve University. We are seeking a person with a strong clinical background, Board-certified or -eligible in allergy who can collaborate with ongoing programs in airway disease and who has the administrative experience necessary for the management of an allergy academic program. The ability to attract external support is essential, as the candidate is expected to play an integral role in establishing basic science and clinical research programs involving the pathogenesis of asthma and related disorders. Faculty appointment level will be commensurate with experience. Interested applicants should submit curriculum vitae to: **E. R. McFadden, Jr., M.D., Director, Asthma and Allergy Center, Department of Medicine, University Hospitals, 2074 Abington Road, Cleveland, Ohio 44106.** *Case Western Reserve University is an Equal Opportunity Employer.*

### INTERFERON BIOLOGY MECHANISM OF ANTITUMOR EFFECTS

Postdoctoral fellow (M.D. or Ph.D.) appointments for individuals interested in in vitro and in vivo effects of human interferons. Research laboratories collaborating on the program are investigating effects of interferons on immune function, cell proliferation, enzyme induction, and cell surface alterations. Participating faculty includes L.A. Ball, Ph.D. (2-5A synthetase), E. C. Borden, M.D. (NK cells), P. M. Sondel, M.D., Ph.D. (T cells), D. Paulnock, Ph.D. (macrophages), J. Willson, M.D. (antiproliferative effects), M. Gould, Ph.D. (radiation effects), E. Shrago, M.D. (lipoproteins), and G. T. Bryan, M.D., Ph.D. (chemical carcinogenesis). Participants will work with individual faculty on common research interests and participate in core seminars. Résumés and letters of reference to: **Ernest C. Borden, M.D., University of Wisconsin Clinical Cancer Center, K4/414, 600 Highland Avenue, Madison, Wisconsin 53792.**

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

# DEAN

## FACULTY OF ARTS AND SCIENCE

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

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

Applications with current resumes and a list of references should be submitted prior to February 15, 1985 to:



Faculty of Arts and Science  
Dean Search Committee  
Bobst Library, Room 1211  
70 Washington Square South  
New York, New York 10012  
Att: Professor Lucy Freeman Sandler,  
Chairperson

NYU is an Equal Opportunity/Affirmative Action Employer



Hybritech, located in the biotechnology center of San Diego, is a leader in the application of monoclonal antibody technology to human health care needs. Our research and development objectives include basic hybridoma technology, **in vitro** and **in vivo** diagnosis of cancer, cancer therapy, infectious disease diagnosis and therapy, development of novel immunodiagnostic methods for hormones, and development of radiopharmaceuticals.

Our continued growth has created challenging career opportunities at the scientist and technical levels for individuals with experience and interest in the following areas:

### Biochemists

Protein isolation and protein immunochemistry.

### Microbiologists

Antigen characterization and detection by immunochemical methods; development of animal models for human infectious diseases.

### Immunologists

Cellular immunology, hybridoma technology.

### Chemists

Radiochemistry, analytical, synthetic organic chemistry.

### Cell Biologists

Fusion technology/somatic cell genetics.

Hybritech offers a stimulating work environment, competitive salaries and excellent company paid benefits. Please send your resume and salary history to:

**Personnel Dept.**  
**Hybritech Incorporated**  
**11095 Torreyana Rd., San Diego, CA 92121**

Equal Opportunity Employer

## Molecular Genetics

Smith Kline & French Laboratories, a leader in pharmaceutical research, is seeking additional technical staff to expand its current research programs employing recombinant DNA technology and other genetic approaches to develop novel therapeutic agents.

Excellent opportunities exist for innovative, interdisciplinary research in our new & superbly equipped Molecular Biology Center at Upper Merion in suburban Philadelphia. We encourage our staff to pursue advanced research, to publish and interact fully with the scientific community.

The Department of Molecular Genetics, under the direction of Dr. Martin Rosenberg, is recruiting for outstanding research associates/technicians with expertise in any of the following areas: gene cloning, regulation and expression in both Gram+ and Gram-bacteria, DNA synthesis and sequencing, mammalian gene isolation and characterization.

Our compensation and benefits package including our relocation policy are geared to today's economy and are among the best in industry. For confidential review, send your C.V., salary expectations and names of 3 references to: Mr. Walter B. Flagg, Senior Employment Consultant, SMITH KLINE & FRENCH LABORATORIES, a division of SMITHKLINE BECKMAN CORPORATION, 1556 Spring Garden Street, Philadelphia, PA 19101.

We are an Equal Opportunity Employer, M/F/H/V

**SK&F**  
A SmithKline Beckman Company

## SEARLE Pharmaceutical Research and Development Center,

located at Sophia Antipolis - FRANCE  
has a vacancy for the position of

## ASSOCIATE DIRECTOR

### Department of Product Safety Assessment

- The candidate should have an advanced degree in Toxicology-Pathology, preferably a Ph.D degree in a related science. A minimum of ten years experience is desired, preferably in the Pharmaceutical Industry.
  - He will closely assist the Director of the Department in the management of the Department and in the scientific evaluation of preclinical protocols and reports destined to support IND and NDA applications.
  - The PSA Department consists of 60 persons of which about one fifth are professional personnel.
  - Knowledge of French is highly desirable.
  - SEARLE R & D offers excellent laboratory facilities, competitive compensation, benefits and paid relocation.
- The Center is located in an attractive part of France (between Nice and Cannes) and is part of G.D. Searle and Co, an international pharmaceutical Company.

- Applications with a full C.V. should be sent to Mr. G. du Parc, Personnel Manager, Searle R & D, Sophia Antipolis, BP 23 06561 Valbonne Cedex, FRANCE.

**SEARLE**

Complete confidentiality will be assured.  
Only applications fulfilling the criteria specified above will be considered.

## POSITIONS OPEN

### FACULTY POSITION IN IMMUNOLOGY—MICROBIOLOGY

The Department of Veterinary Science, North Dakota State University, invites applications for a position at the level of assistant/associate professor in basic immunology/microbiology. This is a 12-month, tenure-track position that will be filled 1 July 1985. Applicants must have a Ph.D. degree. A D.V.M./Ph.D. is desirable. The successful applicant must have demonstrated research productivity, preferably in molecular immunology and/or microbiology and be interested in conducting research in animal diseases important to North Dakota and the region. This is an excellent opportunity for an immunologist/microbiologist to become involved with the Land Grant tradition in research with good base technical and operations support available. The successful candidate will show evidence of present/future research productivity and must be competitive for extramural funding as the research program grows. Send curriculum vitae, summaries of present and proposed research, and names of three people who may be contacted for reference by 1 March 1985 to: **Dr. A. D. Alstad, Chairman, Search Committee, Department of Veterinary Science, North Dakota State University, Fargo, North Dakota 58105.** *North Dakota State University is an Equal Opportunity Employer.*

**VALDOSTA STATE COLLEGE, Valdosta, Georgia. HEAD, DEPARTMENT OF BIOLOGY.** Valdosta State College is accepting applications for the position of head, Biology Department, a tenure-track, 12-month appointment carrying the rank of associate or full professor. Assignment includes 1/3 administration, 2/3 teaching. Position to be filled by 1 July 1985. Ph.D. in the life sciences required. Teaching and administrative experience preferred. *An Affirmative Action/Equal Opportunity Employer.* Send application, current résumé, transcripts, and names, addresses, and telephone numbers to three references to: **E. Edward Sheeley, Ph.D., Department of Biology, Valdosta State College, Valdosta, Ga. 31698.**

### IN VITRO FERTILIZATION TECHNICIAN

A full-time in vitro fertilization technician is needed to work with a Ph.D. cytogeneticist in our newly developed IVF laboratory. Applicants must possess a B.S. degree in reproductive physiology or cell biology; M.S. preferred, with training in tissue culture techniques and one or more years of experience working in an established UVF laboratory desirable.

The salary range is competitive along with excellent benefits. Please submit your curriculum vitae along with salary history and the names and addresses of three references to:

**Mount Sinai Medical Center  
Human Resources Department  
Holly Rear  
950 North 12 Street  
P.O. Box 342  
Milwaukee, Wis. 53201  
Telephone: 414-289-8070  
*Equal Opportunity Employer, M/F/V/H***

**MICROBIOLOGIST**—The Medical College of Pennsylvania has a tenure-track position available at the assistant professor level effective 1 July 1985. Advanced status is possible for exceptionally qualified candidates. The individual will have teaching responsibility in our medical microbiology and immunology course and collaborative graduate courses. Selection will be based on research and teaching experience, ability to develop and sustain an independent research program which will attract national grant supports, and willingness to interact collaboratively with others in joint research and teaching endeavors. Specific areas of research may include molecular aspects of bacterial or viral pathogenesis, eukaryotic or prokaryotic membrane/receptor biochemistry and physiology, and molecular and developmental biology of cells of the immune system (for example, macrophages, NK cells). Send curriculum vitae, statement of future research plans, copies of three publications, and three letters of recommendation by 18 February 1985 to: **Microbiology Search Committee, Department of Microbiology and Immunology, Medical College of Pennsylvania, 3300 Henry Avenue, Philadelphia, Pa. 19129.** *Equal Opportunity Employer, M/F.*

## POSITIONS OPEN

### FACULTY POSITIONS

Five tenure-track assistant professorships anticipated for August 1985. In a department of 37 full-time faculty in a comprehensive university of 25,000 students. Ph.D. required and postdoctoral experience is preferred. The successful candidate is to maintain vigorous research in an area of biology complementary to other faculty and present programs and to direct M.S. and Ph.D. students.

**Positions 1 and 2—Anatomist:** To teach one gross anatomy course per year and one additional course in the alternate semesters to include neurobiology, physiology, or human anatomy and physiology.

**Position 3—Neurophysiologist:** To teach one course per semester in areas such as neurophysiology, principles of biology, human physiology, or human anatomy and physiology.

**Position 4—Plant Geneticist:** To teach one course per semester in areas such as genetics, principles of biology, or the person's field of expertise.

**Position 5—Vertebrate Biologist:** To teach one course per semester in areas such as general zoology, vertebrate biology, or the person's field of expertise.

For any position, apply by 1 March 1985. Send curriculum vitae, statement of research goals, and names addresses, and telephone numbers of at least three references to: **Marvin J. Starzyk, Chair, Department of Biological Sciences, Northern Illinois University, DeKalb, Ill. 60115-2861.** *An Equal Opportunity/Affirmative Action Employer.*

**FACULTY POSITION—BIOLOGY.** Position available: a tenure-track position at the level of ASSISTANT PROFESSOR OF BIOLOGY in the Department of Biological Sciences of the **PHILADELPHIA COLLEGE OF PHARMACY & SCIENCE.** Credentials: the successful candidate must be an animal biologist with a Ph.D. degree. Duties and responsibilities: teach anatomy and physiology, vertebrate and invertebrate zoology, and develop other undergraduate courses in areas of interest. An active physiology research program is also to be developed as opportunities permit. Starting date: 15 August 1985. Contact person: applications should be forwarded to: **Dr. Gilbert L. Zink, Chairman, Department of Biological Sciences, PHILADELPHIA COLLEGE OF PHARMACY & SCIENCE, 43rd Street and Kingsessing Mall, Philadelphia, Pa. 19104.** The complete application must include: (i) a letter of application addressing the above responsibilities, (ii) a complete résumé including a current transcript, and (iii) names, addresses, and telephone numbers of three references. Deadline for receipt of applications: 15 February 1985. *An Equal Opportunity/Affirmative Action Employer.*

### FACULTY POSITION IN PLANT PATHOLOGY

**ASSISTANT PROFESSOR:** The Department of Botany and Plant Pathology, Oregon State University, seeks applicants for a 12-month, tenure-track assistant professor position available 1 July or 1 September 1985. A Ph.D. degree is required and postdoctoral experience is strongly preferred. The successful applicant will be expected to develop an innovative research program (85 percent) on the quantitative epidemiology and control of diseases of cereals. The person appointed will also be expected to teach (15 percent), including mainly a graduate course in epidemiology and disease control and participate in some other courses. Applicants must submit curriculum vitae, transcripts, complete list of publications, description of future research interests, and three letters of recommendation by 15 February 1985 to: **Dr. Thomas C. Moore, Department of Botany and Plant Pathology, Oregon State University, Corvallis, Ore. 97331.** *Oregon State University is an Affirmative Action/Equal Opportunity Employer and complies with Section 504 of the Rehabilitation Act of 1973.*

### MOLECULAR BIOLOGY/PARASITOLOGY

**POSTDOCTORAL POSITIONS** to study control of gene expression and antigenic variation in African trypanosomes. Experience in molecular cloning or transcriptional analysis is desirable. These positions are immediately available in an ongoing NIH funded program that is conducted in association with the University of Washington. Send curriculum vitae and names of three references to: **Dr. K. Stuart, Issaquah Health Research Institute, 1595 Northwest Gilman Boulevard, Issaquah, Wash. 98027.** *An Equal Opportunity Employer.*

## POSITIONS OPEN

**FACULTY POSITION:** The Department of Chemistry of The City College of City University of New York (CUNY) invites applications for two faculty positions, one in biochemistry (with a special interest in molecular biology) and one in analytical chemistry, anticipated for September 1985. Rank and salary are open. Candidates must have a Ph.D. degree and postdoctoral experience is preferred. Successful candidates will be expected to teach at the undergraduate and graduate levels and to undertake a vigorous program of research. Applicants should send résumé, list of publications, outline of research plans, and arrange to have three confidential letters of recommendation sent to: **Professor S. Wilen, Chairman, Department of Chemistry, The City College of CUNY, Convent Avenue at 138th Street, New York, N.Y. 10031,** by 15 February 1985. *Applications from minority group members and women are particularly welcome. An Equal Opportunity/Affirmative Action Employer.*

### IN VITRO FERTILIZATION—LABORATORY DIRECTOR

South Baltimore General Hospital, a 500-bed acute care teaching hospital is accepting résumés for laboratory director of newly created Department of IVF. Responsibilities include technical and administrative management of the laboratory involving: IVF, embryo transfer, sperm analysis and antibody testing, and radio immunoassay facilities for steroid and peptide hormones. Ph.D. desirable, 5 to 10 years of laboratory experience. Experience in IVF preferred. Salary negotiable. Interested parties submit résumé to: **Vice President of Human Resources, South Baltimore General Hospital, 3001 South Hanover Street, Baltimore, Md. 21230.**

### National Institutes of Health National Institute of Neurological and Communicative Disorders and Stroke (NINCDS) Immunochemist

An **IMMUNOCHEMIST POSTDOCTORAL RESEARCH** position is available to study the membrane and cytoplasmic antigens of glioma-derived tissue culture lines. The presence of the antigenic proteins, their induction by differentiation agents, and their characterization are to be studied. A background in tissue culture and cell biology, as well as gel electrophoresis, is desirable.

Collaboration with other immunologists, molecular biologists, and tumor biochemists is essential. Immunochemistry laboratory facilities are available, as well as microcinematography, fluorescent microscopy, quantitative morphometrics, image analysis and processing, and SEM-EDX (microanalysis), to study the antigenic characteristics of brain tumors.

This position will be in the Surgical Neurology Branch, NINCDS, National Institutes for Health, Public Health Service. Salary range for this staff fellowship position is \$17,000 to \$35,467 per year, commensurate with experience. Send curriculum vitae and three references to: **Janet E. Follin, Personnel Department, NINCDS, National Institutes of Health, 9000 Rockville Pike, Building 31, Room 8A23, Bethesda, Md. 20205.** *NIH is an Equal Opportunity Employer.* (For more information, telephone Ms. Follin on 301-496-6334.)

The Biology Department of George Mason University is seeking applicants for two possible tenure-track positions to begin 1 September 1985.

**MICROBIOLOGIST—IMMUNOLOGIST.** Duties include teaching undergraduate courses in immunology and microbiology, developing a graduate course in his/her specialty, and supervising M.S. students. The successful candidate must develop a strong research program and attract external funding.

**CELL BIOLOGIST—ELECTRON MICROSCOPIST.** Responsibilities will include teaching undergraduate cell biology and a graduate level electron microscopy course. The successful candidate will also develop a productive research program in cell ultrastructure. A modern EM laboratory is available including a technician and a JEOL 100 C TEM and ASID attachment.

The anticipated rank of both positions is at the assistant professor level, but higher ranks will be considered, depending on appropriate experience. Candidates should have a Ph.D. by 1 September 1985. Send curriculum vitae, names of three references, and statement of research interests by 1 March 1985 to: **Chairperson, Search Committee (specify position), Department of Biology, George Mason University, Fairfax, Va. 22030.** *George Mason University is an Affirmative Action/Equal Opportunity Employer.*

**DIRECTOR, CELL SCIENCE  
LABORATORY  
BIOTECHNOLOGY CENTER  
UNIVERSITY OF ILLINOIS AT  
URBANA-CHAMPAIGN**

The University of Illinois at Urbana-Champaign invites applicants for the directorship of its campus Cell Science Laboratory. Qualifications include a Ph.D. in microbiology or a related field. Preference will be given to candidates who have completed postdoctoral work and with experience in cellular biochemistry, immunology, or cell culture and hybridoma technology. Familiarity with fluorescence-activated cell sorting and analysis is desirable.

Duties will be to direct and oversee the operations and continued development of a well-equipped and staffed campus-wide Cell Science Laboratory. The laboratory will have service, training, and research responsibilities which will initially focus on hybridoma technology but will develop to include other innovative technologies in cell biology.

This is a permanent, full-time academic professional position. Starting date will be as soon after 1 March 1985 as possible. Salary will be based on experience and qualifications.

To expedite the filling of the position, qualified applicants may be interviewed during the advertising period. All applications received by 1 March 1985 will receive full consideration. Send letter of application, curriculum vitae, and the names, addresses and phone numbers of three references to:

**Dr. Wayne A. Tompkins**  
Veterinary Pathobiology  
University of Illinois at Urbana-Champaign  
2227 Veterinary Medicine Basic Sciences  
Building  
2110 South Lincoln Avenue  
Urbana, Illinois 61801  
Telephone: 217-333-7825

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

Environmental Monitoring and Services, Inc. (EMSI) invites applications for two positions:

**CELLULAR IMMUNOLOGIST.** The ideal candidate will have at least 3 years of postdoctoral experience (or equivalent), broad knowledge in cellular and molecular immunology, and experience with NK cells. This immunologist will conduct basic research on peripheral blood and pulmonary NK cells (emphasis in regulation, target recognition, effector heterogeneity, and NK cell cloning) and will participate in ongoing research into the response of immune cells to pollutants.

**IMMUNOLOGIST.** The ideal candidate will have 4 years of postdoctoral experience (or equivalent) and expertise in the biology and biochemistry of human mononuclear phagocytes. This immunologist will participate in ongoing research and develop research on the effects of environmental pollutants on cells and fluids of the human immune system (obtained in some cases by bronchoalveolar lavage). Another important aspect of the studies will be to elucidate the interaction between alveolar macrophages and various lung cell types. Supervisory experience is desirable.

EMSI's scientists work closely with scientists at the Clinical Environmental Laboratory of U.S. Environmental Protection Agency (EPA) located at the University of North Carolina in Chapel Hill. These immunologists will work in the EPA Immunology and Biochemistry Section (Dr. Hillel S. Koren, chief) in a university-like setting.

EMSI is a subsidiary of Combustion Engineering, Inc., and offers a competitive salary and excellent benefits. By 8 February 1985 qualified applicants should send curriculum vitae, a statement of research interests, and the names of four references to: Dr. L. Jack Roger, Environmental Monitoring and Services, 800 Eastowne Drive, Suite 200, Chapel Hill, N.C. 27514.

*An Equal Opportunity Employer*

# Staff Veterinarian

SmithKline Beckman Corporation, a diversified multinational health care firm, is seeking a veterinarian to provide professional veterinary medical services and expertise in laboratory animal science for its Laboratory Animal Science Department.

The successful candidate is expected to provide veterinary care to research animals; coordinate laboratory and clinical diagnostic functions; develop, implement and control procedures related to maintenance of animal colonies; and provide technical advice and assistance to research scientists.

Candidates are required to have a DVM or VMD; specialized knowledge in laboratory animal medicine through postdoctoral training and/or previous job experience; and be board certified or board eligible in laboratory animal medicine.

SmithKline Beckman offers an excellent compensation and benefits program, including an attractive relocation package and the opportunity for personal and professional growth. Please send resume in confidence to G. Kissell, Smith Kline and French Laboratories, a Division of SmithKline Beckman Corporation, 1558 Spring Garden Street, Philadelphia, Pa 19101. Equal Opportunity Employer M/F/H/V

**SK&F**  
A SmithKline Beckman Company

## RADIATION RESEARCH AND POLICY COORDINATION

Oak Ridge Associated Universities, Washington Office, is seeking two scientists to support its programmatic efforts on behalf of the federal Committee on Interagency Radiation Research and Policy Coordination. The two positions are as follows:

**Senior Technical Advisor**—Requires a Ph.D., M.D., or D.V.M., 5 years of experience in radiation research, 5 years of large multidisciplinary research project management experience, and a thorough knowledge of the role of science in forming public policy.

**Technical Analyst**—Requires a Ph.D. in health physics, radiation biology or related field, 5 years of experience in radiation research, 3 years of diverse research project management experience, and an appreciation of the role of science in forming public policy.

Essential to both of the above positions is a knowledge of computer applications, scientific instrumentation, survey methods, and technical writing.

To be considered for these Washington based positions, please send resume, salary requirements, and references to our Corporate Office in Oak Ridge, Tennessee.

**Employment Office**  
OAK RIDGE ASSOCIATED UNIVERSITIES  
P.O. Box 117  
Oak Ridge, Tenn. 37831-0117

*An Equal Opportunity Employer*

## CARDIOVASCULAR SCIENTIST

The position of cardiovascular scientist will have an appointment in an appropriate academic department and the Tobacco and Health Research Institute. The principal responsibility and activity of the faculty member will be to lead and engage in research concerning the mechanisms involved in smoking-related physiologic, pharmacologic, pathologic, or biochemical effects on the cardiovascular system. Although some experience with smoking-related research is desirable, it is not a requirement for this position. In association with the joint appointment, it is anticipated that the faculty member will maintain close contact with his/her academic department and may engage in teaching and/or clinical activities of that department to a limited degree.

It is expected that the faculty member will maintain a vigorous research program as evidenced by quality publications, success in obtaining extramural funding, and participation in appropriate forums at the national and international level with respect to smoke-related investigations. Within the College of Medicine and other medical center colleges, the opportunity for collaboration with active investigators in cardiovascular pharmacology, cardiovascular physiology, clinical cardiology, cardiovascular surgery, and others involved in smoke-related research is available and will be encouraged.

Applications are invited from established scientists for this position. The thrust of this position will be to engage in basic and/or clinical research related to the possible effects of tobacco smoke on physiologic, pathologic, pharmacologic, and biochemical aspects of the cardiovascular system. Candidates must have a Ph.D., M.D., or D.V.M. degree and qualification for appointment at the level of either associate or full professor. Potential long-term financial support for salary and significant investigational funds is included with the position. Please send curriculum vitae, list of professional references, and outline of research interest to: **Edward P. Todd, M.D., Ph.D. Chairman, Cardiovascular Search Committee, Division of Cardiovascular and Thoracic Surgery, Department of Surgery, University of Kentucky Medical Center, 800 Rose Street, Lexington, Kentucky 40536. Affirmative Action/Equal Opportunity Employer.**

## REOPENING OF FACULTY POSITIONS NORTH CAROLINA CENTRAL UNIVERSITY DURHAM, N.C.

Applicants are solicited for anticipated tenure-track FACULTY POSITIONS in the following areas:

**Ph.D. CELL BIOLOGIST:** Candidate must have postdoctoral experience, strong publication record, and a commitment to teaching. In addition, extramural support that establishes a research program of excellence in the area of molecular biology with research application in biotechnology/experience in recombinant DNA techniques is required.

**Ph.D. ENVIRONMENTAL BIOLOGIST/ECOLOGIST/ANIMAL BEHAVIORIST:** Candidate must have postdoctoral experience, strong publication record, and a commitment to teaching. In addition, extramural support that establishes a research program of excellence in his/her major field and substantial program management experience are required.

**Ph.D. MICROBIOLOGIST/IMMUNOLOGIST:** Candidate must have postdoctoral experience, strong publication record, and a commitment to teaching. In addition, extramural support that establishes a research program of excellence in molecular immunology is required.

For each position duties will also include teaching at advance and introductory levels, advising students, and participating in departmental and university committees.

Salary and rank for the positions are negotiable. Closing date for receipt of applications is 15 February 1985 or until the positions are filled.

Applicants should arrange to have three letters of recommendations, transcripts, reprints, complete curriculum vitae, and an outline of their proposed research sent on their behalf to:

**Dr. John Ruffin, Chairman**  
Department of Biology  
North Carolina Central University  
Durham, N.C. 27707



## POSITIONS OPEN

### MOLECULAR BIOLOGY AND GENETICS FACULTY POSITIONS

The Program in Molecular Biology and Genetics, Wayne State University, invites applications for **TENURE-TRACK FACULTY POSITIONS** (three) at the rank of assistant, associate, or full professor. Applicants must have a Ph.D. and/or M.D. degree with postdoctoral experience and demonstrated competence in research, human, mammalian, or other eukaryotic molecular genetics. Applicants will be expected to develop an independent research program and to participate in pre and postdoctoral research training programs.

Send curriculum vitae and the names of three references to: **Dr. Orlando J. Miller, Director, Program in Molecular Biology and Genetics, Wayne State University School of Medicine, 540 East Canfield Avenue, Detroit, Mich. 48201.** An Equal Opportunity/Affirmative Action Employer.

### MOLECULAR VIROLOGIST

Ph.D. or equivalent degree with an interest in pathobiology of **HERPES SIMPLEX** latency and reactivation in animal models using in situ hybridization and related techniques. Assistant/associate professor level investigator with demonstrated ability to carry out independent research and postdoctoral candidate is sought for **PERMANENTLY ENDOWED** laboratory at a nonprofit UCLA-affiliated hospital. Competitive salary and benefits based on qualifications. Send curriculum vitae, letter outlining research interests, and names of three references to:

**Anthony B. Nesburn, M.D.**  
Cedars-Sinai Medical Center (RA)  
c/o 8635 West Third Street—Number 390W  
Los Angeles, California 90048

An Equal Opportunity/Affirmative Action Employer

### PHARMACOKINETICIST BUSHY RUN RESEARCH CENTER

Bushy Run Research Center (BRR), jointly operated by Mellon Institute, a division of Carnegie-Mellon University, and by the Union Carbide Corporation, is seeking a Ph.D. pharmacokineticist with approximately 5 years of experience in determining the in vivo and/or in vitro metabolism of chemicals. The person will have relevant professional publications, and D.A.B.T. certification is desirable.

Responsibilities include design, implementation, analysis, interpretation, reporting, and technical supervision of pharmacokinetic/metabolism studies. Knowledge of separation and purification techniques, the isolation and identification of metabolites is essential. Experience with mass spectroscopy is desirable.

BRR is located 25 miles east of Pittsburgh in beautiful rolling countryside. It is a well-established toxicology facility that is AALAS and TLAB accredited, and is concerned with all phases of the toxicologic testing of chemicals. Send résumé and three references to: **D. L. Geary, Bushy Run Research Center, R.D. Number 4, Mellon Road, Export, Pa. 15632.**

An Equal Opportunity/Affirmative Action Employer

**POSTDOCTORAL POSITIONS** available in molecular biology and genetics from 1 July 1985. The areas of research include mammalian genome organization, mechanisms of gene regulation and amplification, the structure and evolution of centromeric sequences, and the regulation of DNA methylation. Experience in recombinant DNA technology is required. Send curriculum vitae and names of three references to: **Dr. Orlando J. Miller, Director, Molecular Biology and Genetics, Wayne State University School of Medicine, 540 East Canfield, Detroit, Mich. 48201.** An Equal Opportunity/Affirmative Action Employer.

**POSTDOCTORAL POSITION** in molecular cytogenetics available from 1 April 1985. Studies will involve gene mapping of mammals, with emphasis on in situ hybridization. Experience with either cloned probes or banded chromosomes is required. Send curriculum vitae and names of three references to: **Dorothy A. Miller, Ph.D., Department of Pathology and Program in Molecular Biology and Genetics, Wayne State University School of Medicine, 540 East Canfield, Detroit, Mich. 48201.** An Equal Opportunity/Affirmative Action Employer.

## POSITIONS OPEN

### HEAD

The Department of Biomedical Sciences, University of Illinois College of Medicine at Rockford, seeks to extend its search for a **HEAD** to be appointed at professorial rank. The appointee should be a pharmacologist or related disciplined scientist with educational experience in medical pharmacology. In addition we seek an individual possessing demonstrable leadership qualities, vigorous research activities, and administrative/managerial skills that will catalyze the further development of this department. At present this multidisciplinary department participates in teaching medical pharmacology and possesses a number of extramurally funded research programs, international collaborative arrangements, and a unique series of service laboratories that also provide for applied research ventures. The facilities are excellent with a wide array of instrumentation and an accredited biological resource unit. It is hoped that the appointee would assume this position by 1 September 1985; and both applications and nominations including a curriculum vitae, the names of three or more references, and a letter detailing qualifications should be sent for earliest consideration by 1 March 1985 to:

**Chairman, Search Committee for  
the Department of Biomedical Sciences  
University of Illinois  
College of Medicine at Rockford  
1601 Parkview Avenue  
Rockford, Ill. 61107**

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

**MICROBIOLOGY FACULTY POSITION—MOLECULAR ASPECTS OF MICROBIAL PATHOGENESIS.** Medical school microbiology department seeks candidates for assistant professorship (tenure-track). Starting date: 1 June 1985 to 15 September 1985. Preference will be given to candidates with research interests in molecular aspects of pathogenesis of bacterial infections. Experience in molecular biology, microbial genetics, microbial biochemistry, and/or immunology is desirable. Responsibilities include teaching in medical and graduate courses and development of an independent research program. Ph.D., M.D., or equivalent professional degree plus postdoctoral research experience required. Salary commensurate with training and experience. Submit curriculum vitae and bibliography, name of three professional references, and major publications to: **Randall K. Holmes, Professor and Chairman, Department of Microbiology, c/o Personnel Division, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, Md. 20814-4799.** Curriculum vitae will not be returned. *Equal Opportunity/Affirmative Action Employer.*

### MOLECULAR IMMUNOGENETICS

Junior faculty position available immediately for research on human and/or murine histocompatibility complex. Applicants should have either extensive knowledge of MHC immunogenetics or sound background in molecular biology. Send curriculum vitae and names and addresses of three references to: **Dr. Frances E. Ward, Division of Immunology, Duke University Medical Center, P.O. Box 3010, Durham, North Carolina 27710.** An Equal Opportunity/Affirmative Action Employer.

**PALEONTOLOGIST:** Faculty position open at junior or tenured level for an outstanding paleontologist. Please submit curriculum vitae, names of three references with telephone numbers, and a statement of teaching and research interests in paleontology and geology to:

**Chair, Paleontology Search Committee  
Department of Geology  
University of California  
Davis, Calif. 95616**

Closing date for receipt of applications is 1 March 1985. Position availability is negotiable, but no later than 1 October 1985. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

**PHARMACOLOGIST—**Unusual and challenging opportunity for an individual with broad interests and experience in detection and evaluation of medicinally-active compounds offered by well-known service organization whose pharmacology laboratory employing nearly 100 scientists and technicians is located near Taipei, Taiwan. Position requires permanent resident in Taiwan and ability to speak fluent Mandarin Chinese. Please contact: **Dr. M. H. Pindell, President, Panlabs, Inc., P.O. Box P, Sunapee, N.H. 03782.**

## POSITIONS OPEN

### MOLECULAR VIROLOGIST

The Department of Microbiology, University of Kansas Medical School, has a tenure-track opening for a molecular virologist. Appointment will be made at either the assistant or associate professor level, depending upon experience. Postdoctoral experience as well as a significant publication record will be required. The successful applicant will be expected to develop a strong research program in some area of molecular virology as well as participate in teaching both medical and graduate courses. The Microbiology Department is currently developing an expanded research and graduate training program. During the next 12 months the department anticipates hiring two other new faculty members with research interests in the general area of microbiology. Interested molecular virologists should send curriculum vitae and a statement of research interest, and have three letters of reference sent to: **Dr. John A. Kinsey, Virology Search Committee, Department of Microbiology, University of Kansas Medical Center, Kansas City, Kan. 66103.** Completed applications should be received by 1 April 1985. *The University of Kansas is an Affirmative Action/Equal Opportunity Employer.*

**NMR IN VIVO: Ph.D. NMR SPECTROSCOPIST.** For NIH-funded resource at University of Florida. Whole body imager, animal imager/spectrometer, two spectrometers. Excellent research opportunity in an active NMR group. Strong background in NMR techniques and instrumentation a must. Assistant research scientist. Salary dependent on qualifications. Application deadline: 15 February 1985; anticipated starting date: 1 March 1985. Send résumé and have three letters of reference sent to: **Kate Scott, Ph.D., J-374 J. Hillis Miller Health Center, Department of Radiology, Gainesville, Fla. 32610.** *The University of Florida is an Equal Opportunity/Affirmative Action Employer.*

**NMR IN VIVO: Ph.D. PHYSIOLOGIST/BIOCHEMIST** for NIH-funded resource at University of Florida. Whole body imager, animal imager/spectrometer, two spectrometers. Excellent research opportunity with an active NMR group in large medical center. Strong background in metabolism, bioenergetics, and animal research a must. NMR experience desirable. Joint appointment with biochemistry possible. Assistant research scientist. Salary dependent on qualifications. Application deadline: 15 February 1985; anticipated starting date: 1 March 1985. Send résumé and have three letters of reference sent to: **Kate Scott, Ph.D., J-374 J. Hillis Miller Health Center, Department of Radiology, Gainesville, Fla. 32610.** *The University of Florida is an Equal Opportunity/Affirmative Action Employer.*

**Ph.D. ORGANIC CHEMIST—**The Eastman Chemicals Division of Eastman Kodak Company, a major manufacturer of chemicals, plastics, and fibers, has an opening for a Ph.D. organic chemist with specialization in fundamental research who will work on peptides useful in animal health and nutrition applications. Skills in computer aided molecular design are desired.

Individual will be domiciled in Kingsport, Tennessee, a progressive city in the tri-cities area of northeast Tennessee. The population of the tri-cities area is approximately 200,000. Individual will receive a salary commensurate with experience and qualifications and an outstanding employee benefits program. Interested candidate should send résumé to: **Cheryl Harvey, Personnel Department, Tennessee Eastman Company, P.O. Box 1975, Kingsport, Tenn. 37662.**

*An Equal Opportunity Employer.*

**PHYSICAL CHEMIST.** Hamilton College is seeking a physical chemist for a tenure-track position beginning in fall 1985. All areas of research expertise will be considered, but preference will be given to candidates with an interest in some area of biophysical chemistry. Applicants should have strong interest in both teaching and research at the undergraduate level; the department is reasonably well-equipped with modern instrumentation, and the College expects to extend additional support to a new faculty member. Applicants should send current curriculum vitae and transcripts, and arrange for three letters of recommendation to be sent by 1 March 1985 to: **Professor Robin B. Kinnel, Department of Chemistry, Hamilton College, Clinton, N.Y. 13323.** *Hamilton College is an Equal Opportunity Employer, and women and minority candidates are encouraged to apply.*

## CHIEF ENGINEER MICROWAVE RESEARCH

WALTER REED ARMY  
INSTITUTE OF RESEARCH

**SALARY: GM-15, \$50,495-\$65,462**

u-Wave and/or mm-wave engineering experience in radar, signal processing, communications, imagery, transmitters, network analysis and antennas.

Responsibilities include engineering aspects of u-wave technology as applied to medicine in an interdisciplinary research environment.

Requires postgraduate degree or equivalent experience. Research and development history is especially pertinent.

Interested applicants should send a Personal Qualifications Statement, SF-171 to:

Walter Reed Army Medical Center  
Civilian Personnel Office  
ATTN: Kathryn E. Lewis  
Bldg. 11, Room 2-88  
Washington, DC 20307

## RISK ASSESSMENT SCIENTIST

An outstanding opportunity exists for a risk assessment specialist in Stauffer's Product Safety Department. This senior level appointment will develop a quantitative risk assessment capability, collaborating with the Toxicology, Occupational Medicine and Research Departments, and utilizing toxicology, residue, exposure, environmental and other data in appropriate models, to assess the safety of Company materials.

Applicants should have a Ph.D in toxicology or related field, demonstrated experience in the use of risk assessment models, and excellent written and oral communication skills.

Stauffer offers a stimulating technical environment, opportunity for active participation in a substantial safety evaluation program and for career growth, with competitive salary and benefits. For confidential consideration, please send your resume and a brief description of your experience to:



R.I. Freudenthal, Ph.D  
Stauffer Chemical Company  
Nyala Farm Road  
Westport, CT 06881

An Equal Opportunity Employer M/F

## DIRECTOR OF THE PROGRAM IN SOCIAL ECOLOGY

The Program in Social Ecology at the University of California, Irvine seeks a Director. The candidate should be eligible for a senior level professional appointment, have a distinguished record of research in an area compatible with that of the Social Ecology faculty, and demonstrated administrative ability.

The Program in Social Ecology has 28 full-time faculty members who adopt a multidisciplinary approach to problems of criminal justice, environmental analysis and psychology and social behavior. The Program grants the B.A., M.A. and Ph.D. degrees. Faculty include: lawyers; environmental, developmental and community psychologists; sociologists; planners; and environmental scientists.

The Director reports to The Vice Chancellor and is responsible for the administrative management of the Program including its budget.

To ensure consideration, please send nominations or applications (including a curriculum vitae, brief letter, and the names of five references) by March 15, 1985 to:

Search Committee—Director of Social Ecology  
c/o Dr. Harriet Press  
Office of Academic Affairs  
515 Administration  
University of California Irvine, California 92717

The University of California is an Equal Opportunity/Affirmative Action Employer

## Immunopharmacologist

Sterling-Winthrop Research Institute announces an opening for a research and drug discovery position in immunopharmacology for an IMMUNOCHEMIST/CELLULAR IMMUNOLOGIST.

This senior staff position will be responsible for maintaining an on-going program in arachidonic acid metabolism. In addition, this scientist has the opportunity to develop and implement immunoregulatory assays through the use of markers such as lymphokines and monokines. A familiarity with tissue culture, cell surface markers and biochemical techniques such as HPLC would be assets.

The successful candidate will have a PhD or equivalent with a minimum of 1 year related experience in this specialized field.

We offer an attractive salary and benefits package with the opportunity for professional growth. The Institute is located near Albany, New York, which is a major center for summer and winter recreational activities.

Please send CV including salary requirements in confidence to:

Mr. William F. Sheldon  
Employee Relations Administrator



**STERLING-WINTHROP  
RESEARCH INSTITUTE**

A Division of Sterling Drug Inc.

Columbia Turnpike, Rensselaer, New York 12144

Equal Opportunity Employer M/F/H

## POSITIONS OPEN

### PLANT MOLECULAR GENETICIST

Applicants sought for 9-month, tenure-track appointment, beginning 20 August 1985; rank and salary negotiable. Responsibilities: develop research program with extramural funding in genome expression, organization, or manipulation; teach advanced undergraduate or graduate course in plant molecular genetics and participate in undergraduate botany/biology and graduate Cellular and Molecular Biology Program. Ph.D. in plant genetics or molecular biology required. Submit résumé, significant reprints, research interests, and ask for three letters of recommendation by 15 March 1985 to: **Dr. C. W. Ross, Department of Botany, Colorado State University (CSU), Fort Collins, Colo. 80523.** *CSU is an Equal Opportunity/Affirmative Action Employer. Equal Opportunity Office: 314 Student Services Building.*

A position is available immediately at the **POSTDOCTORAL OR NONTENURE-TRACK FACULTY LEVEL** for a person to work on cardiac structure/function relationships using animal models of heart disease. Ph.D. in physiology or pathology needed. Either D.V.M. or extensive experience in comparative medicine is required. Experience with cardiovascular experimentation and disease is also necessary. Salary: \$20,000 to \$26,000, depending on qualifications.

Send curriculum vitae and three letters of reference to: **Dr. K. B. Campbell, College of Veterinary Medicine, Washington State University, Pullman, Wash. 99164-6520.** Deadline for applications is 1 February 1985. *Washington State University is an Affirmative Action/Equal Opportunity Employer. Women and candidates from minority groups are encouraged to identify themselves as such.*

The Scripps Institution of Oceanography has two openings for a 3-year **POSTDOCTORAL APPOINTMENT** to begin 1 July 1985 in the study of the nonlinear dynamics of physical oceanography. Candidates should demonstrate knowledge of contemporary research in nonlinear dynamics and high qualifications for the application of these methodologies to geophysical fluid dynamics. The position will be primarily with the theoretical group in physical oceanography at Scripps but will also be associated with the San Diego branch of the University of California Institute for Nonlinear Science. Send curriculum vitae, publication list, and three letters of reference to: **H. D. I. Abarbanel or K. M. Watson, Marine Physical Laboratory, Scripps Institution of Oceanography, A-013, San Diego, La Jolla, Calif. 92093.** Please include a brief description of research interests and plans. Salary range: \$19,000 to \$23,900. A modest amount of support for computer time, travel, and so forth, will also be available. Closing date: 15 February 1985. *The University of California, San Diego, is an Equal Opportunity/Affirmative Action Employer. U.S. citizenship required.*

**POSTDOCTORAL FELLOW** in neurophysiology to study the mechanisms of pheromone perception by *Drosophila* as a model system. Experiments will use analytic chemical and electrophysiological techniques with computer analysis. Research will be cooperative between University of Maryland Baltimore County and the Organic Chemical Synthesis Laboratory of the U.S. Department of Agriculture. Send curriculum vitae and names of two references to: **F. E. Hanson, Department of Biological Sciences, University of Maryland Baltimore County, Catonsville, Maryland 21228.** *Minorities and women are encouraged to apply.*

**POSTDOCTORAL FELLOW**—Two positions are available for fellows trained in biochemistry, peptide chemistry, or cell biology. Preference will be given to applicants with experience in: (i) isolation and characterization of protein toxins, or (ii) synthesis, subsequent isolation and testing for biological activity of chimeric toxins. The fellowships will be for 1 to 3 years. Send curriculum vitae, summary of research activity, and three letters of reference to: **Dr. Lance L. Simpson, Professor of Medicine and Pharmacology, Jefferson Medical College, 1020 Locust Street, Philadelphia, Pa. 19107.** *An Affirmative Action/Equal Opportunity Employer.*

**POSTDOCTORAL POSITION** available for research on the fidelity of DNA synthesis. Experience in molecular biology, enzymology, or monoclonal antibodies desirable. Send curriculum vitae and the names of two references to: **Dr. K. M. Downey, Department of Medicine (R99), University of Miami School of Medicine, P.O. Box 016960, Miami, Fla. 33101.** *An Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**POSTDOCTORAL POSITION IN MOLECULAR BIOLOGY.** Recombinant DNA technology (cloning, DNA sequencing, analysis of RNA, and so forth) will be applied to the study of a cellular oncogene that is expressed in a tissue-specific manner. Ph.D. in biology, biochemistry, or related subject required. Please send curriculum vitae and names and phone numbers of three references to: **Dr. Diana Sheiness, Department of Biochemistry, Louisiana State University Medical Center, 1901 Perdido Street, New Orleans, La. 70112, or telephone: 504-568-8313** if more information is desired. *An Equal Opportunity/Affirmative Action Employer.*

### POSTDOCTORAL POSITION PLANT MOLECULAR GENETICS

Available from February 1985 in our group studying maize transposable elements. The successful applicant will research the molecular basis of transposable element-mediated events in the maize genome. Send curriculum vitae and names of referees to: **Hugo K. Dooner, Advanced Genetic Sciences, 6701 San Pablo Avenue, Oakland, California 94608.**

**POSTDOCTORAL POSITION** available immediately to study mucin glycoprotein gene structure and its relationship to cystic fibrosis. Studies will include RNA isolation, cDNA synthesis and cloning procedures. Salary commensurate with experience. Send curriculum vitae and references to: **Alan Przybyla, Department of Biochemistry, University of Georgia, Athens, Ga. 30602.** *An Affirmative Action/Equal Opportunity Employer.*

**POSTDOCTORAL POSITIONS** are available in the following areas:

- 1) [Randy Lewis] Biosynthesis of bioactive peptides; isolation, peptide and gene sequence, and bioactivity.
- 2) [Nancy Petersen] Regulation of gene expression in *Drosophila* development.
- 3) [Tae Ji] Structure, gene expression and biosynthesis of hormone receptors (LH, FSH, TSH, substance P).
- 4) [Russ Middaugh] Physical biochemistry of immune complexes, lens crystallins, and hormone receptors.
- 5) [Jerry Johnson] Regulation of tRNA biosynthesis in eukaryotes.
- 6) [Lee Bulla/Sung Lee] Molecular biology of sporulation in *Bacillus thuringiensis*.
- 7) [Clare Villemez] Preparation of immunotoxins for parasitic disease organisms.

Please send curriculum vitae and three letters of recommendation to appropriate faculty member; **Department of Biochemistry, University of Wyoming, Laramie, Wyoming 82071.** *The University of Wyoming is an Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION** available immediately for candidates having Ph.D. or M.D. degrees to participate in the ongoing research program on regulation of eukaryotic gene expression. Preference will be given to candidates with experience in biochemical and recombinant DNA technology. Send résumé, brief summary of research experience, and three references to: **D. K. Biswas, Laboratory of Pharmacology, Harvard School of Dental Medicine, 188 Longwood Avenue, Boston, Mass. 02115.**

**POSTDOCTORAL POSITION** available immediately on project collaborative with Ciat, Colombia, South America. Successful candidate will develop novel methods for preinoculating legume seeds for maximum survival of rhizobia in tropical conditions and will develop a program of characterization of rhizobia indigenous to South American soils. Experience with rhizobia and legumes required, immunology an advantage. While based in Ithaca, there will be opportunity to visit and work at Ciat. Send curriculum vitae and list of three references to: **Dr. A. R. J. Eaglesham, Boyce Thompson Institute, Tower Road, Ithaca, N.Y. 14853.**

**POSTDOCTORAL POSITION** for M.D. or Ph.D. available April 1985. Research will involve the characterization of malarial antigens using human monoclonal antibodies. The project will be conducted in West-Africa (2 months per year) and in Boston. Experience in immunochemistry and protein chemistry preferred. Starting salary: \$20,000 per year. Send curriculum vitae and two letters of recommendation to: **Dr. Rupert Schmidt-Ullrich, Radiobiology Division Department of Therapeutic Radiology, Tufts-New England Medical Center, 171 Harrison Avenue, Boston, Mass. 02111.**

## POSITIONS OPEN

### PEPTIDE CHEMIST

The University of California, Riverside, seeks an individual with excellent background to serve as chief peptide chemist and coordinator of a new instrumentation facility which incorporates peptide sequencing and DNA synthesis. The peptide chemist will be principal operator of the gas-phase peptide sequencer and will supervise the operation of the entire facility. This is a nonfaculty, career-level appointment with a salary range generally equivalent to that of faculty at corresponding levels of seniority. A Ph.D. degree in chemistry or biochemistry is extremely desirable; demonstrated proficiency in gas-phase peptide sequencing would be advantageous. Send résumé, including summary of experience, list of publications, and names of three references, to:

**Peptide Chemistry Search Committee  
Department of Biochemistry  
University of California, Riverside  
Riverside, Calif. 92521**

*The University of California is an Equal Opportunity Employer. Applications from qualified female and minority candidates will be welcomed.*

**POSTDOCTORAL POSITION AVAILABLE—MOLECULAR, IMMUNOLOGIC, AND BIOLOGIC STUDY OF AIDS.** Experience in cell culture and clinical virology and molecular approaches to the disease helpful. Send curriculum vitae to: **Jay Levy, Cancer Research Institute, 1282-M, University of California, San Francisco, Calif. 94143.**

**TWO POSTDOCTORAL POSITIONS:** Starting 1985. Recent Ph.D. who is interested in (chemical) synthetic, physical, and molecular biological studies of oligodeoxyribonucleotides with/without modified bases and studies on the interaction of oligo-DNA with proteins (monoclonal antibodies). Person with high-resolution NMR and/or organic synthesis and/or molecular biology experience is encouraged to apply. We are equipped with a Bruker WM-300 NMR spectrometer with a wide bore magnet and also in the position to utilize the facilities of a newly formed JHU research and clinical NMR facility center. Applicants should send one copy of the following: résumé, publication list, summary of future plans, and a list of three references to: **Dr. Lou-Sing Kan, Division of Biophysics, The Johns Hopkins University (JHU), 615 North Wolfe Street, Baltimore, Md. 21205 (Telephone: 301-955-2043).** *JHU is an Equal Opportunity Employer.*

**POSTDOCTORAL POSITION** open for studies of the effects of site-specific mutagenesis on serine protease catalysis. Mutants will be generated by recombinant DNA techniques using available cDNA clones. A recent Ph.D. in chemistry or biochemistry with a background in enzymology and enzyme kinetics is desirable. Send résumé and two references to: **Dr. R. MacDonald, Department of Biochemistry, University of Texas Health Science Center, Dallas, Texas 75235.** *An Equal Opportunity Employer.*

**POSTDOCTORAL POSITION** available immediately to join a team working on immunopathology of mycobacterial disease in relation to AIDS. Specific projects involve study of T-cell subsets in normal and infected animals. Experience with monoclonal antibodies and tissue culture important. Salary according to NIH guidelines. Interested individuals should send curriculum vitae and the names and telephone numbers of three references to: **Dr. Patti-supu R. Gangadharam, Mycobacteriology Research, National Jewish Hospital and Research Center, 3800 East Colfax Avenue, Denver, Colo. 80206.**

### POSTDOCTORAL POSITION

Structural studies of scrapie prion proteins. Purified prion proteins in aggregates are available for high resolution electron microscopic analysis as well as for conventional x-ray diffraction analysis of ordered assays. Candidates should be U.S. citizens or permanent residents, committed to a research career and hold a Ph.D. degree. Experience in ultrastructure techniques and x-ray diffraction is required. Work will be done under the joint direction of Professors Robert Fletterick and Stanley Prusiner. Appointments, beginning immediately, are for three years with a salary ranging from \$14,040 to \$17,892. Send curriculum vitae and three letters of reference to: **Dr. Stanley Prusiner, Department of Neurology, HSE 781, University of California, San Francisco, Calif. 94143.** *The University of California is an Affirmative Action/Equal Opportunity Employer.*

# Postdoctoral Scientist Pharmacology

The Pharmacology Department of Smith Kline & French Laboratories is seeking a Postdoctoral Scientist to work in an environment designed to foster creative innovative research and to promote personal and professional growth.

We consider Postdoctoral studies to be of major importance in an individual's career and encourage publications of findings in leading journals and a full interaction with the scientific community. Our Postdoctoral appointments are of 1 year duration and with mutual agreement, renewable for a 2nd year.

The successful candidate will:

- conceive, plan, develop, conduct and evaluate laboratory experiments in thrombotic disorders and thrombolysis; apply scientific discipline, theory and techniques to study and resolve scientific questions.
- assist in planning and conducting collaborative work with other areas or other scientific personnel.
- provide consulting service on his/her particular specialties for area personnel and personnel in other areas.
- develop or improve suitable scientific processes and approaches for research and development work in the area of thrombolysis.
- conduct elective scientific research, and develop a strong publication record.
- prepare scientific papers for publication and presentation at scientific meetings.
- develop, maintain, and advance personal scientific career as a nationally and internationally recognized authority in areas of specific scientific interests and expertise.

Candidates are required to have:

- a Ph.D. in Pharmacology or Physiology with 0-2 years Postdoctoral training with experience conducting **in vivo** and **in vitro** experiments in thrombus formation and thrombolysis.
- specific research experience and interest in mechanisms of blood coagulation and thrombolytic therapy.
- knowledge and experience with **in vivo** and **in vitro** techniques for assessing thrombolytic activity.
- demonstrated commitment to scientific investigation of thrombolysis.

We offer excellent compensation and benefits and an attractive relocation policy. For confidential consideration, send your curriculum vitae and names of three references to: Walter B. Flagg, Senior Employment Consultant, SmithKline Beckman Corporation, 1554 Spring Garden Street, Philadelphia, PA 19101. We are an equal opportunity employer, M/F/H/V.

**SK&F**  
A SmithKline Beckman Company

## CSIRO

AUSTRALIA  
PHYSICAL OCEANOGRAPHER  
(Two positions)  
A\$25,342 to A\$37,274  
DIVISION OF OCEANOGRAPHY  
MARINE LABORATORIES  
HOBART, TASMANIA

CSIRO conducts scientific and technological research in laboratories located throughout Australia and employs about 7500 staff, of whom some 2900 are professional scientists. The Organization's research activities are grouped into five Institutes: Animal and Food Sciences, Biological Resources, Energy and Earth Resources, Industrial Technology and Physical Sciences. The CSIRO Division of Oceanography is a member of the Institute of Physical Sciences.

**GENERAL:** The Division of Fisheries Research and the Division of Oceanography collectively form the CSIRO Marine Laboratories, which is Australia's principal marine research institution, employing about 230 scientists and support staff to investigate the physical, chemical, and biological features, including fisheries, of the oceans around Australia.

Early in 1985, the division will acquire a new modern oceanographic research vessel, which will be operated as a national facility. At that time also a ground reception facility for satellite infrared imagery will be commissioned.

Computing facilities available include two VAX 11/750's, one located at the Marine Laboratories and one on the vessel, and on-line access to a CYBER-205.

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

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

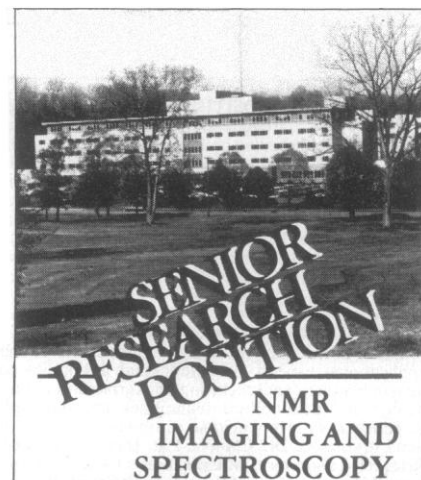
**QUALIFICATIONS:** Successful applicants would normally hold a Ph.D. degree in physical oceanography, geophysical fluid dynamics, or some other relevant discipline and should be able to demonstrate substantial research aptitude and achievement commensurate with experience, as well as an ability to collaborate with scientists working in related disciplines.

**TENURE:** Position Number A 6813: A fixed term of 3 years or 5 years. Australian Government superannuation benefits available.

Position Number A 6814: Indefinite, with Australian government superannuation benefits available.

**APPLICATIONS:** Stating relevant personal particulars, including details of qualifications and experience, copy of academic transcript, the names of at least two professional referees, and quoting reference Number A 6813 or Number A 6814 should be directed to: **The Chief, CSIRO Division of Oceanography, G.P.O. Box 1538, HOBART, TASMANIA, AUSTRALIA 7001**, by 15 February 1985.

*CSIRO is an Equal Opportunity Employer*



KETTERING MEDICAL CENTER and WRIGHT STATE UNIVERSITY, Dayton, Ohio, are seeking to fill a full-time senior research position (with teaching possibilities) in the area of Nuclear Magnetic Resonance imaging and spectroscopy. A Ph.D. Physicist with a strong computer background is needed. Candidate should have a strong interest and preferably experience in NMR imaging or spectroscopy. This scientist will be part of a larger group including Biophysicists, Chemist-Biochemists, two or more postdoctoral fellows, as well as various staff physicians at Kettering Medical Center, and faculty and students from Wright State University and the University of Dayton. Apparatus already ordered includes: (1) a Technicare 1.5T superconducting, whole-body magnet system with a 100 cm bore; (2) a Bruker Biospec 2.3/400 imaging NMR spectrometer with a 40 cm bore and a 2.3T magnet; and (3) a Bruker AM-360-WB Fourier NMR spectrometer with a 9 cm bore and a 8.4T magnet. A building to house the whole-body machine is presently being built adjacent to Kettering Medical Center, which is located in a beautiful, suburban area close to Dayton, Ohio. Extremely competitive salary plus rank will be commensurate with experience and qualifications.

Please send resumes and names of three references as soon as possible to J.C. Mantil, M.D., Ph.D., Director, Magnetic Resonance Center, Kettering Medical Center and Wright State University School of Medicine, 3535 Southern Boulevard, Dayton, Ohio, 45429. Kettering Medical Center and Wright State University are Affirmative Action/Equal Opportunity employers.



KETTERING  
MEDICAL CENTER



WRIGHT STATE UNIVERSITY  
SCHOOL OF MEDICINE

## POSITIONS OPEN

**POSTDOCTORAL POSITION** available immediately to study the cytogenetic effects of simultaneous exposure of mammalian cells to radiofrequency radiation and chemical mutagens. Candidate should have a Ph.D. degree and experience in cytogenetic analysis and mammalian cell culture. Send curriculum vitae and names of three references to: **Dr. Martin L. Meltz, Department of Radiology, University of Texas Health Science Center, 7703 Floyd Curl Drive, San Antonio, Texas 78284. An Equal Opportunity Employer.**

**POSTDOCTORAL POSITION** for recent Ph.D. available immediately to study immunochemical and applicational aspects of monoclonal antibodies to human bladder cancer. Strong background in immunology and cell culture techniques are required. Experience with monoclonal antibody is preferred. Send résumé to: **Dr. Chi-Wei Lin, Director, Urology Research Laboratory, Massachusetts General Hospital and Harvard Medical School, Fruit Street, Boston, Mass. 02114.**

**POSTDOCTORAL POSITION** for recent Ph.D. interested in the biochemical pharmacology of antitumor agents. Areas of study include (i) mechanisms of nucleoside transport in normal and neoplastic cells [see *Mol. Pharmacol.* 24, 279 (1983)], (ii) modulation of antitumor drug activity by nucleoside transport inhibitors *in vitro* (cell culture) and *in vivo*, and (iii) effects of drug combinations on hematopoietic stem cells. Send curriculum vitae, summary of research experience, and names of three references to: **Dr. Judith A. Belt, Division of Biochemical and Clinical Pharmacology, Street Jude Children's Research Hospital, 332 North Lauderdale, P.O. Box 318, Memphis, Tenn. 38101. An Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION IN CNS NEUROPHYSIOLOGY** to study the ionic mechanisms underlying chemical and electrical excitability in mature and developing CNS neurons. Primary cultures of vertebrate CNS neurons and several types of electrophysiological recording techniques will be used, with the emphasis on single channel recording techniques. Previous experience with intracellular recording techniques is required. Please send curriculum vitae and the names of three references to: **Dr. Donna Gruol, Division of Preclinical Neuroscience and Endocrinology, Research Institute of Scripps Clinic, 10666 North Torrey Pines Road, La Jolla, Calif. 92037.**

**POSTDOCTORAL POSITION** in neurobiology available to study Alzheimer's Disease and other neurodegenerative disorders. Experience in biochemistry and molecular biology preferred: Projects encompass immunohistology, protein chemistry, monoclonal antibodies, cell-sorting, and protein and recombinant DNA techniques. Send curriculum vitae and three references to: **Dr. Carol Miller, Department of Pathology, University of Southern California School of Medicine, 2011 Zonal Avenue, Los Angeles, Calif. 90033; telephone: 213-224-7360.**

**POSTDOCTORAL RESEARCH ASSISTANT.** Opportunities to study the role of DNA repair in the response of human tumor cells to antineoplastic drugs and radiation are available to qualified applicants. Experimental techniques include enzyme purification and characterization, monoclonal antibody production, analysis of DNA damage with HPLC, fluorometry, or alkaline elution, and cell culture. Candidates should have a recent Ph.D. degree in biochemistry, biochemical pharmacology, or a related field. The stipend, renewable annually, will depend on qualifications and experience. Please send curriculum vitae and three professional references to: **Thomas Brent, Ph.D., Department of Biochemical and Clinical Pharmacology, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, Tenn. 38101. An Equal Opportunity/Affirmative Action Employer.**

The University of Michigan Medical School has a position available for a **PROFESSOR, RENAL PHYSIOLOGIST**, to assume a tenure-track faculty position in the Department of Physiology. Duties include: conducting research and teaching physiology to medical, other health professional students, and graduate students. Necessary qualifications include an M.D. degree, be currently holding a full professorship of physiology, and have an international reputation as a renal physiologist with specialization in the area of tubulo-glomerular feedback. Reply to: **Dr. Jack L. Kostyo, Chairman, Department of Physiology, The University of Michigan Medical School, Ann Arbor, Mich. 48109.**

## POSITIONS OPEN

**POSTDOCTORAL RESEARCH ASSOCIATE** to assist with NIH project. Applicant is expected to have in-depth knowledge of lipoprotein biochemistry and previous postdoctorate research experience. Salary dependent on qualifications for full-time 3-year appointment. Send curriculum vitae to: **R. N. Redinger, M.D., Chief, Division of Gastroenterology/Hepatology, University of Louisville, Louisville, Ky. 40292. Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL RESEARCH ASSOCIATE** to investigate kinetics and mechanism of enzymatic reactions [see *JBC* 258, 909 (1983)]. Applications are invited from individuals with experience in biochemistry and/or organic chemistry. Position available anytime within the next three months. Salary based on qualifications. Send résumé and three letters of recommendation to: **Dr. R. M. Pollack, Department of Chemistry, University of Maryland Baltimore County (UMBC), Baltimore, Md. 21228. The University encourages qualified women and minorities to apply. UMBC is an Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL RESEARCH ASSOCIATE** position available immediately to study host range specificity in plant pathogenic *Xanthomonas*. Experience in modern bacterial taxonomic methods, in DNA liquid and blot hybridization, and/or in broad bacterial host-range gene expression vectors preferred. Salary: \$24,000 for at least 2 years. Send résumé, statement of research interests, most appropriate reprint(s), and three telephone references to: **D. W. Gabriel, Department of Plant Pathology, University of Florida, Gainesville, Fla. 32611. Affirmative Action/Equal Opportunity Employer.**

**POSTDOCTORAL RESEARCH ASSOCIATE IN RNA BIOCHEMISTRY.** Position available immediately. Investigate translational control of gene expression in mammalian cells. Study involves higher order structure determination of messenger RNA and ribosomal RNA, and determination of the functional organization of associated proteins. Send résumé to: **Dr. Raymond E. Lockard, Department of Biochemistry, Cornell University Medical College, 1300 York Avenue, New York, N.Y. 10021. An Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL RESEARCH ASSOCIATE** position available January 1985. Ph.D. biochemistry/physiology. Experience in tissue culture, HPLC, enzyme assays desirable. Send curriculum vitae and three letters of reference to: **Dr. R. K. Chawla, Departments of Medicine and Biochemistry, Emory University, Atlanta, Ga. 30322. Emory University is an Affirmative Action/Equal Opportunity Employer.**

### Ph.D. PSYCHOLOGIST

Full-time position for experienced Ph.D. psychologist for collaborative interdepartmental studies on heritable diseases of the nervous system in aging. Must have established research achievements, capacity for group leadership, and capability for independent grant support. Faculty appointment in the Department of Neurology, College of Physicians and Surgeons of Columbia University, appropriate to qualifications. *Columbia University is an Equal Opportunity Employer.* Responses to: **Timothy A. Pedley, M.D., Chairman, Committee on Appointments and Promotions, The Neurological Institute, 710 West 168 Street, New York, N.Y. 10032.**

**RESEARCH ASSISTANT**—Immediately available in protein chemistry. Qualified applicants should have a B.S. or M.S. in chemistry or biochemistry. Experience with protein purification and analytical instrumentation (HPLC, protein sequencer) is preferred. Applicants should be enthusiastic and able to work independently. Employment includes liberal fringe benefits and salary will commensurate with experience. Interested applicants should send résumé with three letters of reference to: **Personnel Manager, W. ALTON JONES CELL SCIENCE CENTER, 10 Old Barn Road, Lake Placid, New York 12946. Refer to: Job SA-301.**

*An Affirmative Action/Equal Opportunity Employer*

**RESEARCH ASSOCIATE.** An M.S. with 3 years of research experience or recent Ph.D. is needed to study reading performance of people with foveal pathologies, using state-of-the-art instrumentation for measuring eye movements and visual function. Two-year (\$18,000 per year) position. Send curriculum vitae, representative publications, and two letters of recommendation by 4 March 1985 to: **Dr. S. Whittaker, Pennsylvania College of Optometry, 1200 West Godfrey Avenue, Philadelphia, Pa. 19141.**

## POSITIONS OPEN

### POSTDOCTORAL FELLOW/RESEARCH ASSISTANT PROFESSOR DIVISION OF HEMATOLOGY-ONCOLOGY DEPARTMENT OF MEDICINE

Biochemistry experience required. Extracellular matrix experience highly desirable. Research involves studies of hemopoietic microenvironment and regulation of hemopoiesis. Send curriculum vitae to: **Kenneth Zuckerman, M.D., Division of Hematology-Oncology, University of Alabama at Birmingham, University Station, Birmingham, Alabama 35294. An Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION** available September 1985 for research on the population genetics of mosquito vectors of human disease. Broad background in genetics required. Experience in molecular biology an asset. Send curriculum vitae and three letters of reference by 1 May 1985 to: **Dr. Walter J. Tabachnick, Department of Biology, Loyola University of Chicago, 6525 North Sheridan Road, Chicago, Illinois 60626.**

**POSTDOCTORAL POSITION IN MOLECULAR CARDIOVASCULAR PHARMACOLOGY** available immediately for research in digitalis-receptor pharmacology. Studies involve pharmacodynamics of digitalis-receptor interaction, radioligand receptor binding, and isolation and characterization of membrane receptors. Prior experience with isolated myocardial preparations, receptor binding methodology, membrane receptor purification, and HPLC of proteins desirable. Send résumé, brief summary of research experience, and names of three references to: **Dr. George T. Okita, Department of Pharmacology, Northwestern University, 303 East Chicago Avenue, Chicago, Ill. 60611.**

### POSTDOCTORAL POSITION

Available now for projects related to reactivity of blood vessels *in vitro*. Stipend: \$16,000 to \$17,000 depending on postdoctoral experience. Send curriculum vitae and references to: **Dr. Gordon Ross, Department of Physiology, University of California School of Medicine, Center for the Health Sciences, Los Angeles, Calif. 90024.**

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

### PRESIDENT

#### Incorporated Research Institutions for Seismology (IRIS)

Chief executive officer sought for newly created nonprofit scientific consortium. Responsible directly to Board of Directors. Will work closely with member institutions (about 40 U.S. universities), and deal with government agencies, congressional committees, and corporation. Will direct staff work of IRIS standing committees. Applicants should have a Ph.D. in the physical sciences, experience in research administration, and knowledge of government agencies and high-level university administration. Location: Washington, D.C. Salary commensurate with qualifications and experience. Two-year appointment (renewable). Apply by 15 February 1985 with curriculum vitae and names and addresses of three references, to: **Box 9, Science.**

### RESEARCH IN BIOCHEMISTRY THE UNIVERSITY OF CALGARY

The University Biochemistry Group which comprises members of the Faculties of Medicine and Science offers an interdisciplinary environment for graduate and postdoctoral research in biochemistry, molecular biology, and biotechnology. Highly qualified students with training in biochemistry, chemistry, biology, or related disciplines may be admitted to programs leading to the M.Sc. and Ph.D. degrees. Research/teaching assistantships (\$8,775 to \$12,000 per year) are available from the university. Studentships (\$12,000 per year plus \$2,500 research allowance) and postdoctoral fellowships (\$22,000 per year plus \$5,000 research allowance) are available from the Alberta Heritage Foundation for Medical Research and may be applied for via the University of Calgary. Interested individuals should send curriculum vitae, which includes courses taken and grades obtained, and a statement of research interests to:

**Dr. F. F. Snyder, Chairman  
Graduate Studies Committee  
University Biochemistry Group  
The University of Calgary  
2500 University Drive, NW  
Calgary, Alberta, Canada T2N 1N4**



UNIVERSITY OF COLORADO: BOULDER  
DIRECTOR

CENTER FOR EARTH OBSERVATIONS AND  
REMOTE SENSING

The University of Colorado recently made a commitment to develop an enhanced program in space science and policy, coordinated through its Office of Space Science and Policy. As one component of this effort, the University of Colorado at Boulder is establishing a Center for Earth Observations and Remote Sensing (CEORS) and is now accepting applications for the position of director. The director will be responsible for academic leadership and administration of the center, the development of research funding support, and course offerings in the appropriate department or program. The appointee will have a tenure-track or tenured appointment in an appropriate academic department and will be rostered in the Graduate School and CIRES, reporting to the CIRES Director.

The position will start 1 September 1985 or earlier. The level is open, but it is anticipated that the director will hold the rank of associate or full professor. The 9-month academic year salary is commensurate with rank and experience.

The center will be housed within the Cooperative Institute for Research in Environmental Sciences, a cooperative institute of the University and the NOAA Environmental Research Laboratories. It will perform research and provide research services in satellite and surface-based remote sensing and in situ physical measurements of the terrestrial environment.

Candidates should hold a Ph.D. in an environmental sciences discipline, including but not limited to biology, geography, geology, glaciology, hydrology, or meteorology, with substantial training and experience in remote sensing techniques and in the interpretation and application of remote sensing data. Previous administrative experience and expertise in spatial data processing and computation are desirable.

Applications, including résumé and statements of research and teaching interests, should be sent to: **Chair, Search Committee for CEORS, CIRES, Box 449, University of Colorado, Boulder, Colo. 80309.** Also, ask three referees to send letters of recommendation to the same address. Deadline for receipt of applications is 28 February 1985. *The University of Colorado is an Affirmative Action/Equal Opportunity Employer.*

SUMMER 1985  
TEN ENVIRONMENTAL  
SCIENCE AND ENGINEERING  
FELLOWSHIPS

Applications Invited

The American Association for the Advancement of Science (AAAS) invites applications for ten environmental science and engineering fellowships available for summer 1985. Postdoctoral to mid-career scientists, engineers, and other appropriate professionals are encouraged to apply. **The deadline for applications is 1 March 1985.** The 10-week appointment is scheduled for 10 June through 16 August 1985. The awards will be announced prior to the end of April 1985.

The persons selected will work closely with the Environmental Protection Agency (EPA), Office of Research and Development, and assist it in identifying and assessing the significance of long-range environmental problems and opportunities. The award consists of a taxable stipend of \$600 per week and a nominal additional amount for temporary relocation expenses and travel in connection with the fellowship.

Each awardee will undertake a detailed, future-oriented research project of mutual interest to the fellow and one of EPA's research or program offices. A project report will be prepared by each fellow at the completion of the summer's work. The selection of projects and research approach will be designed to meet the purpose of the program stated above as well as to fit the fellow's professional goals. Broad areas of research interest within EPA include environmental risk assessment, biological pesticides, acid deposition, mobile source air pollution; oxidants, gases and particles; municipal waste water and industrial wastes; drinking water; hazardous waste; chemical testing and assessment; pesticides; radiation; and energy.

Candidates are expected to be postdoctoral to mid-career professionals, to be critical thinkers, articulate, adaptable, and able to work with a variety of people from different professional backgrounds. Applicants should have backgrounds in the physical, biological, or behavioral sciences or any field of engineering or any other relevant professional field.

Persons interested in further information and details on selection criteria and requirements should contact: **Patricia S. Curlin, Environmental Science and Engineering Fellows Program, American Association for the Advancement of Science, 1776 Massachusetts Avenue, NW, Washington, D.C. 20036; telephone: 202-467-4310.**

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## POSITIONS OPEN

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- 2) Regulation of cell surface receptors. Candidates with a Ph.D. in biochemistry or molecular biology preferred. Techniques to be used are isolation and characterization of membrane receptor proteins using monoclonal antibodies, and cDNA cloning sequencing and gene transfer experiments;
- 3) Developmental and hormonal regulation of gene expression. Candidates with experience in recombinant DNA, cloning sequencing, expression vectors, and cell transfection studies preferred.

Submit statement of interest, curriculum vitae, and names of three references to: **Dr. Henry G. Friesen, Professor and Head, Department of Physiology, The University of Manitoba, 770 Bannatyne Avenue, Winnipeg, Manitoba, Canada R3E 0W3.**

**RESEARCH POSITION.** An opening, probably at the research assistant/research associate professor level, is anticipated for October 1985. The successful candidate must have a Ph.D. degree in organic chemistry with considerable experience in the preparation of enzyme-cofactor modified electrodes and their electrochemical characterization. Send curriculum vitae and names of three references to: **Dr. L. B. Wingard Jr., Department of Pharmacology, School of Medicine, 518 Scaife Hall, University of Pittsburgh, Pittsburgh, Pa. 15261, before 20 February 1985. Equal Opportunity/Affirmative Action Employer.**

### STRUCTURAL BIOCHEMIST

The Department of Biochemistry of Rutgers University invites applications for a tenure-track assistant professor position. Candidates are sought in the area of macromolecular structure, assembly, and interactions. Fields of interest include biomembranes, cytoskeleton, complex carbohydrates, multi-enzyme complexes, and nuclear structures. The successful candidate will be expected to develop an active research program and to participate in graduate and undergraduate instruction. Send curriculum vitae, statement of research interests, and three letters of recommendation before 15 March 1985 to: **Structural Biochemist Search Committee, Department of Biochemistry, Rutgers University, Piscataway, N.J. 08854. Rutgers University is an Affirmative Action/Equal Opportunity Employer.**

**TUMOR IMMUNOBIOLOGIST**—The Department of Pediatrics, Southern Illinois University (SIU) School of Medicine, invites applications for an assistant professor, nontenure-track faculty position. Ph.D. in immunology or related field required. Applicants may have research experience in one or more of the following areas: surface antigens or tumor cells, polyamines, natural resistance, bone marrow transplantation. Send curriculum vitae and description of research abilities to: **L. G. Thatcher, M.D., Chairman, Department of Pediatrics, SIU School of Medicine, P.O. Box 3926, Springfield, Illinois 62708. SIU School of Medicine is an Equal Opportunity/Affirmative Action Employer.** Applications will be accepted until 15 February 1985 or until position is filled.

The Biology Department of the State University College at Buffalo anticipates a tenure-track position for a **VERTEBRATE PHYSIOLOGIST** at the assistant professor level. Ph.D. required. Preference will be given to those who can share in teaching general zoology. Applicants should submit a letter of interest, curriculum vitae, and three references to: **Dr. William C. Scheffer, Chairman, Biology Department, State University College at Buffalo, 1300 Elmwood Avenue, Buffalo, New York 14222. Deadline: 1 March. Minorities and women encouraged to apply. An Equal Opportunity/Affirmative Action Employer.**

### VIROLOGISTS

Full-time positions available (research associate and assistant research professor) for Ph.D. level research scientists with strong background in molecular virology and recombinant DNA technology. Projects involve studies on DNA parvoviruses from human arthritis patients and RNA togavirus proteins. Send letter, curriculum vitae, and references to: **Dr. R. W. Simpson, Waksman Institute, P.O. Box 759, Piscataway, N.J. 08854. Rutgers University is an Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

**RENAL/CARDIOVASCULAR SCIENTIST.** Our client, International Pharmaceutical Co., located in the Midwest, needs Ph.D. in physiology/pharmacology, 4 to 7 years of experience in renal hemodynamics and arterial pressure to design and conduct studies in hypertension. Send résumé with publication list to: **Bruce Rogers Co., Management Consultants., 20 Main Street, Port Washington, N.Y. 11050. Telephone: 516-883-1058.**

**RESEARCH ASSOCIATE.** Position available for Ph.D. in biochemistry to do work in tumor metastasis, isolating and purifying proteins involved in this process. Research involves hydrophobic chromatography, connective tissue biochemistry, and expertise in calcium-regulated proteases. Send curriculum vitae and references to: **Dr. Sanford H. Barsky, Department of Pathology, University of California, Los Angeles, School of Medicine, Los Angeles, California 90024. An Equal Opportunity Employer.**

The Research Department of Central Institute for the Deaf (CID) seeks **SCIENTISTS** in the areas of auditory neurophysiology and of speech perception. In auditory neurophysiology, applicants may be at beginning, intermediate, or senior levels, but must be interested in applying current biological and electrophysiological techniques to basic research related to hearing and deafness and to the encoding of complex signals including speech in the peripheral and central auditory systems. In speech perception, a postdoctoral research scientist is sought to conduct research on the acoustic characteristics and the perception of vowels, diphthongs, and stops. Applicants should promptly submit résumés, a statement of research interests, and the names and addresses of four references to: **Dr. James D. Miller, Director of Research, Central Institute for the Deaf, 818 South Euclid, Saint Louis, Mo. 63110. CID has always been an Equal Opportunity Employer.**

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The College of Saint Benedict (a women's college) invites applications for a 1-year replacement position in biology. The Biology Department is a joint department with Saint John's University (a men's college). These two liberal arts colleges have a combined curriculum and coeducational classes.

Principal duties will include lecture and laboratory instruction in upper division courses in ecology and invertebrate zoology and some teaching in introductory courses. A Ph.D. is preferred. Send curriculum vitae, official transcripts, and three letters of recommendation to: **Kathy Flynn, Wage and Benefit Coordinator, College of Saint Benedict, Saint Joseph, Minn. 56374. Applications received after 1 March 1985 cannot be guaranteed consideration. Women and minority applicants are encouraged to apply.**

## POSITIONS OPEN

**RESEARCH ASSOCIATE** position available immediately to participate in productive on-going projects concerning induced gene expression in higher eukaryotic cells following exposure to radiation or chemical carcinogens. Prior experience with DNA cloning required. Salary commensurate with experience. Please send résumé to: **Dr. Kenneth Minton, c/o Civilian Personnel, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, Md. 20814. Telephone inquiries: 202-295-3750. Equal Opportunity Employer.**

**SUPERVISORY HISTOPATHOLOGIST**—Our active teaching/research general medical and surgical medical center is seeking a person to be responsible for immuno-histopathology. The successful candidate will have an appropriate bachelor's degree and a minimum of 2 years of professional experience. Supervisory experience would be a plus. Starting salary of \$22,000 to \$24,000, depending on background. For application forms and information, contact: **Robert deFeyer, telephone: 617-232-9500, extension 3919. An Equal Opportunity Employer. Boston VA Medical Center, 150 South Huntington Avenue, Boston, Mass. 02130.**

### TROPICAL BIOLOGIST/PROGRAM COORDINATOR

The Department of Biology, University of Miami, invites applications and nominations for a tenure-accruing position of **TROPICAL BIOLOGIST/PROGRAM COORDINATOR**. We seek a person at the rank of assistant or associate professor with an established record of innovative research and publication in any area of tropical biology, including, but not restricted to, molecular, cellular, or sensory biology. In addition, the successful candidate will work closely with the departmental chair (Jay M. Savage) to develop further the Tropical Biology Program. This 12-month appointment will be approximately 50 percent research and 50 percent teaching and program coordination.

Arrange for four letters of reference, curriculum vitae, a statement of research interests, and not more than three representative reprints to be sent to: **Julian C. Lee, Chairperson, Tropical Coordinator Search Committee, Department of Biology, University of Miami, P.O. Box 249118, Coral Gables, Florida 33124. Deadline for applications is 1 March 1985.**

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### VICE PRESIDENT FOR ACADEMIC AFFAIRS AND DEAN OF THE SCHOOL OF MEDICINE

The Medical College of Ohio invites applications and nominations for the position of Vice President for Academic Affairs and Dean of the School of Medicine. The Medical College is a freestanding state-supported academic health science center consisting of four schools: School of Medicine, Graduate School of Medical Sciences, School of Nursing, and School of Allied Health. Vice President for Academic Affairs and Dean of the School of Medicine is the principal academic leader of the center, and the chief administrative officer of the School of Medicine. The preferred candidate should be a physician with a distinguished record of educational and research accomplishments, and major administrative experience.

Nominations and applications should be received no later than 1 March 1985 and should be addressed to:

**Amir Askari, Ph.D., Chairman**  
Search Committee for Vice President for Academic Affairs and Dean of the School of Medicine  
Department of Pharmacology  
Medical College of Ohio  
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**VISITING SCIENTIST** positions are available for new and established Ph.D.'s and/or M.D.'s in the areas of cell and molecular biology. Some experience in either area is desirable but not essential. Appointments will be made for at least 2 years at an annual salary up to \$25,000, depending on qualifications and experience. Employment will also include liberal fringe benefits. Interested applicants should send curriculum vitae and names of three references to: **Dr. Gordon H. Sato, c/o Personnel Office, W. ALTON JONES CELL SCIENCE CENTER, 10 Old Barn Road, Lake Placid, New York 12946.**

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## COURSES

**AQUACULTURE TRAINING COURSES:** Penaeid Shrimp Reproduction and Larval Rearing Course, 22 April to 31 May 1985; and Aquatic Chemistry and Plankton Biology Course, 10 June to 19 July 1985, at The Oceanic Institute. Contact: Gary E. Karr, The Oceanic Institute, Makapuu Point, Room 2, Waimanalo, Hawaii 96795. Telephone: 808-259-7951.

## GRADUATE STUDY

### GRADUATE STUDY

New Department of Molecular Biology and Biochemistry seeks a limited number of qualified graduate students for its Ph.D. program. All students are supported by 12-month teaching or research assistantships of approximately \$7500 (plus tuition and dependency allowances). Active research programs in biochemistry, biophysics, molecular genetics, microbiology, molecular biology, and development. For further information, write: **Director of Graduate Admissions, Department of Molecular Biology and Biochemistry, Wesleyan University, Middletown, Conn. 06457.**

### GRADUATE STUDY IN BIOCHEMISTRY

**GRADUATE ASSISTANTSHIPS IN BIOCHEMISTRY** leading to the Ph.D. degree are available for the 1985-1986 academic year. The department has a challenging academic and vigorous research program in a broad range of biochemical disciplines. Stipends for 12-month appointments begin at \$7600. Write: **Director, Graduate Admissions, Department of Biochemistry, The University of Texas Health Science Center, San Antonio, Texas 78284. An Equal Opportunity/Affirmative Action Employer.**

## PROGRAMS

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## FELLOWSHIPS

### POSTDOCTORAL FELLOWSHIPS IN IMMUNOLOGY AND MICROBIOLOGY

Applications are invited from qualified individuals interested in postdoctoral training in mechanisms of inflammation, with emphasis upon the biology and chemistry of the acute phase proteins and the complement system. Special research and training opportunities in clinical immunology, and in the teaching programs of the Medical and Graduate Colleges of Rush University, also are available. Please direct inquiries and curriculum vitae by 1 April 1985 to:

**Henry Gewurz, M.D.,**  
Chairman  
Department of Immunology/Microbiology  
Rush Medical College  
1753 West Congress Parkway  
Chicago, Illinois 60612

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### LUCILLE P. MARKEY FELLOWSHIPS for graduate study in PHYSIOLOGY AND BIOPHYSICS at the University of Miami School of Medicine

Fellowships are available for Ph.D. studies in the following fields: membrane biology and biophysics; neurophysiology; muscle biology; developmental neurobiology; and cell-to-cell communication. Applications are sought from highly qualified individuals with backgrounds in the physical, biological, or engineering sciences. Annual stipend: \$12,000 plus tuition and fees. For information and applications, write to: **Dr. K. J. Muller, P.O. Box 016430, Miami, Fla. 33101. Telephone: 305-547-6821. The University of Miami is an Affirmative Action/Equal Opportunity Educator and Employer.**

## FELLOWSHIPS

**SEVEN POSTDOCTORAL FELLOWSHIP POSITIONS** available in fall 1985 for research in estuarine lagoon and nearshore continental shelf waters. Research areas include zooplankton biology, invertebrate reproduction and development, benthic community ecology, fish ecology and behavior, sedimentary processes, biogeochemistry, physical oceanography, and macroalgal biology. Deadline for application is 1 April 1985. Request information brochure and application packet from:

**Dr. Kevin J. Eckelbarger**  
Postdoctoral Program  
Harbor Branch Institution, Inc.  
R.R. 1, Box 196-A  
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**POSTDOCTORAL FELLOWSHIP** available June 1985. To work on the biochemistry/physiology of smooth muscle. Research on  $Ca^{2+}$ -dependent regulatory mechanisms. Recent Ph.D. with experience in muscle biochemistry/physiology, or techniques of protein purification, preferred. Send curriculum vitae and names of three references to: **Dr. D. J. Hartshorne, Muscle Biology Group, Department of Nutrition and Food Science, University of Arizona, Tucson, Ariz. 85721. An Affirmative Action/Equal Opportunity Employer.**

**GRADUATE FELLOWSHIPS IN MOLECULAR BOTANY.** Plant scientists at the University of Vermont invite inquiries from qualified applicants. Research areas include: glycoproteins and lectins, plant proteins, *Rhizobium*-legume symbiosis, host-parasite recognition, photosynthesis and photorespiration, electrophysiology of plant membranes, amino acid and aluminum transport, molecular genetics of fungi including gene structure, mitochondrial and ribosomal DNA, recombinant DNA, and genetic transformation. Full tuition remission and tax-free stipend. Write: **Dr. Robert C. Ullrich, Life Science Building, University of Vermont, Burlington, Vt. 05405.**

**POSTDOCTORAL FELLOWSHIPS IN DEVELOPMENTAL BIOLOGY AT THE UNIVERSITY OF MICHIGAN.** Four NIH postdoctoral fellowships available on 1 July 1985 and one available immediately in broad, multidisciplinary training program in developmental biology; 15 March 1985 deadline for receipt of applications. For list of training mentors, their research areas, and application materials, write to: **Dr. Bruce M. Carlson, Division of Biological Sciences, University of Michigan, Ann Arbor, Michigan 48109. Telephone: 313-763-2551. The University of Michigan is a nondiscriminatory, Affirmative Action Employer.**

### BERMUDA BIOLOGICAL STATION (BBS) announces FELLOWSHIPS AND SCHOLARSHIPS

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**The Director**  
Bermuda Biological Station  
Ferry Reach 1-15, Bermuda  
Telephone: 809-297-1880

### CELLULAR AND MOLECULAR BIOLOGY

**PREDOCTORAL FELLOWSHIPS.** The Departments of Biochemistry and Microbiology at the University of Alabama at Birmingham announce the Graduate Program in Cellular and Molecular Biology. Applications are invited from highly qualified students interested in an interdisciplinary Ph.D. program. Major areas of emphasis include biophysical chemistry; connective tissue and extracellular matrix biochemistry; developmental, cellular, and tumor immunology; eukaryotic and prokaryotic cell biology and genetics; immunology; lipid, carbohydrate, and membrane biochemistry; molecular biology and gene expression; microbial pathogenesis and physiology; molecular virology; enzymology and metabolism; and neurochemistry. Students receive stipends of \$7500 plus tuition and fees. For additional information, contact: **Admissions Committee, Program in Cellular and Molecular Biology, Zeigler Research Building, Room 431, University of Alabama at Birmingham, Birmingham, Alabama 35294. Equal Opportunity/Affirmative Action Employer.**

## FELLOWSHIPS

**POSTDOCTORAL FELLOWSHIP.** Positions are available in an NIEHS training program for multidisciplinary research at Yale Medical School in environmental toxicology and physiology in the following areas: biochemistry, epidemiology, pathology, pharmacology, physiology, and toxicology. The positions are open to U.S. citizens or permanent residents with M.D., D.V.M., Ph.D., or equivalent degrees. Applicants should send curriculum vitae with two references, and specify their area of interest, to: **Arthur B. DuBois, M.D., John B. Pierce Foundation Laboratory, Yale School of Medicine, 290 Congress Avenue, New Haven, Conn. 06519. Affirmative Action/Equal Opportunity Employer.**

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**Dr. Dolph O. Adams or Dr. Thomas A. Hamilton**  
Department of Pathology  
Duke University  
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**IMMUNOLOGY POSTDOCTORAL FELLOWSHIPS** funded by an NIH Training Grant are available now in the University of Iowa Immunology Group. Laboratories include Dr. Robert Ashman (B cell activation), Dr. John Butler (secretory immunity, immunochemistry), Dr. Robert Clark (neutrophil physiology), Dr. Thomas Feldbush (B cell memory), Dr. Nancy Goeken (transplantation immunology), Dr. William Johnson (immunology of bacterial infection), Drs. Gary Hunninghake and Hal Richerson (pulmonary cellular immunology), Dr. Richard Lynch (regulation of myeloma cell growth and Ig secretion), and Dr. David Lubaroff (T cell function). Contact: **Dr. Robert F. Ashman, Department of Internal Medicine, University of Iowa, Iowa City, Iowa 52242; telephone: 319-356-2287. The University of Iowa is an Equal Opportunity/Affirmative Action Employer.**

### POSTDOCTORAL FELLOWSHIP IN CELL DIFFERENTIATION AND PROLIFERATION

Applications are invited for a **postdoctoral fellowship** to study the regulation of proliferation and differentiation of hematopoietic/lymphoid cells. Potential areas of research include the biochemical characterization and/or cloning of receptors for growth factors affecting stem cell differentiation; regulation of the sequence of expression of differentiation specific genes; or the effects of oncogenes on the regulation of proliferation and differentiation by hematopoietic growth factors. Applicants should have a Ph.D. with experience in molecular biology and/or biochemistry. Send curriculum vitae with a bibliography and three letters of reference to: **Dr. James N. Ihle, c/o Leslie Ivy, NCI-Frederick Cancer Research Facility, LBI-Basic Research Program, P.O. Box B, Building 248, Frederick, Md. 21701.**

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# ATOMIC/ MOLECULAR/ CHEMICAL PHYSICIST

The Office of Naval Research is seeking a highly qualified individual to plan and manage a program of sponsored research in the broad fields of atomic, molecular and chemical physics. The research sponsored is conducted principally at universities and government or industrial laboratories by leading scientists in the field. This is a Civil Service position at the GM-13 (\$36,327-\$47,226), GM-14 (\$42,928-\$55,807) or GM-15 (\$50,495-\$65,642) level, depending on individual qualifications.

The responsibilities for managing the program include recognizing and defining new research opportunities in atomic, molecular and chemical physics. Operating with available resources, the manager receives and evaluates proposals and selects for funding those which contribute to the strongest research program. The incumbent maintains close liaison with the ongoing research, monitors the results for information of importance to Navy interests, communicates these results to appropriate Navy activities, and

manages follow-on developmental work. An inherent job satisfaction in the position is obtained through the opportunity to have a creative and significant impact on the quality of research conducted at the national level. Additionally, the opportunity exists to establish or maintain an individual research program at an academic institution or government laboratory.

Applicants must have a Ph.D. or equivalent in physics or a directly related physical science, such as chemistry, and at least one year of professional experience or have acquired a minimum of three years of progressively responsible professional experience. Demonstrated research experience is preferred. At least one year of experience must be comparable in difficulty and responsibility to the next lower grade in the Federal Service.

Interested persons should submit a resume or Standard Form 171, Personal Qualifications Statement (available at Federal Job Information Centers or from the address below), to:

## OFFICE OF NAVAL RESEARCH

Civilian Personnel Division, Code 791SC

ATTN: Announcement #84-72 (S)

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The responsibilities for managing the program include recognizing and defining new research opportunities in microbial physiology, molecular biology, molecular genetics, and biotechnology. Operating with available resources, the manager receives and evaluates proposals and selects for funding those which contribute to the strongest research program. The incumbent maintains close liaison with the ongoing research, monitoring the results for information of importance to Navy interests, and communicating these

results to appropriate Navy activities. An inherent job satisfaction in the position is obtained through the opportunity to have a creative and significant impact on the quality of research conducted at the national level. Additionally, the opportunity exists to establish or maintain an individual research program at an academic institution or government laboratory.

Applicants must have a Ph.D. or equivalent in microbiology, genetics or a closely related field and at least one year of professional experience or have acquired a minimum of three years of progressively responsible professional experience. Demonstrated research experience is preferred. At least one year of experience must be comparable in difficulty and responsibility to the next lower grade in the Federal service.

Interested persons should submit a Standard Form 171, Personal Qualifications Statement (available at Federal Job Information Centers or from the address below), to:

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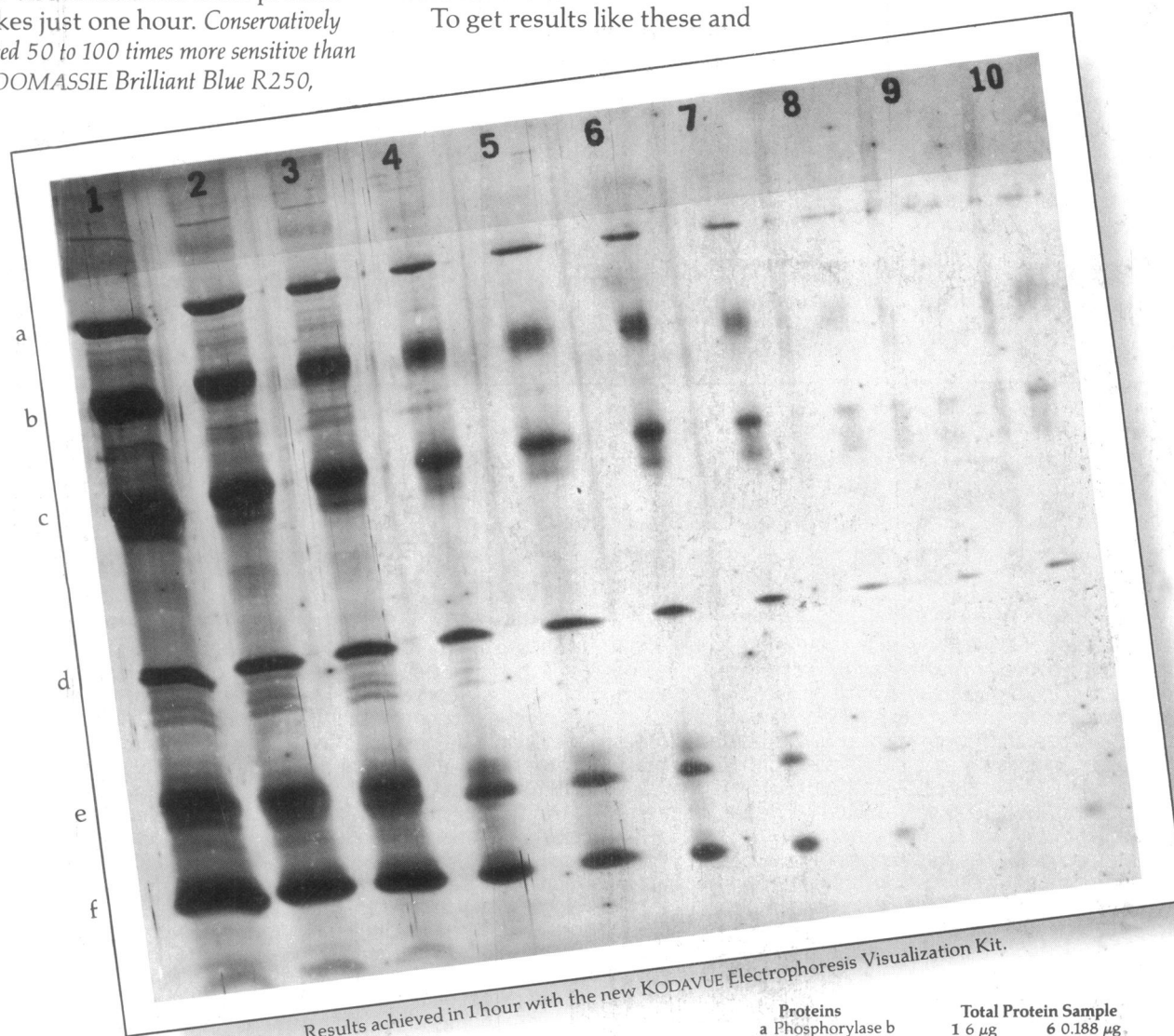
The kits have an indefinite shelf life. In use, the reagent working solutions are stable and can be stored at room temperature for months.

To get results like these and

save time and money, contact one of the dealers in Kodak laboratory chemicals listed below. Or, for a free brochure explaining this economical new procedure, write: KODAK LABORATORY & SPECIALTY CHEMICALS, Dept. 412L-S, Rochester, NY 14650.



**KODAK  
LABORATORY AND  
SPECIALTY CHEMICALS**



Proteins	Total Protein Sample	
a Phosphorylase b	1 6 µg	6 0.188 µg
b Albumin	2 3 µg	7 0.094 µg
c Ovalbumin	3 1.5 µg	8 0.047 µg
d Carbonic anhydrase	4 0.75 µg	9 0.023 µg
e Trypsin inhibitor	5 0.375 µg	10 0.01 µg
f a-Lactalbumin		

KODAVUE Electrophoresis Visualization Kits are available through these dealers: American Scientific & Chemical; American Scientific Products; B.C. Chemicals Division; Bioclinical Laboratories NJ; Brand-Nu Laboratories, Inc.; Bryant Laboratory, Inc.; CAMX Scientific; Captree Chemical Corp.; Doe & Ingalls, Inc.; Fisher Scientific; Mays Chemical; Midland Scientific, Inc.; North-Strong Division; Preiser Scientific; Sargent-Welch Scientific; Scientific & Industrial Sales & Service, Inc.; Specialty Chemicals, Inc.; Spectrum Chemicals Mfg. Corp.; VWR Scientific Inc.; Ward's Natural Science Establishment, Inc.

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